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U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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JANUARY 1964

Volume 15 No. 1

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 1 JANUARY 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

On New Year's Day, a snowstorm moved northward along the Atlantic coast. The snow clogged the highways of many southern States. Meridian, Miss., measured 15 inches on the ground on the morning of January 1. Sleet and freezing rain slicked the roads from Georgia across the Piedmont of the Carolinas and Virginia. The freezing rain and snow spread northward to Ohio, Pennsylvania, and other northeastern States. Much of Dixie lay buried in deep snow and highways in the Northeast were glazed from the freezing rain and drizzle on the 1st. Providence, R. I., experienced the worst ice storm in recent years and 8.4 inches of snow disrupted the traffic at Erie, Pa.

As this storm raged in the East, sunny skies and mild temperatures prevailed over most of the rest of the Nation. Rains fell in the Far Northwest and, as the storm moved inland, it produced snow over the northern Rocky Mountains. Heavy rains fell along the Washington and Oregon coasts on January 5. A storm centered over Quebec, Canada, on January 4, caused snow flurries in New York and New England. High pressure, mostly clear skies, and only scattered precipitation continued over other parts of the Nation.

On Monday, January 6, a front extended from the Great Lakes to Texas. As the front moved eastward, it produced widespread precipitation over the eastern portion of the Nation. Light snow fell over the Northern Border States from Minnesota to northern New England. Rain fell from the Texas coast eastward to the Atlantic and northeastward to New England. A thunderstorm at Valparaiso, Fla., produced 1.65 inches of rain on January 6. The storm featured a small tornado at the western edge of town.

Snow fell over the Great Basin and parts of the northern Rocky Mountains on January 7. Widespread precipitation occurred over the Great Plains and eastward to the Ohio River Valley and the southern Atlantic coast on the 8th. Numerous southeastern stations received more than an inch of rain on that date. The mild spell came to an abrupt end over the North-Central and Northeast. Cold air flowed southward to the Gulf of Mexico. Freezing rain and sleet caused hazardous driving conditions over New York and New England. Numerous accidents occurred on the slick roads. Snow fell over the Great Lakes region and heavy rains drenched the Gulf States.

On January 9, the storm center moved northeastward from the Lake Huron vicinity and the front lay along the Atlantic coast. Arctic air poured into the northern and central Great Plains. Temperatures dropped far below zero over the northern Plains. International Falls, Minn., registered 22° below zero on the 10th, 23° below zero on the 11th, and 35° below zero on the 12th.

A severe blizzard swept across New York, Pennsylvania, New Jersey, and New England on January 13. Snow depths ranged from about 9 inches in the New York City area to over 20 inches over parts of eastern Pennsylvania. Scranton, Pa., received more than 21 inches of snow from the storm setting a new record for Scranton. A new record was set at Williamsport, Pa., when 24 inches fell on the 12th and 13th. The total for the month, 33.5 inches, also established a new record for Williamsport. Allentown, Pa., received 13.4 inches. The snow blocked the highways and many schools in the vicinity closed. The storm caused one of the worst traffic tieups in recent years.

Storms at midmonth affected other parts of the Nation. Hail fell in parts of San Diego, Calif., on January 14. On the 15th, 2 inches of snow fell at Abilene, Tex., and 2-day totals for January 15 and 16, at Dallas and Ft. Worth, were 7.4 inches and 12.1 inches, respectively. The storm at Ft. Worth set a new 24-hour snowfall record. The storm spread eastward and sleet and freezing rain occurred from Texas and Oklahoma across the northern and central sections of the Gulf States and heavy rains pelted the Gulf coast.

Winds at Williston, N. Dak., reached 70 m.p.h. during a blizzard on the 17th. A storm centered in British Columbia on January 17 produced generous rains along the Washington and Oregon coasts and snow over the Mountains of the Pacific States and the Rocky Mountains by the 18th.

Stormy weather continued in California for several days from the 16th to 25th. During that time, 59.5 inches of snow fell at Blue Canyon and 32.5 inches at Mt. Shasta. Norden, Calif., received 132 inches of snow in the worst storm in the Sierra in recent years. Moderate to heavy rains in the Eureka area caused a sharp rise in the rivers.

On January 20, the wind at Red Bluff reached 63 m.p.h. in gusts. Hail up to 1-1/4 inches in diameter fell a few miles east of the airport. On the same date, strong winds at Sacramento damaged roofs, trees, and power lines. A tornado occurred north of Fresno on the 21st. Hail pelted the Oakland and San Francisco area on the 21st. Burbank received 2.10 inches of rain from January 20 to 22. Flagstaff, Ariz., received 10.3 inches of snow from January 21 to 23.

Unseasonably mild weather prevailed over the middle portion of the Nation at the beginning of the fourth week of January. Wichita, Kan., registered 73°, Kansas City, Mo., 69°, and St. Louis, 70° on the 22d. Arctic air soon pushed southward and by the 24th, precipitation was general over the eastern half of the Country. The low pressure area intensified over southern Wisconsin and snow fell over the northern Great Plains and eastward. Thunderstorms and a few tornadoes occurred in parts of the southland. A tornado at Harpersville, Ala., about 25 miles southeast of Birmingham, killed several persons and caused considerable property damage. Squalls and gale force winds continued in the Great Lakes region and generous rains, with snow in the mountainous areas, fell in the Pacific Northwest.

Another frigid spell struck the northern Great Plains near the end of the fourth week of January. Bismarck, N. Dak., registered 29° below zero on the 27th. In contrast, Miami Beach, Fla., registered 86° on the 28th. On the last day of the month, a storm center moved from near Lake Charles, La., to northeastern Georgia. Rains occurred from over the lower Mississippi River Valley and eastward and snow fell from Michigan to New England. Rain and snow continued in the Pacific Northwest.

Temperatures averaged above normal over the northern States from Washington to New England; also over the central Rocky Mountains and over the central Great Plains as far south as northern Texas, northern Arkansas, and the lower portion of the Ohio River. Temperatures averaged below normal over California, the Great Basin, and across the southern United States to the southern and middle Applachians and Atlantic coast. The Salt Lake City, Utah, vicinity averaged several degrees colder than normal; northeastern Montana averaged several degrees warmer than normal. Many stations in the northern Great Plains recorded the warmest average temperatures in many years. Phoenix, Ariz., and El Paso, Tex., noted that it was the third coldest January of record.

Much of the central Great Plains and portions of the Southwest received no precipitation of importance. In contrast, Olympia, Wash., called it the second wettest January of record; Roseburg and Eugene, Ore., each received more rain than in any preceding January of record.

Cool, cloudy, and wet describes the weather in the Southeast. In the Northeast, one of the warmest Januarys of record followed one of the coldest Decembers of record. Numerous new snowfall records were set, both in the Northeast and in California.

CONDENSED CLIMATOLOGICAL SUMMARY

JANUARY 1964

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	4 Stations	75	24+	Valley Head	-1	2	Headland	10.21	Waterloo	2.97
Alaska										
Arizona	Organ Pipe Cactus NM	82	1	Maverick	-25	24	Show Low	2.03	13 Stations	.00
Arkansas	3 Stations	78	24+	2 Stations	-7	14	Warren	4.73	Melbourne	.18
California	Ojai	89	31	White Mountain 2	-18	23	Gasquet Ranger Station	24.98	Blythe	.00
Colorado	Eversoll Ranch	75	2	Fraser	-47	13	Bonham Reservoir	2.40	11 Stations	.00
Connecticut	3 Stations	54	26+	Falls Village	-16	15	Cockapouset Ranger Sta	7.02	Bridgeport WBAP	2.85
Delaware	2 Stations	66	25	Newark University Farm	0	15	Selbyville	6.80	Dover	3.95
Florida	Clewiston US Eng	90	9	Fountain 3SSE	11	15	Usher Tower	14.50	Tavernier	T
Georgia	Folkston 9SW	77	6	Blairsville Exp Sta	-2	15	Americus 4ENE	13.73	Swainsboro	4.54
Hawaii										
Idaho	2 Stations	60	20	Stanley	-37	8	Council	9.41	May Ranger Station	.16
Illinois	3 Stations	68	22	Chicago O'Hare AP	-13	1	Sainte Marie	4.36	Galena	.09
Indiana	Evansville WBAP	70	22	Greensburg 3SW	-19	14	Seymour 2N	3.62	Elkhart	.40
Iowa	Keosaugua	63	22	Le Mars 2N	-21	13	Fort Madison	D 1.55	Delaware 3WSW	.08
Kansas	Aetna 2S	76	21	Oberlin	-14	13	Tonganoxie 4ENE	1.31	15 Stations	.00
Kentucky	Pikeville	71	23	Blaine 1W	-24	15+	Elkhorn City	5.86	Paducah	.91
Louisiana	Franklinton 3SW	84	25	Ashland 2S	6	14	New Orleans Citrus	12.03	Hosston	.99
Maine	Brighton 1NNW	49	24	Clayton Lake 2	-30	13	Belfast	5.82	Squa Pan Dam	1.66
Maryland	3 Stations	66	25	Chewsville Bridgeport	-10	15	Snow Hill	5.84	Frederick WFMD	1.70
Massachusetts	2 Stations	55	26+	Birch Hill Dam	-23	15	Chester 2	6.75	Chatham Lt Sta	2.10
Michigan	South Haven Exp Farm	57	24	Seney Natl WLR	-26	12	Elberta	4.35	Albion	.23
Minnesota	2 Stations	55	30	3 Stations	-37	12	Rothsay	1.53	Young America	.01
Mississippi	do	78	24+	4 Stations	7	15+	Bay Saint Louis	11.75	Greenville 8SW	2.52
Missouri	Oldfield	79	23	2 Stations	-20	14	Fisk	2.67	Trenton	.10
Montana	Yellowtail Dam	67	1	West Yellowstone	-36	14	Heron 2NW	6.72	Biddle	.00
Nebraska	2 Stations	72	20+	Walthill	-33	13	Walthill	.72	9 Stations	.00
Nevada	Overton	76	28	Charleston	-38	13	Sheldon	2.76	3 Stations	.00
New Hampshire	Epping	51	25	Grafton	-26	15	South Weare	6.76	Whitefield	1.69
New Jersey	Atlantic City WBAP	64	3	2 Stations	-15	15+	Atlantic City WBAP	6.35	Sussex	3.09
New Mexico	Pearl	78	1	Lake Maloya	-33	15	Lake Maloya	1.14	18 Stations	.00
New York	2 Stations	58	24+	2 Stations	-25	12+	Boonville 2SSW	7.47	Mount Morris 2W	1.01
North Carolina	Tryon	75	23	Celo 2S	-8	15	Lake Toxaway 2SW	10.77	Yanceyville 2NNE	2.78
North Dakota	2 Stations	59	21+	Bismarck WBAP	-38	12	Mott	.68	Rugby	.02
Ohio	5 Stations	67	24+	2 Stations	-20	14	Wilmington	3.35	Glandorf	1.02
Oklahoma	Altus Dam	80	22	do	-7	13	Waurika	2.23	2 Stations	.00
Oregon	Powers	68	1	do	-10	15+	Valsetz	36.91	Kent	.50
Pennsylvania	2 Stations	65	23	Burgettstown 2W	-25	14	Eagles Mere	6.87	McKeesport	1.59
Puerto Rico	do	92	31+	Cayey 1NW	48	31	Rio Blanco Upper	15.10	Puerto Real	.00
Rhode Island	do	54	25	Kingston	-2	1	Greenville	6.02	Block Island WBAP	3.37
South Carolina	Conway	78	25	Landrum 5ENE	5	15	Salem	10.30	Little Mountain	5.13
South Dakota	2 Stations	68	31+	2 Stations	-32	12	Lead 1SE	1.56	5 Stations	T
Tennessee	3 Stations	72	24+	Mountain City 2	-17	15	Copperhill	7.93	Union	2.00
Texas	Zapata	87	20+	2 Stations	-5	13	Kirbyville Forest Ser	6.10	18 Stations	.00
Utah	Orderville	68	1	Strawberry Hwy Station	-31	13	Alta	7.54	3 Stations	.00
Vermont	2 Stations	52	25	2 Stations	-28	1	Searsburg Station	6.44	Gilman	1.26
Virginia	Fredericksburg 2S	74	26	Partlow 3WNW	-14	15	Montebello 3NE	6.38	St. Paul	D 2.29
Washington	2 Stations	65	2+	Chewelah 2S	-6	8	Quinault River RS	32.27	Hartline	.15
West Virginia	Williamson	71	24	Birch River 6SSW	-23	15	Canaan Valley	4.93	Point Pleasant 5NNE	1.93
Wisconsin	2 Stations	56	22	2 Stations	-25	13	Marinette	1.90	Spring Valley	.08
Wyoming	La Grange	65	21	Bondurant 3NW	-42	14	Moran 5WNW	4.26	3 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	994.5	1020.5	54	32	42.8	-3.7	68	23+	13	15	0	19	32	69	5.40	0.37	2.45	11	2	0.4	8	7.7	15	34	W	9	7	7	17	6.6	53
HUNTSVILLE	605	997.7	1020.1	52	30	40.9	-2.0	71	22	13	15	0	19	29	66	5.34	0.12	2.67	9	3	0.3	11	8.2	14	35*	18	20+	9	8	14	6.0	
MOBILE	211	1017.8	1020.1	58	40	49.2	-3.8	73	31	20	14	0	6	40	73	7.36	2.72	2.68	15	6	T	2	10.7	34	30*	4	16	5	5	21	7.5	
MONTGOMERY	195	1012.7	1020.8	55	35	45.2	-2.9	69	24	15	15	0	14	36	74	6.49	2.43	1.91	10	2	T	1	6.9	14	32	W	24	6	5	20	7.4	45
ALASKA												B																				
ANCHORAGE	90	992.2	997.3	21	7	14.1	1.7	32	4	-16	21	0	31	6	80	0.35	-0.45	0.24	5	0	7.6	7	4.0	36	16*	36	25+	9	2	20	6.9	35
ANNETTE	110	998.5	1002.6	40	32	35.6	1.2	45	2	15	22	0	16	32	86	14.94	3.58	3.24	25	0	16.4	10	12.7	14	41*	17	26	1	6	24	8.8	
BARROW	22	1012.3	1013.0	-16	-25	-20.2	-4.0	5	4	-49	31	0	31	-29	65	0.07	-1.11	0.02	5	0	1.7	6	12.0	6	30*	7	14	V 4	V 1	V 3	4.1	
BARTER ISLAND	39	1010.0	1012.0	-13	-24	-18.2	-1.4	1	2	-45	31	0	31	-27	63	0.08	-0.32	0.03	5	0	0.8	13	13.5	7	44*	10	16	X 7	X 0	X 7		
BETHEL	125	996.2	997.5	12	-2	4.9	1.3	33	23+	-26	20	0	31	0	80	0.32	-0.80	0.07	9	0	5.2	4	10.3	4	28*	3	26	3	4	24	8.3	
COLD BAY	94	988.3	992.0	34	26	30.0	2.2	43	22	10	9	0	25	26	84	1.33	-0.99	0.35	18	0	6.1	6	13.4	15	43*	18	29	0	9	22	8.7	
CORDOVA	40	993.9	995.8	34	20	27.1	4.0	42	25+	-3	21	0	27	24	88	4.74	-1.36	1.19	16	0	25.5	7	6.6	11	25*	14	4	5	2	24	8.0	
FAIRBANKS	436	987.4	1005.7	-7	-25	-15.7	-4.6	15	4	-42	21	0	31	-23	68	0.21	-0.68	0.14	7	0	4.8	10	1.9	2	14*	23	5	12	2	17	6.0	
JUNEAU	17	1000.5	1001.5	33	25	29.3	4.2	40	15+	3	24+	0	22	26	85	3.19	-0.81	0.53	23	0	13.4	6	10.0	9	35*	11	3	4	2	25	8.5	24
KING SALMON	43	992.7	994.7	24	6	15.0	1.6	40	11	-22	20+	0	30	10	78	0.73	-0.34	0.21	15	0	8.1	5	10.5	8	40*	6	23	5	3	23	7.9	
KOTZEBUE	10	1004.2	1004.7	-0	-14	-6.9	-1.2	15	14	-32	31+	0	31	-13	74	0.14	-0.25	0.04	6	0	8.9	17	11.5	11	35*	11	23	10	5	16	6.3	
MC GRATH	334	989.7	1003.4	-5	-22	-13.7	-4.7	13	31	-44	21	0	31	-25	58	0.13	-1.13	0.07	3	0	4.5	11	1.6	36	13*	32	4	10	7	14	5.7	
NOME	13	1000.0	1000.8	11	-5	2.8	-1.6	33	24	-25	8	0	31	-4	72	0.82	-0.20	0.21	17	0	7.9	12	12.4	9	37*	4	10	5	5	21	7.6	20
ST. PAUL ISLAND	22	991.5	992.5	30	23	26.5	1.1	37	22	10	31	0	28	24	88	4.99	3.18	1.38	17	0	35.7	18	17.5	36	53*	35	30	2	3	26	9.1	
SHEMYA	122	991.6	995.3	33	27	29.7	-1.6	40	20	16	14	0	24			1.62	-0.88				8.9	4										
YAKUTAT	28	997.2	998.5	34	24	29.1	1.8	40	26+	2	21	0	25	25	85	13.50	2.64	2.27	22	0	47.4	9	7.1	9	36*	12	4	5	1	25	8.2	
ARIZONA																																
FLAGSTAFF	6993	789.2	1020.7	40	10	25.3	-2.0	56	1	-15	24	0	31	8	52	1.07	-0.76	0.80	4	0	10.3	9	8.6	3	29*	2	12	17	5	9	3.7	
PHOENIX	1117	978.8	1019.0	61	32	46.7	-3.0	71	31	20	11	0	15	22	42	0.22	-0.51	0.22	2	0	0.0	0	6.1	9	37Y	ESE	28	22	4	5	2.6	93
PRESCOTT	5014	847.7	1020.3	50	21	35.3	-1.8	69	1	5	14	0	30	10	43	0.32	-0.69	0.25	3	0	1.0	1	8.4	18	40	SW	22	18	9	4	3.1	88
TUCSON	2584	927.8	1017.8	62	33	47.5	-2.3	76	26+	18	12	0	13	14	31	0.14	-0.68	0.08	3	1	0.0	0	9.5	12	31	E	13	20	6	5	2.7	92
WINSLOW	4880	853.3	1023.1	47	15	30.6	-0.4	65	2	-1	14	0	31	6	41	0.03	-0.40	0.03	1	0	0.3	T	8.8	23	37*	22	22	18	9	4	2.9	
YUMA	199	1014.1	1019.5	68	39	53.5	-1.9	79	1	30	10	0	2	18	31	T	-0.39	T	0	0	0.0	0	6.9	36	41	NW	3	20	8	3	2.6	92
ARKANSAS																																
FORT SMITH	449	1001.2	1018.7	56	25	40.6	0.8	73	22+	3	14	0	23	25	59	0.63	-2.03	0.54	7	1	0.8	T	7.6	6	36	SW	19	18	6	7	3.6	77
LITTLE ROCK	257	1005.8	1019.4	55	26	40.8	0.2	78	24	9	14	0	23	27	62	0.98	-4.24	0.54	4	0	T	T	8.3	25	38	W	24	14	7	10	4.5	66
TEXARKANA	361	1005.9	1019.6	57	34	45.3	0.2	73	19	11	14	0	14	32	66	0.83	-4.01	0.47	6	1	0.3	T	9.5	21								
CALIFORNIA																																
BAKERSFIELD	494	1004.6	1022.8	57	36	46.4	-1.0	68	20	29	6	0	7	36	72	0.27	-0.90	0.12	5	0	0.0	0	5.6	12	18*	17	20+	9	10	12	5.8	
BISHOP	4108	876.5		52	18	35.3	-1.5	67	1	0	23	0	31			0.49	-0.50	0.28	2	0	5.0	5						11	8	12	5.0	
BLUE CANYON	5280	840.2		43	30	36.1	-1.0	57	31+	20	23	0	23			12.28	0.58	2.81	17	0	67.7	60						6	7	18	7.0	
BURBANK	699	993.3	1019.7	66	39	52.3	-1.3	83	1	34	17+	0	0	28	48	2.12	-1.02	1.51	4	0	0.0	0	6.6	36	26*	36	6	15	9	7	3.5	
EUREKA U	43	1019.5		53	41	46.6	-0.8	60	25	33	11	0	0			11.13	4.43	2.20	18	3	0.0	0	7.3	S#	33	S	19+	2	4	25	8.3	45
FRESNO	326	1010.3	1022.6	53	35	43.8	-2.3	63	20	25	13	0	10	37	80	0.66	-1.37	0.50	7	0	0.0	0	5.2	12	29	NW	21	3	10	18	7.6	54
LONG BEACH	34	1018.7	1020.3	68	44	56.2	3.1	82	31	38	13	0	0	37	55	0.58	-1.41	0.42	3	0	0.0	0	5.5	28	37*	17	21	12	13	6	4.2	
LOS ANGELES	97	1016.1	1020.0	65	45	55.3	0.9	77	31	40	15	0	0	35	54	1.49	-1.17	0.73	4	0	0.0	0	8.6	31	44Y	W	22	14	11	6	4.1	
LOS ANGELES U	312			65	48	56.7	0.9	80	1	42	23	0	0			1.43	-1.64	0.84	4	0	0.0	0	6.8	NE#	36	N	14	16	12	3	3.7	85
MT SHASTA R	3544	894.7		40	25	32.8	-0.5	52	1	14	22	0	29			5.65	-0.71	3.33	14	0	36.7	15						5	8	18	7.5	
OAKLAND	3	1022.1	1022.5	53	43	48.4	0.4	62	3	36	13	0	0	42	80	3.90	0.07	2.20	13	1	0.0	0	7.4	16	46*	16	20	7	7	17	7.1	
POINT ARGUELLO R	367	1007.1		60	39	49.6	-0.1	68	3	30	16+	0	4			1.44	-0.91	0.77	7	0	0.0	0			23*	29	21+	10	11	10	5.0	
RED BLUFF	341	1008.8	1021.9	52	37	44.1	-1.4	63	26	28	13	0	5	36	77	2.30	-1.99	1.85	10	1	0.0	0	10.0	15	56	SE	20	5	8	18	7.5	43
SACRAMENTO	17	1021.4	1022.8	53	37	45.1	-0.1	62	26	28	13	0	6	41	90	3.83	0.65	2.67	11	0	T	0	6.6	33	32	SE	20	5	4	22	7.8	45
SACRAMENTO U	23			54	38	46.0	-0.4	63	26	30	5	0	1			3.35	-0.23	2.30	8		0.0	0										
SANDBERG R	4517			45	32	38.4	-1.5	71	1	24	23+	0	20			0.91	-1.64				2.7	2	14.4		40*	17	21+					
SAN DIEGO	13	1016.1	1019.5	65	45	55.3	0.3	76	1	39	15	0	0	39	60	1.30	-0.71	1.01	7	1	0.0	0	5.6	7	27	S	22	17	9	5	3.8	80
SAN FRANCISCO	8	1021.9	1022.6	56	40	48.2	-0.4	61	26+	33	13+	0	0	42	78	4.38	0.37	2.69	12	1	0.0	0	8.1	27	59	SSE	20	7	6	18	6.9	
SAN FRANCISCO U	52			56	46	51.0	0.3	66	5	42	23+	0	0			3.37	-1.18	1.91	11	1	0.0	0	6.4	NW#	32	S	20					67
SANTA CATALINA	1568	963.1		59	49	53.8	0.2	79	1	43	24	0	0			0.88	-1.78	0.44	5	0	0.0	0						13	12	6	4.1	
SANTA MARIA	238	1012.9	1021.8	63	34	48.7	-1.5	72	31	26	13	0	14	36	69	1.23	-1.61	0.76	6	1	0.0	0	8.4	32	24*	2	2	14	12	5	4.0	
STOCKTON	28	1021.4	1022.9	52	35	43.7	0.0	59	26	24	13	0	12	38	83	1.99	-0.56	1.32	10	0	0.0	0	7.1	14	40*	16	20	3	6	22	8.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	768.5		35	- 8	13.2	- 4.2	53	2	-33	14+	0	31			0.26	0.00	0.11	7	0	5.4	3						21	6	4	2.8	
COLORADO SPRINGS	6173	806.7	1016.4	43	17	30.3	1.7	59	28+	- 2	13	0	31	7	41	T	- 0.29	T	0	0	T	T	10.9	3	32*	31	19	16	8	7	3.6	
DENVER	5283	834.1	1015.3	46	16	30.6	2.1	65	20	- 5	12	0	31	10	47	0.26	- 0.29	0.10	5	0	2.6	1	10.4	18	35	NW	25+	15	9	7	4.2	78
GRAND JUNCTION	4849	861.6	1023.3	37	14	25.5	- 0.5	54	21	- 3	14	0	31	11	59	0.47	- 0.17	0.26	6	0	4.8	1	4.8	13	26	SE	18	12	8	11	5.3	69
PUEBLO	4639	854.0	1016.5	49	17	33.2	3.2	65	28+	- 3	13+	0	28	11	46	0.04	- 0.27	0.04	1	0	0.5	1	12.0	27	72	W	17	16	9	6	3.6	91
CONNECTICUT																																
BRIDGEPORT	7	1014.9	1015.9	39	25	31.6	1.4	50	25	7	15	0	24	23	71	2.85	- 0.84	0.82	10	0	10.4	10	16.0	27	67*	34	21	13	7	11	5.2	
HARTFORD	169	1008.3	1014.5	37	18	27.1	1.1	52	25	- 6	15	0	29	19	72	5.54	1.96	2.10	10	0	13.8	11	8.8	36	50	NW	21	10	10	11	6.0	59
NEW HAVEN	6	1014.8		39	23	31.1	1.5	50	25	7	15	0	26			3.83	- 0.13	1.04	10	0	11.8	10	9.9		40	W	10	13	8	10	5.2	65
DELAWARE																																
WILMINGTON	78	1013.3	1016.5	42	24	33.2	- 0.2	62	25	1	15	0	26	23	69	4.13	0.73	1.26	9	0	6.7	6	10.2	29	38*	30	21	16	5	10	4.6	
DIST.OF COLUMBIA																																
WASHINGTON U	72			47	29	38.0	1.5	65	3	13	16+	0	15			4.23		1.06	9													
WASH NATL AP	14	1012.1	1016.8	46	26	36.3	- 0.6	65	25	7	15	0	23	24	64	3.98	0.95	1.14	9	0	8.9	9	9.5	20	42	NW	21	17	3	11	4.5	66
FLORIDA																																
APALACHICOLA U	13	1018.6		57	44	50.5	- 4.6	69	20+	24	14	0	4			8.25	5.11	2.06	16	2	T	0	7.8	E#	33	N	12	6	4	21	7.3	54
DAYTONA BEACH	31	1019.0	1020.9	66	47	56.7	- 2.5	82	9	27	14	0	3	49	79	5.29	3.33	2.04	12	1	0.0	0	9.4	36	35*	31	12	5	8	18	7.2	
FORT MYERS	13	1019.5		73	53	63.2	- 0.3	85	8	32	15	0	1			2.88	1.36	1.34	7	1	0.0	0	10.5		28*	28	13	3	9	19	7.5	
JACKSONVILLE	24	1019.2	1020.6	63	43	53.0	- 2.9	76	24	22	15	0	4	44	76	7.29	4.84	2.48	15	0	0.0	0	8.6	18	39	S	31	5	7	19	7.1	63
KEY WEST	5	1018.3	1019.5	74	64	68.9	- 0.7	82	28+	47	15	0	0	61	78	0.06	- 1.47	0.06	1	0	0.0	0	12.2	6	29	NW	13+	7	9	15	6.4	61
LAKELAND U	214			68	50	58.7	- 3.0	84	8	27	14	0	2			5.71	3.66	3.77	9	2	0.0	0	7.9					4	8	19	7.3	38
MIAMI BEACH	9			72	63	67.7	- 1.4	86	28	38	15+	0	0			1.59	- 0.09	1.56	2	0	0.0	0	14.0	SE				2	13	16	7.0	43
MIAMI	7	1018.4	1019.8	74	61	67.4	0.5	85	28	36	15	0	0	60	78	0.45	- 1.58	0.42	3	0	0.0	0	8.8	12	28*	24	17	0	14	17	7.8	
ORLANDO	106	1015.8	1020.6	68	49	58.5	- 1.9	83	9+	27	14	0	1	49	76	6.18	4.18	3.35	12	1	0.0	0	9.9	4	23*	33	20+	4	7	20	7.6	
PENSACOLA	13			57	41	49.1	- 4.4	70	9	20	14	0	6			11.83	7.61	3.69	16	4	T	T	8.1	35	34	E	6					25
TALLAHASSEE	58	1018.3	1021.1	60	39	49.5	- 4.4	70	7	16	15	0	8	41	77	9.27	5.85	2.56	15	3	0.0	0	9.0	18	32*	32	20	5	5	21	7.5	
TAMPA	19	1019.2	1020.8	69	48	58.6	- 2.6	81	8	27	15	0	3	50	76	5.08	2.95	3.09	10	2	0.0	0	12.0	6	31*	34	12	3	8	20	7.6	42
WEST PALM BEACH	15	1019.5	1020.7	73	58	65.5	- 1.4	83	9	35	14	0	0	57	76	0.98	- 1.50	0.47	7	0	0.0	0	10.1	15	28*	27	13	1	7	23	8.5	
GEORGIA																																
ATHENS	803	990.1	1019.8	52	32	41.8	- 2.8	72	23	14	15	0	15	31	70	7.41	2.52	2.78	14	1	T	2	8.4	24	23*	30	20	9	5	17	6.3	
ATLANTA	1005	977.1	1020.3	50	31	40.8	- 4.0	68	23	14	15	0	15	30	70	6.01	1.57	2.82	14	0	0.8	1	7.9	25	42	W	20	9	5	17	6.4	52
AUGUSTA	143	1013.2	1020.2	56	33	44.5	- 3.1	72	23+	14	15	0	15	35	74	7.08	4.09	2.29	13	0	T	T	7.8	24	32*	29	20	8	3	20	6.7	
COLUMBUS	385	1005.9		55	33	44.1	- 3.7	70	23	13	15	0	16			7.01	2.95	1.70	16	1	T	T	8.6	6	31*	28	20	5	5	21	7.5	
MACON	356	1006.6	1020.6	55	35	45.0	- 4.2	68	23	16	15	0	11	34	72	8.30	4.93	3.26	16	4	T	T	7.7	30	33	NW	20	6	4	21	7.1	42
ROME	637	996.6		51	26	38.4	- 3.7	71	23	7	15	0	24			5.95	0.44	3.18	11	2	1.6	5						9	9	13	5.9	
SAVANNAH	48	1017.9	1020.5	59	37	48.2	- 3.5	71	7+	18	15	0	12	39	74	6.29	3.51	1.97	15	2	T	0	10.9	25	34	NW	20	8	3	20	7.1	45
THOMASVILLE U	283			59	41	49.8	- 3.9	68	24	20	14	0	5			9.05	5.47	1.98	14	3	T	0										
HAWAII																																
HILO ·	31	1015.8	1017.9	80	64	72.1	1.3	83	30	60	20	0	0	63	78	14.65	2.83	4.61	25	0	0.0	0	8.5	25	28*	5	18	4	11	16	6.9	44
HONOLULU	7	1017.2	1017.6	81	69	75.1	2.6	83	30+	64	24	0	0	62	66	2.18	- 1.58	0.55	10	1	0.0	0	10.9	6	30	NE	16	10	14	7	5.1	73
KAHULUI	44	1013.6	1016.7	82	67	74.2	2.1	86	29	60	23+	0	0	64	72	1.11	- 2.03	0.49	13	1	0.0	0	13.2	7	30	NE	12	15	13	3	3.8	75
LIHUE	115	1012.9	1018.6	79	68	73.7	3.0	82	31+	64	31+	0	0	65	76	7.37	1.86	4.30	22	2	0.0	0	12.9	5	29	NE	16+	6	15	10	6.1	53
IDAHO																																
BOISE	2838	922.9	1022.2	34	18	26.0	- 3.1	47	20	1	13	0	30	23	87	2.46	1.14	0.73	17	1	21.4	6	7.5	13	30	SE	16	4	7	20	7.8	49
IDAHO FALLS 42NW R	4790			23	- 6	8.5	- 4.9	38	20	-25	15	0	31			0.44	- 0.11	0.15	7				5.0		37A	SSW	21					
IDAHO FALLS 46W R	4933	849.3		25	- 2	11.5	- 3.9	42	2	-23	15	0	31			0.47	- 0.26	0.21	5	0	5.6	9	4.7		32A	SSW	21					
LEWISTON	1413	964.3		43	30	36.8	6.1	58	1	22	8+	0	22			0.49	- 0.61	0.14	6	0	5.1	3						2	4	25	8.6	
POCATELLO	4444	864.3	1023.6	29	9	19.2	- 3.1	43	1	-19	13	0	30	14	80	0.76	- 0.45	0.24	16	0	11.5	14	11.7	24	42	S	21	0	11	20	8.1	33
ILLINOIS																																
CAIRO U	314	1004.7		48	29	38.6	1.2	64	24+	12	14	0	22			1.38	- 3.08	0.67	7	1	3.7	3	9.5	S#	33	SW	19	14	7	10	4.7	70
CHICAGO O HARE	658	988.7	1014.2	37	19	27.7	0.0	60	24	-13	1	0	27	20	72	0.72	- 1.10	0.33	10	1	1.6	1	13.5	24	39*	6	12	11	5	15	5.8	
CHICAGO MIDWAY	610	991.2	1014.8	38	21	29.5	3.5	61	24	3	1	0	25	21	70	1.08	- 0.78	0.57	8	2	2.5	1	13.1	21	37	NE	12	8	8	15	6.2	53

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
MOLINE	582	992.2	1015.1	38	19	28.4	5.8	58	22	-2	1	0	26	21	74	1.59	-0.02	0.66	8	2	5.3	3	11.3	25	36	W	25	9	13	9	5.3	65
PEORIA	652	993.4	1016.4	39	19	28.7	3.0	58	22	-3	1	0	27	21	74	1.02	-0.86	0.37	9	1	4.8	5	10.5	18	35	NE	12	11	5	15	6.0	60
ROCKFORD	728	985.7	1013.7	36	17	26.7	4.7	55	22	-8	1	0	28	20	74	0.97	-1.01	0.48	7	2	2.0	4	11.5	29	32*	28	25	11	7	13	5.6	
SPRINGFIELD	588	992.2	1016.1	42	20	30.7	2.3	62	22	-7	14	0	26	22	70	1.64	-0.25	0.81	6	2	10.8	11	13.8	19	36	SW	25+	11	5	15	5.8	63
INDIANA																																
EVANSVILLE	381	1001.5	1017.9	47	22	34.7	0.5	70	22	-6	14	0	25	23	65	2.19	-1.79	0.73	7	2	4.8	4	7.8	18	34	SW	19	12	8	11	5.3	58
FORT WAYNE	791	983.2	1015.6	37	22	29.3	2.3	58	22	-4	14	0	25	22	75	2.48	-0.19	1.05	7	1	8.0	7	12.3	23	42	SW	25	7	10	14	6.4	61
INDIANAPOLIS	793	985.4	1016.4	40	22	30.7	1.6	64	22	-5	14	0	27	21	70	2.04	-1.01	0.74	8	2	9.2	8	11.5	23	40	S	19	8	10	13	6.1	60
SOUTH BEND	768	985.4	1014.4	37	22	29.3	3.7	56	22	-8	1	0	26	21	72	1.57	-0.63	0.37	12	2	10.0	7	13.6	23	32*	25	25	6	8	17	6.8	
IOWA																																
BURLINGTON	694	990.6	1015.9	40	20	30.1	5.7	61	22	3	28+	0	28	20	70	1.29	-0.35	0.52	7	1	4.7	4	13.1	22	38	NW	20	10	11	10	5.5	67
DES MOINES	948	983.0	1015.3	37	18	27.8	7.0	55	21	-7	13	0	30	18	70	0.51	-0.79	0.31	6	0	6.4	4	12.0	18	31	NE	12	13	6	12	5.0	61
DUBUQUE	1065	988.2		33	16	24.7	5.5	51	22	-6	10	0	30			0.31	-1.52	0.21	4	1	2.9	4			45*	27	25	9	10	12	5.6	
SIOUX CITY	1095	972.4	1015.2	38	15	26.0	7.3	59	2	-19	13	0	31	16	70	0.34	-0.44	0.26	4	0	3.6	3	10.2	32	32	NW	8+	15	6	10	4.5	76
WATERLOO	868	980.6	1013.8	35	14	24.4	6.5	52	22	-11	10	0	31	17	74	0.34	-0.81	0.23	5	0	3.8	3	11.5	31	28*	6	11	10	11	10	5.4	
KANSAS																																
CONCORDIA	1470	964.1	1015.4	46	19	32.8	5.3	65	20	-9	13	0	29	17	56	0.07	-0.63	0.06	3	0	1.6	1	13.9	18	38	NW	8	19	3	9	3.8	76
DODGE CITY	2594	925.8	1016.2	50	21	35.5	4.4	70	21	-6	13	0	30	15	49	0.04	-0.53	0.04	1	0	0.4	T	13.7	35	40	N	8	17	5	9	4.0	82
GOODLAND	3645	885.4	1015.8	48	16	32.3	4.9	69	21	-7	12	0	30	13	53	T	-0.39	T	0	0	T	T	14.3	25	44*	33	24+	17	11	3	3.2	
TOPEKA	877	979.2	1016.0	48	20	34.2	5.4	69	22	-5	13	0	30	20	60	0.54	-0.48	0.36	5	0	2.3	2	12.5	18	38	N	12	14	7	10	4.3	69
WICHITA	1321	966.0	1016.1	50	23	36.8	4.8	73	22	-1	13	0	29	19	56	0.71	-0.10	0.69	3	0	0.2	T	13.2	18	49	S	10	16	8	7	4.0	78
KENTUCKY																																
COVINGTON	869	984.5	1016.6	42	22	32.1	0.5	63	22	-15	14	0	25	22	68	2.88	-0.68	0.83	9	1	15.3	7	10.7	21	30*	25	25+	10	8	13	5.7	
LEXINGTON	979	981.2	1017.9	45	25	35.0	0.5	66	23+	-2	14	0	23	23	66	2.83	-2.11	0.76	8	1	10.8	6	10.1	20	28*	25	25	14	6	11	5.0	
LOUISVILLE	474	997.9	1017.5	47	25	35.9	0.9	68	22	-1	14	0	22	23	62	2.45	-1.65	0.72	8	2	15.1	7	9.0	18	31	W	26	11	6	14	5.7	62
LOUISIANA																																
ALEXANDRIA	92	1015.9	1020.7	58	34	45.7	0.0	73	19	11	14	0	17	36	73	6.41	1.09	1.88	13	2	T	0	6.2	20	23*	30	12	8	6	17	6.5	
BATON ROUGE	64	1017.3	1020.5	60	39	49.7	-3.2	73	24	20	14	0	9	39	71	6.18	1.40	2.10	14	1	0.0	0	8.3	11	23*	5	16+	7	6	18	7.1	
LAKE CHARLES	14	1019.0	1020.4	58	40	49.0	-4.7	72	22+	20	14	0	7	41	77	5.49	1.05	1.64	12	2	T	0	9.4	18	25*	7	16	6	4	21	7.2	
NEW ORLEANS	3	1018.1	1020.5	60	40	50.0	-4.6	74	23	21	1	0	9	44	81	9.60	5.76	3.98	15	3	0.0	2	7.4	6	20*	15	24+	5	6	20	7.5	
NEW ORLEANS AUDUBON	6	1013.1		60	43	51.1	0.0	73	24+	26	14+	0	6			10.15	5.86	3.61	15	3			5.1	E#	16	NE	16+	5	8	18	7.2	39
SHREVEPORT	252	1010.7	1020.3	57	36	46.5	-1.0	76	19	15	14	0	10	32	62	2.57	-2.23	0.88	9	1	1.4	1	11.8	18	28*	30	24+	12	7	12	5.3	63
MAINE																																
CARIBOU	624	987.5	1011.8	23	4	13.4	2.9	39	25	-17	18+	0	31	9	76	2.64	0.53	0.72	13	0	20.2	16	11.0	27				5	10	16	6.9	
PORTLAND	61	1009.3	1013.4	35	14	24.4	2.6	46	25+	-12	1	0	31	16	71	4.74	0.37	1.35	11	0	17.4	13	10.1	26	35	N	14	10	12	9	5.5	67
MARYLAND																																
BALTIMORE	146	1012.1	1016.8	43	24	33.8	-1.0	58	25	-2	15	0	25	20	59	5.27	1.84	1.47	9	0	10.3	7	9.5	28	45	W	10	17	5	9	4.1	68
BALTIMORE U	14			45	30	37.6	0.3	63	3	12	14	0	17			5.24	1.81	1.65	9													
MASSACHUSETTS																																
BLUE HILL OBS R	629	988.3		37	22	29.5	2.5	52	25	6	15+	0	27			5.31	0.82	1.73	10		20.1	13	17.9	NW#	61	SSE	25					60
BOSTON	15	1009.0	1013.9	39	25	31.7	1.8	55	25	10	15+	0	23	21	67	4.56	0.62	1.68	10	1	14.4	9	13.6	32	42	NE	13	14	6	11	5.1	63
NANTUCKET	43	1012.8	1014.0	40	27	33.4	0.4	48	25+	16	15+	0	23	26	75	5.32	1.10	1.70	12	0	21.3	19	16.1	29	49	NW	28	11	5	15	5.7	56
PITTSFIELD	1170			34	13	23.4	1.6	51	25	-11	1	0	29			3.49	0.52	1.20	14		36.2	17										
WORCESTER	986	976.0	1013.2	35	20	27.2	3.2	51	25+	3	14+	0	29	17	66	5.42	1.71	2.32	10	0	14.9	15	13.1	27	42*	29	10	13	8	10	5.3	
MICHIGAN																																
ALPENA	689	989.3		32	12	21.9	2.2	44	21	-12	13+	0	31			1.28	-0.67	0.49	11	0	9.1	9	8.4	SW	31	E	24	3	6	22	7.6	51
DETROIT	619	987.0	1014.6	37	24	30.4	3.5	53	25	6	1	0	25	21	70	2.26	0.21	0.92	11	1	6.7	6	13.0	22	42	SW	25	6	6	19	7.4	39
DETROIT M WAYNE CO	633	990.0	1015.0	35	21	28.1	1.6	54	25	-2	1	0	29	20	71	2.20	0.27	0.90	11	1	5.3	5	9.5	23				5	7	19	7.2	
DETROIT WILLOW RUN	711	985.3	1014.5	36	21	28.5	1.9	53	25	-2	1	0	28	23	79	1.68	-0.26	0.93	9	1	3.7	5	12.8	21	40*	24	25	5	7	19	7.5	
FLINT	766	986.0	1014.7	35	20	27.7	5.6	52	25	-9	1	0	28	19	70	1.44	-0.26	0.36	10	1	5.2	5	12.3	23	31*	23	25	4	7	20	7.5	
GRAND RAPIDS	689	987.1	1013.6	35	20	27.5	3.1	52	24+	-15	1	0	28	23	81	1.36	-0.55	0.57	9	1	18.6	8	12.5	18	38	SW	25	5	7	19	7.5	42

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
State and Station	Elevation (ground)	Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	F.	F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	852	980.2	1013.8	36	21	28.2	3.9	54	22	-13	1	0	28	22	77	1.31	-0.65	0.51	11	0	6.4	5	9.9	23	42	SW	25	4	7	20	7.4	37
MARQUETTE U	677	983.2		32	19	25.3	5.8	44	2	5	26	0	31			1.31	-0.58	0.79	14	0	11.6	17	8.9	W#	35	SW	1	4	4	23	7.9	48
MUSKEGON	627	989.7	1013.5	36	22	29.0	3.0	56	24	-9	1	0	27	24	80	1.96	-0.14	0.97	13	2	15.3	24	14.5	29	35*	25	25	3	4	24	8.2	
SAULT STE MARIE	721	988.0	1011.4	28	13	20.5	4.7	38	3	-16	12	0	31	18	86	2.77	0.70	0.84	22	1	38.1	25	12.0	12	35*	29	26+	3	3	25	8.5	32
MINNESOTA																																
DULUTH	1426	969.3	1012.2	26	8	16.9	8.2	42	1	-14	28	0	31	11	74	1.10	-0.05	0.63	6	0	10.8	13	12.6	30	56	NE	23	5	12	14	6.6	47
INTERNATIONAL FALLS	1179	968.6	1011.7	21	1	11.0	7.9	39	1	-35	12	0	31	5	76	0.74	-0.10	0.22	9	0	6.8	15	11.7	27	30*	21	20+	2	10	19	7.7	
MINNEAPOLIS	822	978.9	1013.9	29	11	20.0	7.6	42	20+	-12	13	0	31	13	71	0.47	-0.23	0.27	5	0	5.0	3	10.3	29	38	SW	17	12	9	10	5.0	60
ROCHESTER	1297	975.4	1013.8	31	12	21.3	7.7	46	22	-7	28+	0	31	16	77	0.37	-0.54	0.15	6	0	5.9	2	15.3	29	35*	29	25+	11	9	11	5.5	
ST CLOUD	1034	973.7		27	7	16.9	6.8	42	17	-15	27+	0	31			0.18	-0.54	0.10	4	0	1.9	3						8	12	11	5.5	
MISSISSIPPI																																
JACKSON	305	1007.7	1020.1	56	35	45.3		71	19	15	15	0	13	34	66	5.21		1.57	13	2	1.5	2	9.2	14	28*	20	19	7	5	19	6.6	
MERIDIAN	292	1006.8	1021.0	55	31	43.3	-4.8	71	24	10	15	0	18	35	76	4.78	0.09	1.40	12	3	1.0	15	6.7	18	29*	22	24	7	4	20	6.8	
VICKSBURG U	234	1010.4		56	38	46.9	-2.1	73	19	18	13	0	10			5.52	0.39	2.12	12	1	T	T	9.3		26	NW	20+	8	8	15	6.7	44
MISSOURI																																
COLUMBIA	778	986.2	1015.3	47	25	36.0	5.7	70	22+	4	14	0	24	22	62	0.75	-0.96	0.61	4	0	1.9	2	12.2	18	41	W	9	11	7	13	5.2	65
KANSAS CITY	742	979.5	1015.3	47	27	37.2	5.5	69	22	2	13	0	20	22	57	1.20	-0.21	0.62	4	0	7.5	7	9.7	20	28	NE	12	15	6	10	4.6	71
ST JOSEPH	809	979.8		44	19	31.6	4.4	65	22	-6	13	0	30			0.29	-0.91	0.22	4	0	2.9	3	9.6	22	29*	1	12+	18	5	8	4.1	
ST LOUIS	535	995.4	1016.7	46	24	34.7	2.8	70	22	-1	14	0	25	20	58	1.70	-0.28	0.53	8	2	8.1	8	10.6	18	35	NW	24	12	8	11	5.2	69
ST LOUIS RFC	465			47	29	37.5	4.0	68	22+	10	14	0	18			1.89	-0.27	0.92	7		7.6	8										
SPRINGFIELD	1265	968.1	1016.8	51	23	37.0	3.4	72	23+	0	14	0	25	21	58	0.53	-1.43	0.30	8	1	2.6	2	11.6	16	35	S	19	14	7	10	4.5	75
MONTANA																																
BILLINGS	3567	886.9	1013.9	37	21	29.1	5.9	49	20+	2	12	0	30	14	57	0.11	-0.43	0.07	6	0	1.8	1	14.1	25	36	NW	21	6	10	15	6.8	65
GLASGOW	2277	936.3		31	11	20.9	11.1	48	1	-13	24	0	31			0.21	-0.27	0.11	5	0	2.1	1						2	12	17	7.4	
GREAT FALLS	3662	883.2	1014.3	38	20	28.7	6.6	61	1	-17	22	0	27	14	57	0.65	0.04	0.52	7	0	8.5	7	17.6	23	44	SW	16	7	4	20	7.1	45
HAVRE	2582	921.6		33	11	22.3	8.4	58	1	-13	23+	0	30			0.34	-0.15	0.12	9	0	4.2	2	9.7	SW#	47	SW	16	4	11	16	7.1	50
HELENA	3893	873.0	1017.0	32	12	22.0	3.4	49	1	-7	22	0	31	13	67	0.31	-0.16	0.11	6	0	6.2	6	8.6	29	35	W	2	7	4	20	7.4	46
KALISPELL	2965	908.8		34	16	24.6	4.8	43	1	-8	8	0	31			1.24	-0.13	0.74	17	0	20.6	17	5.8					0	3	28	9.2	
MILES CITY				35	14	24.6	8.1	57	1	-11	24	0	31			0.72	0.28	0.41	6	0	11.2	8	10.2	27	35*	32	21+					
MISSOULA	3190	900.3	1018.4	31	13	21.9	2.7	48	1	-2	12	0	31	18	82	0.70	-0.22	0.16	14	0	12.2	9	5.7	32	27	W	20	1	2	28	9.2	27
NEBRASKA																																
GRAND ISLAND	1841	947.2	1015.7	44	15	29.2	6.6	71	2	-20	13	0	30	15	61	0.07	-0.56	0.07	1	0	0.8	1	11.8	24	30*	36	11+	17	7	7	4.1	
LINCOLN U	1150			43	21	31.6	6.5	68	2	-9	13	0	29			0.21	-0.71	0.17	3	0	2.5	2	10.2	SW#	35	S	28	16	7	8	4.3	72
NORFOLK	1544	957.4		39	12	25.6	6.2	62	2	-23	13	0	31			0.22	-0.56	0.16	3	0	2.9	2						18	5	8	3.9	
NORTH PLATTE	2779	912.9	1015.2	45	12	28.1	4.1	65	21+	-9	13	0	31	11	55	T	-0.43	T	0	0	T	T	9.9	34	40	NW	24	15	11	5	3.8	88
OMAHA	978	974.0	1015.2	40	17	28.6	6.3	64	2	-13	13	0	29	16	62	0.54	-0.28	0.38	4	0	4.9	4	9.4	16	32	NW	24	16	6	9	4.4	73
OMAHA N OMAHA AP	1323	965.3		38	18	28.0	6.7	63	2	-15	13	0	30			0.30	-0.61	0.22	4	0	4.7	4						16	5	10	4.5	
SCOTTSBLUFF	3950	876.0	1016.0	42	15	28.7	3.4	61	21+	-10	13	0	30	13	56	0.04	-0.25	0.03	2	0	0.8	1	14.0	30	41*	32	24	14	4	13	5.1	
VALENTINE	2587	921.0		40	12	26.2	6.2	62	20	-18	12	0	31			0.14	-0.26	0.14	1		2.4	2	10.6	W#	40	NW	17	11	8	12	5.2	74
NEVADA																																
ELKO	5075	846.6	1024.4	33	5	18.8	-3.8	47	1	-15	13	0	31	14	79	1.27	0.11	0.37	15	0	22.4	11	6.6	24	35*	19	21+	2	10	19	7.5	
ELY	6257	808.8	1022.7	36	3	19.3	-3.5	61	1	-17	24+	0	31	10	72	1.41	0.63	0.84	8	0	19.3	7	8.9	19	49	SW	21	6	11	14	6.7	65
LAS VEGAS	2162	954.1	1021.8	55	30	42.0	-1.1	66	2	20	9	0	23	13	33	0.05	-0.48	0.04	2	0	T	T	8.0	27	39*	34	2	17	8	6	3.7	90
RENO	4404	864.5	1022.0	45	20	32.5	2.1	68	1	8	23	0	27	21	65	0.68	-0.51	0.46	3	0	4.7	3	6.8	18	51	SW	20	7	8	16	6.9	67
WINNEMUCCA	4299	870.1		40	17	28.6	1.4	58	1	-1	13	0	30			1.22	0.17	0.23	13	0	15.8	5	8.0	18	45	SW	17	2	11	18	7.6	26
NEW HAMPSHIRE																																
CONCORD	339	1002.8	1013.9	34	11	22.9	1.7	49	25	-16	1	0	30	15	72	3.64	0.41	1.66	10	0	24.3	17	8.0	32	29*	34	22	8	12	11	5.9	54
MT WASHINGTON OBS	6262	792.6		16	-1	7.9	1.6	34	23	-23	12+	0	31			9.21	3.77	1.79	21	0	43.2	8	49.8	NW	131Y	W	5	2	9	20	8.1	22
NEW JERSEY																																
ATLANTIC CITY	58	1014.3	1016.5	45	26	35.3	0.5	64	3	3	15	0	22	25	68	6.35	2.79	1.86	9	0	15.1	8	13.6	29	36*	8	13	16	5	10	4.7	70
ATLANTIC CITY U	10			44	29	36.6	0.6	55	3	11	15	0	19			5.84	2.09	1.90	8				19.0		55*	29	21					
NEWARK	11	1014.5	1015.8	41	28	34.3	1.0	55	25	8	15	0	20	21	62	5.12	1.79	1.48	12	1	13.5	13	12.3	27	52*	30	21	13	9	9	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
TRENTON U	56	1008.0		42	28	34.9	1.8	59	25	8	14	0	18			3.47	0.37	1.01	9	2	9.6	9	10.7	NW#	42	NW	21+	13	9	9	4.8	68
NEW MEXICO																																
ALBUQUERQUE	5310	848.8	1020.3	43	17	30.0	- 5.0	57	21+	0	14	0	31	8	45	0.07	- 0.34	0.05	3	0	0.5	T	7.5	36	35	NW	19	21	7	3	2.6	84
CLAYTON	4969	842.7		50	19	34.5	1.3	68	2	- 6	13	0	28			T	- 0.35	T	0	0	T	T						21	4	6	3.2	
RATON	6379	802.4		45	9	27.1	- 1.9	62	2	-13	13	0	30			T	- 0.36	T	0	0	T	T						19	7	5	3.1	
ROSWELL	3619	893.7		56	14	34.7	- 3.2	73	21	- 9	13	0	29			0.80	0.32	0.74	2	0	1.1	1	7.9	27	43	W	19	20	6	5	3.0	85
SILVER CITY	5373	835.9		51	19	35.0	- 4.5	63	26	4	13	0	30			0.12	- 0.51	0.07	2	0	0.6	1						21	6	4	2.5	
NEW YORK																																
ALBANY	277	1012.0	1015.6	34	14	23.9	1.2	50	25	-15	15	0	29	17	72	3.35	0.88	0.98	13	0	27.3	16	8.8	17	42	W	10	5	13	13	6.5	55
BINGHAMTON	1590	958.5	1014.1	31	17	24.0	0.2	46	25	- 6	15	0	30	19	81	3.00	0.50	0.78	17	0	32.6	21	10.3	15	40	NW	21	6	6	19	7.4	40
BUFFALO	705	985.7	1014.3	35	23	29.3	4.8	54	23	7	29	0	26	21	71	2.12	- 0.72	0.89	20	0	13.7	16	13.8	25	41	W	26	3	7	21	7.8	46
NEW YORK U	132	1003.9		42	30	35.7	2.5	55	25	9	14	0	16			4.62	1.31	1.31	9	0	13.3	13	10.8	SW#	43	NE	13	16	7	8	4.3	67
NEW YORK LA GUARDIA	19	1013.6	1015.5	40	29	34.4	0.8	50	6	10	14	0	18	21	59	4.22	0.91	1.05	12	1	10.2	10	14.0	27	59	NE	13	12	9	10	5.1	
ROCHESTER	543	995.3	1015.2	36	21	28.3	3.1	54	25+	- 6	1	0	27	20	69	1.99	- 0.41	0.78	12	0	20.2	19	13.7	26	37	W	25+	3	9	19	7.5	43
SCHENECTADY	217			34	16	24.9	1.3	48	25	- 8	16+	0	29			2.83	0.26	0.90	11	0	19.2	16						19	3	9	4.4	
SYRACUSE	417	992.0	1014.8	34	17	25.9	1.9	55	25	- 6	12	0	28	18	72	2.18	- 0.97	0.44	18	0	18.8	14	11.0	25	52	S	25	4	10	17	7.4	56
NORTH CAROLINA																																
ASHEVILLE U	2203	937.7		49	27	38.1	- 1.6	69	23	5	15	0	21			2.83	- 0.34	1.29	9	0	1.7	5	8.8	NW#	37	NW	20+	15	7	9	4.6	65
CAPE HATTERAS R	7	1017.4	1018.0	55	39	46.8	0.2	67	24	19	15	0	6	38	73	6.27	2.37	2.05	13	0	0.0	0	12.7	25	40	ENE	12	12	5	14	5.6	66
CHARLOTTE	735	990.1	1018.9	53	30	41.5	- 1.2	70	23+	12	15	0	19	26	59	5.68	2.15	1.71	12	0	0.6	1	7.9	23	31	W	20	13	3	15	5.6	55
GREENSBORO	891	985.9	1018.8	49	27	38.1	- 1.6	68	23	7	15	0	22	26	66	4.48	1.08	1.68	10	1	1.5	2	8.8	22	34	NE	1	14	3	14	5.2	58
RALEIGH	433	1004.2	1018.3	53	30	41.2	- 0.4	69	22	9	15	0	18	28	64	3.66	0.44	1.03	10	0	0.4	1	8.6	22	40*	22	20	13	4	14	5.4	55
WILMINGTON	30	1016.7	1019.5	58	36	46.7	- 1.2	70	24+	20	15	0	11	35	69	7.08	4.23	1.85	15	0	T	T	9.5	25	50	W	20	10	6	15	5.7	60
WINSTON SALEM	967	982.4	1018.5	48	29	38.7	- 2.0	68	23	14	15	0	17	25	62	5.06	1.38	1.83	11	0	2.8	3	8.9	24	31*	27	20	13	5	13	5.1	
NORTH DAKOTA																																
BISMARCK	1647	951.4	1014.5	29	3	15.9	6.0	53	20	-38	12	0	29	7	67	0.40	- 0.04	0.28	5	0	4.7	3	9.0	29	49	NW	17	10	10	11	5.7	66
FARGO	900	977.7	1013.6	26	5	15.6	8.3	46	2	-22	12	0	30	7	68	0.54	0.01	0.34	5	0	8.4	6	11.3	18	41	W	17	8	9	14	6.2	63
WILLISTON	1899	943.0		29	4	16.2	7.9	44	1	-30	27	0	31			0.45	- 0.10	0.21	4	0	5.0	3	9.2	SW	70	NW	17	7	11	13	5.9	59
OHIO																																
AKRON	1209	976.9	1016.1	37	21	28.8	0.5	56	25+	- 5	14	0	28	19	69	2.19	- 0.67	0.81	10	0	17.6	10	12.3	23	29*	31	20	6	13	12	6.3	
CINCINNATI OBS	761			44	26	34.9	1.2	64	23+	5	14	0	23			2.95	- 0.72	0.79	10	2	15.4	9	8.3	S#	29	SW	25					58
CINCINNATI U	553	993.8		46	28	36.7	0.0	67	23	6	14	0	20			2.62	- 1.00	0.86	10		15.2											
CLEVELAND	777	986.4	1015.2	37	23	29.8	2.2	57	24	5	29	0	27	21	71	1.45	- 1.22	0.46	11	0	16.9	8	12.3	18	38	W	26+	7	5	19	7.2	50
COLUMBUS	812	986.3	1017.1	39	21	30.1	0.2	58	25+	-14	14	0	27	22	73	1.82	- 1.34	0.50	10	0	12.3	7	10.3	18	37	SW	25	9	8	14	5.9	55
COLUMBUS U	724			40	25	32.9	1.2	60	23	2	14	0	24			2.11	- 0.79	0.81	9	0	13.6	6										
DAYTON	997	982.8	1016.4	40	23	31.5	1.9	60	22	- 2	14	0	26	23	72	1.60	- 1.58	0.48	9	1	19.4	10	14.0	20	34	S	25+	10	8	13	6.0	69
MANSFIELD	1296			36	21	28.9	1.6	55	24	- 5	14	0	28			1.45	- 1.77	0.27	12	0	17.0	10						7	7	17	6.6	
TOLEDO	676	988.9	1015.1	36	21	28.5	2.2	55	25+	- 8	14	0	26	21	72	1.87	- 0.46	0.72	10	1	8.6	4	11.9	23	36	SW	26	9	6	16	6.6	56
YOUNGSTOWN	1178	971.9	1015.9	35	21	27.9	0.6	53	25+	- 6	14	0	28	19	72	2.03	- 1.13	0.72	12	1	20.5	12	12.4	23	30*	25	10	6	8	17	6.9	
OKLAHOMA																																
OKLAHOMA CITY	1280	972.6	1017.2	53	28	40.1	3.1	74	22	6	13	0	20	20	51	0.83	- 0.48	0.69	3	0	T	T	14.5	18	40	NW	12+	16	10	5	3.6	80
TULSA	676	991.9	1017.4	55	27	40.9	4.7	76	22	3	13	0	25	22	54	0.63	- 1.08	0.57	5	0	1.1	1	12.1	18	34	S	2	17	6	8	3.7	77
OREGON																																
ASTORIA	8	1014.4	1015.1	49	38	43.7	3.0	53	31+	32	21+	0	2	40	86	18.50	6.79	4.32	31	1	T	0	11.2	12	43*	24	16	0	3	28	9.2	
BURNS U	4151	873.2		36	16	25.6	0.8	44	1	3	23	0	31			2.09	0.47	0.95	14	0	20.6	9						3	8	20	8.0	
EUGENE	361	1005.0		49	36	42.4	3.3	61	26	29	3	0	10			14.83	8.50	3.78	22	0	T	0	9.4		36*	20	19	1	2	28	9.0	
MEACHAM	4050			31	22	26.9	0.9	42	1	16	12	0	30			7.13	2.93	1.51	26	0	55.4	29						0	2	29	9.4	
MEDFORD	1298	972.7	1021.6	42	29	35.2	- 0.2	60	19	22	13	0	27	33	96	5.60	2.46	1.87	17	0	0.6	T	3.5	36	23*	22	19	1	2	28	9.0	
PENDLETON	1482	962.5	1017.0	47	33	40.3	8.1	63	1	24	13+	0	12	30	70	1.07	- 0.35	0.42	11	0	T	T	11.0	20	37*	24	19	2	7	22	7.9	
PORTLAND	21	1011.5	1017.2	47	35	40.9	2.5	53	29+	28	28	0	7	37	86	9.51	4.14	1.79	27	0	T	0	11.0	12	49	S	17	0	3	28	9.2	18
PORTLAND U	30			49	40	44.3	4.1	59	1	35	28+	0	0			13.63	7.29	2.16	24		T	0										
ROSEBURG	505	1000.8		49	34	41.6	1.3	60	26	28	23	0	11			10.98	5.47	3.17	21	0	0.8	1	4.0	S#	26	S	17	0	4	27	9.1	24
SALEM	195	1010.7	1018.1	47	36	41.7	3.2	57	26	29	28	0	5	38	85	11.19	4.49	1.80	24	0	T	0	11.7	18	31*	18	19	0	5	26	8.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
OREGON																																
SEXTON SUMMIT R	3836	883.9		38	29	33.4	- 0.7	50	1	23	23	0	26			10.31	4.72	2.44	19	0	45.3	31	13.9	S				1	6	24	8.9	
PACIFIC AREA																																
CANTON ISLAND	11	1007.2	1007.4	88	78	82.9	- 0.2	92	4	73	17	11	0	76	80	15.08	12.47	3.70	22	2	0.0	0	10.6	36	29*	22	17	3	2	26	8.9	
ENIWETOK	16	1010.4		85	77	81.0	- 0.2	87	20+	72	23	0	0			2.02	1.00	0.47	18	0	0.0	0	17.9									
TAGUAC GUAM R	361			84	72	78.0	- 0.2	85	31+	64	19+	0	0			1.99	- 2.64	0.44	17	0	0.0	0	9.3	NE#	24	NE	22					69
JOHNSTON	7	1013.8	1014.6	80	74	77.0	- 0.1	82	12	70	30	0	0	69	75	1.03	- 2.86	0.23	10	0	0.0	0	19.1	9	38	E	13+	5	22	4	5.0	66
KOROR R	94	1008.0	1010.5	86	76	80.8	0.5	90	26	73	21	1	0	75	86	7.27	- 4.46	2.10	23	0	0.0	0	9.4	6	22	NE	21	0	0	31	10.0	64
KWAJALEIN		1010.1	1010.3	86	76	80.8	0.7	87	22+	73	14+	0	0	73	79	0.90	- 2.71	0.22	13	0	0.0	0	18.4	6	32*	6	6	5	11	15	7.1	
PONAPE R	123	1004.8	1009.3	87	77	81.8	1.3	89	15	72	11	0	0	73	77	3.59	- 7.48	0.92	19	2	0.0	0	10.1	6	21	NE	28	0	3	28	9.0	60
TRUK MOEN ISLAND	5	1009.0	1009.1	86	78	81.8	1.1	88	24	75	27+	0	0	74	76	2.00	- 6.40	0.88	12	0	0.0	0	8.8	4	22	NE	27	0	10	21	8.4	76
WAKE	11	1015.1	1015.3	83	74	78.1	0.7	85	6+	70	23+	0	0	67	70	0.92	- 0.22	0.36	10	0	0.0	0	11.3	7	28*	6	15+	13	14	4	4.5	
YAP R	53	1009.2	1010.1	85	76	80.5	0.0	87	30+	73	10	0	0			2.37	- 5.50	0.50	0		0.0	0	12.3		32	NE	21	0	1	30	9.7	86
PENNSYLVANIA																																
ALLENTOWN	376	1001.6	1016.3	38	21	29.2	0.2	56	25	2	15	0	28	20	70	4.67	1.50	1.44	9	1	14.5	10	12.5	29	53*	30	21	13	9	9	5.0	
ERIE	732	988.4	1015.3	37	23	30.0	2.7	56	24+	3	14	0	26	23	74	2.35	- 0.32	1.00	18	0	25.8	17	17.5	16	39*	26	10	3	9	19	7.6	
HARRISBURG	335	1002.6	1017.0	40	21	30.2	- 1.1	54	25	- 3	15	0	25	18	61	4.78	2.02	1.46	9	0	19.4	18	9.7	27	37	W	21	13	6	12	5.2	66
PHILADELPHIA	5	1011.7	1016.3	42	24	33.0	1.1	56	25	2	15	0	25	23	68	3.92	0.60	1.39	9	0	7.4	7	11.0	24	39	N	13	14	8	9	4.8	66
PITTSBURGH	1137	984.4	1016.2	39	24	31.4	2.5	58	23	- 6	14	0	24	20	65	2.55	- 0.42	1.14	12	1	20.3	15	12.0	23	44*	26	25	6	4	21	7.2	49
PITTSBURGH U	749			42	26	34.0	0.7	63	23	5	14	0	22			2.45	- 0.37	1.27	11		22.7											52
READING U	266	1003.8		41	26	33.3	0.6	60	25	10	14	0	22			4.78	1.71	1.40	11	0	13.9	13	12.7	W#	48	N	13	15	7	9	4.7	61
SCRANTON	940	980.6	1015.8	36	20	27.9	0.2	53	25	- 9	15	0	26	18	66	3.40	1.11	0.95	11	0	27.9	20	8.7	24	43	SE	25	11	5	15	6.0	51
WILLIAMSPORT	527	997.2	1016.9	37	18	27.9	- 0.9	52	25	-11	15	0	28	19	70	4.95	2.28	1.49	11	0	33.5	24	9.5	27	32*	24	26	12	5	14	5.8	
RHODE ISLAND																																
BLOCK ISLAND	110	1009.2		39	27	32.9	0.8	50	25+	12	14	0	22			3.37	- 0.47	1.18	11	0	5.9	6						13	7	11	5.4	
PROVIDENCE	55	1007.8	1014.1	40	21	30.6	1.4	54	25	0	1	0	28	19	64	5.65	1.84	2.00	12	1	12.5	11	12.2	29	39*	22	25	14	6	11	5.1	60
SOUTH CAROLINA																																
CHARLESTON	41	1018.0	1020.0	60	37	48.5	- 1.3	74	6	18	15	0	10	37	72	6.53	3.99	2.26	16	1	T	0	8.8	27	54Y	W	20	9	4	18	6.6	41
CHARLESTON U	9			57	40	48.5	- 3.0	67	24+	23	14	0	6			6.99	4.59	2.73	17		T	0	10.2		41	W	20					
COLUMBIA	217	1006.9	1020.1	55	33	44.1	- 2.8	71	22	14	15	0	14	32	70	6.34	3.32	1.88	14	1	0.0	0	7.3	23	46*	28	20	10	6	15	6.0	52
FLORENCE	146	1013.4	1019.4	56	34	44.7	- 2.8	70	24	18	15	0	12	32	66	5.77	3.13	1.50	13	0	T	T	8.6	25	33*	30	20	10	6	15	5.9	
GNVLE SPARTANBURG	957	981.4	1019.4	52	31	41.7	- 2.3	70	23	14	15	0	16	26	58	5.44	1.16	2.52	12	0	0.5	1	8.5	25	34	W	20	13	2	16	5.5	63
SOUTH DAKOTA																																
HURON	1282	966.3	1014.8	34	8	20.9	8.4	54	2	-26	12	0	31	11	67	0.14	- 0.34	0.09	4	0	3.8	3	11.6	30	34	NW	3	11	6	14	5.6	61
RAPID CITY	3165	897.5	1014.7	41	16	28.4	6.4	60	21+	-14	12	0	30	14	59	0.35	- 0.01	0.25	5	0	3.5	2	11.6	33	45	W	20	13	6	12	5.2	63
SIOUX FALLS	1420	961.2	1014.6	35	11	23.0	7.8	57	30	-20	13	0	31	15	74	0.34	- 0.28	0.34	2	0	3.5	3	10.7	30	28*	4	11	14	3	14	5.3	
TENNESSEE																																
BRISTOL	1507	962.8	1018.8	47	22	34.1	- 4.2	66	23	- 4	16+	0	28	20	60	3.25	- 0.44	0.84	11	0	8.9	9	5.1	24	35*	29	9	14	4	13	5.2	
CHATTANOOGA	670	991.9	1020.2	52	28	39.9	- 1.8	71	23	10	2	0	16	29	70	5.98	0.37	2.75	10	1	3.4	6	7.9	18	37	W	20+	11	5	15	5.8	54
KNOXVILLE	950	983.3	1019.8	47	26	36.3	- 5.1	65	23	7	15	0	22	26	69	4.71	- 0.17	1.50	11	2	8.5	9	7.8	24	35	W	20	15	4	12	5.2	59
MEMPHIS	263	1004.3	1019.4	52	30	41.1	- 0.4	70	23	14	15+	0	22	31	70	3.73	- 2.35	1.54	9	3	0.5	1	9.3	18	33	NW	24	11	11	9	4.9	73
MEMPHIS U	271			52	34	42.8	0.7	69	23	16	14	0	12			3.34	- 2.47	1.21	9		0.8	1										
NASHVILLE	577	998.4	1018.7	51	27	38.9	- 1.0	68	22	10	14	0	22	28	68	3.70	- 1.79	0.78	10	2	5.0	9	9.2	18	40	W	19	12	7	12	5.0	68
OAK RIDGE	905	985.8		48	25	36.9	- 3.0	64	23	8	15	0	25			4.81	- 1.13	1.26	10	1	0.3	5	5.1		45Y		20	12	7	12	5.2	
TEXAS																																
ABILENE	1759	955.4	1017.9	60	33	46.2	1.6	81	18	12	14+	0	16	22	45	2.36	1.48	2.12	3	1	2.0	2	10.2	20	43	NW	11	18	7	6	3.6	78
AMARILLO	3607	887.5	1016.0	52	23	37.2	0.5	72	21+	0	13	0	27	12	42	T	- 0.65	T	0	0	T	T	15.6	24	42	W	18	24	5	2	2.6	86
AUSTIN	597	996.9	1019.6	62	39	50.3	- 0.1	76	19	17	14	0	11	35	62	2.57	0.22	1.48	5	1	0.6	0	10.3	18	31	NW	24	14	8	9	4.6	70
BROWNSVILLE	16	1016.4	1018.9	69	50	59.6	- 1.8	81	19	32	13	0	1	49	72	0.35	- 1.00	0.21	4	0	0.0	0	12.1	18	33	NW	16	9	2	20	6.9	50
CORPUS CHRISTI	43	1018.3	1019.6	67	47	56.9	- 0.5	79	22+	27	13	0	4	46	73	1.61	- 0.02	1.17	7	1	0.0	0	11.3	36	33	SE	30	8	6	17	6.7	58
DALLAS	481	1000.0	1019.1	57	34	45.4	- 0.5	77	22	11	14	0	14	29	57	3.27	0.95	1.77	4	0	7.4	7	11.9	18	45	SE	30	17	5	9	4.1	77
DEL RIO	1026	983.9		63	35	49.2		79	19	19	14	0	15			0.42		0.37	2	0	0.0	0	10.3					16	6	9	4.1	
EL PASO	3918	887.6	1018.4	53	25	39.3	- 3.6	64	22+	10	10	0	23	9	31	T	- 0.46	T	0	0	0.0	0	8.8	2	54	W	19	22	4	5	2.5	92
FORT WORTH	544	997.7	1019.1	56	31	43.8	- 1.7	76	22	4	14	0	19	29	61	3.53	1.49	1.73	4	0	12.1	8	10.8	18	36*	31	12	16	5	10	4.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
GALVESTON U	7			57	47	52.1	- 2.8	67	22+	25	13	0	3			4.13	0.67	1.21	11		0.0	0			36	N	9					35
HOUSTON U	41			61	47	53.9	- 0.7	76	22	24	13	0	3			2.86	- 0.86	1.26	9		0.0	0										
HOUSTON	50	1017.0	1019.7	61	42	51.6	- 2.0	74	22+	21	14	0	6	42	75	2.89	- 0.89	1.27	9	0	0.0	0	11.0	34	32*	33	9	7	5	19	7.2	51
LAREDO	500	1003.4	1019.1	68	44	56.0	- 1.7	85	19	26	13	0	5	36	55	0.36	- 0.77	0.21	5	0	0.0	0	10.3	12	30*	15	30+	14	5	12	5.0	
LUBBOCK	3243	903.4	1017.6	54	23	38.8	- 0.4	71	26	1	13	0	28	17	46	0.45	- 0.23	0.37	2	0	T	T	14.2	26	55*	28	19	21	3	7	3.0	
MIDLAND	2854	916.3	1016.9	59	29	43.6	- 0.4	75	21+	7	13	0	20	16	40	0.40	- 0.40	0.40	2	0	T	0	11.5	24	32*	29	19	20	8	3	2.8	
PORT ARTHUR	16	1018.2	1019.7	60	41	50.4	- 3.2	75	8	19	14	0	6	44	82	4.28	0.05	1.12	12	2	T	0	10.8	18	34	NW	12+	6	5	20	7.4	46
SAN ANGELO	1903	949.8	1018.4	60	30	45.1	- 1.8	78	22+	14	13	0	20	22	47	0.95	- 0.02	0.92	2	0	T	T	9.5	18	32*	29	19	19	7	5	3.2	
SAN ANTONIO	792	994.4	1019.5	63	39	51.0	- 1.0	78	19	15	14	0	8	35	60	3.40	1.66	2.56	6	0	T	0	8.7	34	30	NW	24	14	8	9	4.6	71
VICTORIA	104	1014.9		65	44	54.3	- 1.1	76	22+	21	14	0	4			2.03	- 0.31	1.13	3	1	0.0	0	10.7		44Y		11	6	10	15	6.5	
WACO	500	997.4	1019.1	60	34	46.7	- 1.3	76	22	7	14	0	15	33	64	3.15	0.88	2.05	4	0	5.6	4	15.0	18	38*	31	8	14	7	10	4.5	
WICHITA FALLS	994	979.2	1017.6	58	29	43.6	0.8	78	22	7	13	0	18	23	52	1.35	0.23	1.26	3	0	1.2	1	12.2	18	32*	33	12+	15	11	5	3.5	
UTAH																																
MILFORD	5028	845.7		39	10	24.2	- 0.4	56	1	- 6	13	0	31			0.45	- 0.12	0.25	5	0	6.4	3						8	6	17	6.2	
SALT LAKE CITY	4220	870.7	1025.0	32	12	21.9	- 5.3	45	21	-10	13	0	30	16	77	0.94	- 0.41	0.26	10	0	18.2	7	8.9	16	35	S	21+	6	4	21	7.5	43
WENDOVER	4237	873.3		34	19	26.4	- 0.6	46	20+	7	13	0	30			0.18	- 0.14	0.08	6	0	2.4	1						9	7	15	6.4	
VERMONT																																
BURLINGTON	331	998.9	1014.1	31	13	21.9	5.7	50	25	- 7	15+	0	31	13	66	2.27	0.32	1.15	11	0	7.5	8	10.1	18	29	W	10	2	10	19	7.7	48
VIRGINIA																																
LYNCHBURG	947	991.7		47	27	36.9	- 0.7	65	22	7	15+	0	19			4.82	1.53	1.47	10	0	6.3	4	8.3		34	W	20	15	3	13	4.9	58
NORFOLK	26	1016.1	1017.9	52	33	42.3	1.1	65	25+	20	15+	0	16	30	67	4.56	1.23	1.08	8	1	T	T	13.9	18	45	SW	26	16	2	13	4.5	65
RICHMOND	162	1011.3	1017.7	50	26	38.1	- 0.6	68	25	0	15	0	22	25	63	4.16	0.70	1.09	10	0	5.7	5	9.0	23	29	SW	25	15	3	13	4.7	68
ROANOKE	1174	974.7	1018.0	47	28	37.3	- 0.8	66	23	12	14	0	19	21	56	5.20	2.08	1.56	11	0	15.7	6	10.8	24	53*	30	21	15	5	11	4.6	
WASHINGTON																																
OLYMPIA	190	1007.1	1014.5	45	34	39.8	1.7	52	31+	23	7	0	9	38	92	15.13	7.28	2.94	25	0	2.4	T	9.8	18	44*	22	19+	0	3	28	9.2	
SEATTLE TACOMA	400	1000.1	1014.4	45	35	40.0	1.7	52	16+	29	7	0	7	34	81	9.76	4.03	1.92	24	2	0.5		12.1	20	38*	23	19	0	2	29	9.4	
SEATTLE U	14			47	40	43.4	2.2	54	16	34	20+	0	0			8.16	2.97	1.93	24		1.4	T										23
SPOKANE	2356	945.6	1015.5	34	24	29.3	4.0	43	1	11	8	0	31	26	86	3.15	0.71	0.83	18	0	26.3	11	10.2	21	40	SW	19	3	3	25	8.5	32
STAMPEDE PASS R	3958	874.8		29	24	26.3	2.8	39	1	20	24+	0	31			21.83	9.80	3.02	28	0	163.6	157						0	0	31	9.9	
TATOOSH ISLAND R	101	1008.3	1011.3	47	40	43.5	1.5	52	1	32	20	0	1	39	83	14.22	3.40	1.39	31	3	T	T	20.8	27	72	SW	19	0	2	29	9.5	8
WALLA WALLA U	949			48	35	41.7	8.5	65	1	22	13	0	9			0.97	- 0.92		10	0	T											
YAKIMA	1061	976.5	1016.4	42	25	33.2	5.7	53	1	15	23	0	31	25	77	0.60	- 0.59	0.25	6	0	4.3	1	6.2	29	29*	29	6	4	8	19	7.4	
WEST INDIES																																
SAN JUAN P.R.	5	1015.2	1018.1	84	69	76.6	2.2	89	18	63	31	0	0	68	76	2.02	- 2.68	0.51	17	0	0.0	0	7.4	7	25	E	31	6	20	5	5.6	71
SWAN ISLAND	28	1014.1		83	74	78.5	0.2	85	7	69	14	0	0			3.13	- 0.31	1.28	18	1	0.0	0						11	14	6	4.8	
WEST VIRGINIA																																
BECKLEY	2504	927.1	1018.7	43	24	33.2		65	23	2	15	0	25	20	63	3.44		0.87	13	0	11.1	7	12.8	29	38*	30	20	13	6	12	5.0	
CHARLESTON	939	981.3	1017.6	46	26	35.8	- 0.8	67	23	3	15	0	24	24	65	2.58	- 1.74	0.72	10	0	11.3	9	7.8	23	35*	24	25	14	7	10	4.9	
ELKINS	1970	945.9	1017.2	44	19	31.6	- 0.9	65	23	-12	15	0	29	21	69	3.20	- 0.42	0.88	14	0	13.0	8	9.2	27	37*	25	25	9	10	12	5.7	
HUNTINGTON	827	987.2	1018.2	45	24	34.2	- 2.4	66	23	0	14	0	25	23	67	2.11	- 1.54	0.53	9	0	10.7	8	7.8	18	35*	26	20	15	4	12	5.3	
PARKERSBURG U	615			45	25	35.2	0.6	65	23	6	15+	0	23			2.20	- 1.14	0.61	9	1	12.0	10	8.3		34	W	26					60
WISCONSIN																																
GREEN BAY	682	989.2	1012.7	29	13	20.9	4.1	48	22	- 3	15+	0	31	14	75	1.14	- 0.01	0.89	8	1	2.9	1	11.9	24	36	SW	25	8	8	15	6.3	49
LA CROSSE	652	988.4	1014.0	33	16	24.2	7.7	51	22	- 8	13	0	31	16	71	0.34	- 0.85	0.22	7	0	5.7	4	11.0	18	35*	29	25	12	9	10	5.4	
MADISON	858	976.8	1013.4	34	16	24.9	7.4	53	22	- 2	28+	0	29	16	69	0.93	- 0.47	0.80	8	1	1.4	2	10.8	18	36	W	25	9	7	15	6.1	54
MILWAUKEE	672	987.9	1013.7	34	18	26.1	5.5	53	22	- 2	1	0	28	19	75	1.18	- 0.65	0.56	8	2	3.8	3	12.9	21	36	NW	25	9	9	13	5.7	53
WYOMING																																
CASPER	5319	833.1	1016.2	32	14	23.0	- 0.4	48	1	- 6	12	0	31	12	62	0.75	0.19	0.42	9	0	13.2	7	17.3	22	39*	22	21	7	11	13	6.2	
CHEYENNE	6126	808.4	1015.8	38	15	26.1	0.7	55	21	- 6	13	0	31	6	46	0.03	- 0.49	0.02	2	0	1.0	T	18.8	29	57	W	25	12	11	8	4.5	75
LANDER	5563	831.5	1017.5	32	9	20.4	1.1	52	1	-12	14+	0	30	7	58	0.43	- 0.03	0.23	2	0	8.3	10	7.2	24	49	NE	20+	6	17	8	6.0	66
SHERIDAN	3942	880.3	1015.3	38	15	26.4	5.1	59	1	- 8	13	0	31	16	67	0.35	- 0.29	0.15	7	0	4.9	2	9.6	31	56	SW	21	6	12	13	6.5	65

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

V Sun below horizon January 1-23, inclusive.
X Sun below horizon January 1-17, inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	C.	C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	994.5	1020.5	12.2	0.0	6.0	-2.1	20.0	23+	-10.6	15	0	19	0.0	69	137	2	62	11	2	10	203	3.1	15	15.2	W	9	7	7	17	6.6	53
HUNTSVILLE	184	997.7	1020.1	11.1	-1.1	4.9	-1.1	21.7	22	-10.6	15	0	19	-1.7	66	136	3	68	9	3	8	279	3.7	14	15.6*	18	20+	9	8	14	6.0	
MOBILE	64	1017.8	1020.1	14.4	4.4	9.6	-2.1	22.8	31	-6.7	14	0	6	4.4	73	187	69	68	15	6	T	51	4.5	34	13.4*	4	16	5	5	21	7.5	
MONTGOMERY	59	1012.7	1020.8	12.8	1.7	7.3	-1.6	20.6	24	-9.4	15	0	14	2.2	74	165	62	49	10	2	T	25	2.7	14	14.3	W	24	6	5	20	7.4	45
ALASKA												B																				
ANCHORAGE	27	992.2	997.3	-6.1	-13.9	-9.9	0.9	0.0	4	-26.7	21	0	31	-14.4	80	9	-11	6	5	0	193	178	1.8	36	7.2*	36	25+	9	2	20	6.9	35
ANNETTE	34	998.5	1002.6	4.4	0.0	2.0	0.7	7.2	2	-9.4	22	0	16	0.0	86	379	91	82	25	0	417	254	5.4	14	18.3*	17	26	1	6	24	8.8	
BARROW	7	1012.3	1013.0	-26.7	-31.7	-28.9	-0.2	-15.0	4	-45.0	31	0	31	-33.9	65	2	-3	1	5	0	43	152	0.5	6	13.4*	7	14	V4	V1	V3	4.1	
BARTER ISLAND	12	1010.0	1012.0	-25.0	-31.1	-27.9	-0.8	-17.2	2	-42.8	31	0	31	-32.8	63	2	-8	1	5	0	20	330	6.0	7	19.7*	10	16	X7	X0	X7		
BETHEL	38	996.2	997.5	-11.1	-18.9	-15.1	0.7	0.6	23+	-32.2	20	0	31	-17.8	80	8	-20	2	9	0	132	102	4.5	4	12.5*	3	26	3	4	24	8.3	
COLD BAY	29	988.3	992.0	1.1	-3.3	-1.1	1.2	6.1	22	-12.2	9	0	25	-3.3	84	34	-25	9	18	0	155	152	5.8	15	19.2*	18	29	0	9	22	8.7	
CORDOVA	12	993.9	995.8	1.1	-6.7	-2.7	2.2	5.6	25+	-19.4	21	0	27	-4.4	88	120	-35	30	16	0	648	178	2.7	11	11.2*	14	4	5	2	24	8.0	
FAIRBANKS	133	987.4	1005.7	-21.7	-31.7	-26.5	-2.6	-9.4	4	-41.1	21	0	31	-30.6	68	5	-17	4	7	0	122	254	0.4	2	6.3*	23	5	12	2	17	6.0	
JUNEAU	5	1000.5	1001.5	0.6	-3.9	-1.5	2.3	4.4	15+	-16.1	24+	0	22	-3.3	85	81	-21	13	23	0	340	152	4.5	9	15.6*	11	3	4	2	25	8.5	24
KING SALMON	13	992.7	994.7	-4.4	-14.4	-9.4	0.9	4.4	11	-30.0	20+	0	30	-12.2	78	19	-9	5	15	0	206	127	4.7	8	17.9*	6	23	5	3	23	7.9	
KOTZEBUE	3	1004.2	1004.7	-17.8	-25.6	-21.6	-0.7	-9.4	14	-35.6	31+	0	31	-25.0	74	4	-6	1	6	0	226	432	5.1	11	15.6*	11	23	10	5	16	6.3	
MC GRATH	102	989.7	1003.4	-17.8	-30.0	-25.4	-2.6	-10.6	31	-42.2	21	0	31	-31.7	58	3	-29	2	3	0	114	279	0.4	36	5.8*	32	4	10	7	14	5.7	
NOME	4	1000.0	1000.8	-12.2	-20.6	-16.2	-0.9	0.6	24	-31.7	8	0	31	-20.0	72	21	-5	5	17	0	201	305	5.5	9	16.5*	4	10	5	5	21	7.6	20
ST. PAUL ISLAND	7	991.5	992.5	-1.1	-5.0	-3.1	0.6	2.8	22	-12.2	31	0	28	-4.4	88	127	81	35	17	0	907	457	7.6	36	23.7*	35	30	2	3	26	9.1	
SHEMYA	37	991.6	995.3	0.6	-2.8	-1.3	-0.9	4.4	20	-8.9	14	0	24			41	-22	0			226	102										
YAKUTAT	9	997.2	998.5	1.1	-4.4	-1.6	1.0	4.4	26+	-16.7	21	0	25	-3.9	85	343	67	58	22	0	1204	229	3.1	9	16.1*	12	4	5	1	25	8.2	
ARIZONA																																
FLAGSTAFF	2131	789.2	1020.7	4.4	-12.2	-3.7	-1.1	13.3	1	-26.1	24	0	31	-13.3	52	27	-19	20	4	0	262	229	3.6	3	13.0*	2	12	17	5	9	3.7	
PHOENIX	340	978.8	1019.0	16.1	0.0	8.2	-1.7	21.7	31	-6.7	11	0	15	-5.6	42	6	-13	6	2	0	0	0	2.7	9	16.5Y	ESE	28	22	4	5	2.6	93
PRESCOTT	1528	847.7	1020.3	10.0	-6.1	1.8	-1.0	20.6	1	-15.0	14	0	30	-12.2	43	8	-18	6	3	0	25	25	3.6	18	17.9	SW	22	18	9	4	3.1	88
TUCSON	788	927.8	1017.8	16.7	0.6	8.6	-1.3	24.4	26+	-7.8	12	0	13	-10.0	31	4	-17	2	3	1	0	0	4.2	12	13.9	E	13	20	6	5	2.7	92
WINSLOW	1487	853.3	1023.1	8.3	-9.4	-0.8	-0.2	18.3	2	-18.3	14	0	31	-14.4	41	1	-10	1	1	0	8	T	3.9	23	16.5*	22	22	18	9	4	2.9	
YUMA	61	1014.1	1019.5	20.0	3.9	11.9	-1.1	26.1	1	-1.1	10	0	2	-7.8	31	T	-10	T	0	0	0	0	3.1	36	18.3	NW	3	20	8	3	2.6	92
ARKANSAS																																
FORT SMITH	137	1001.2	1018.7	13.3	-3.9	4.8	0.4	22.8	22+	-16.1	14	0	23	-3.9	59	16	-52	14	7	1	0	T	3.1	6	16.1	SW	19	18	6	7	3.6	77
LITTLE ROCK	78	1005.8	1019.4	12.8	-3.3	4.9	0.1	25.6	24	-12.8	14	0	23	-2.8	62	25	-108	14	4	0	T	T	3.6	25	17.0	W	24	14	7	10	4.5	66
TEXARKANA	110	1005.9	1019.6	13.9	1.1	7.4	0.1	22.8	19	-11.7	14	0	14	0.0	66	21	-102	12	6	1	8	T	4.2	21								
CALIFORNIA																																
BAKERSFIELD	151	1004.6	1022.8	13.9	2.2	8.0	-0.6	20.0	20	-1.7	6	0	7	2.2	72	7	-23	3	5	0	0	0	2.5	12	8.0*	17	20+	9	10	12	5.8	
BISHOP	1252	876.5		11.1	-7.8	1.8	-0.8	19.4	1	-17.8	23	0	31			12	-13	7	2	0	127	127						11	8	12	5.0	
BLUE CANYON	1609	840.2		6.1	-1.1	2.3	-0.6	13.9	31+	-6.7	23	0	23			312	15	71	17	0	1720	1524						6	7	18	7.0	
BURBANK	213	993.3	1019.7	18.9	3.9	11.3	-0.7	28.3	1	1.1	17+	0	0	-2.2	48	54	-26	38	4	0	0	0	3.0	36	11.6*	36	6	15	9	7	3.5	
EUREKA U	13	1019.5		11.7	5.0	8.1	-0.4	15.6	25	0.6	11	0	0			283	113	56	18	3	0	0	3.1	S#	14.8	S	19+	2	4	25	8.3	45
FRESNO	99	1010.3	1022.6	11.7	1.7	6.6	-1.3	17.2	20	-3.9	13	0	10	2.8	80	17	-35	13	7	0	0	0	2.3	12	13.0	NW	21	3	10	18	7.6	54
LONG BEACH	10	1018.7	1020.3	20.0	6.7	13.4	1.7	27.8	31	3.3	13	0	0	2.8	55	15	-36	11	3	0	0	0	2.5	28	16.5*	17	21	12	13	6	4.2	
LOS ANGELES	30	1016.1	1020.0	18.3	7.2	12.9	0.5	25.0	31	4.4	15	0	0	1.7	54	38	-30	19	4	0	0	0	3.8	31	19.7Y	W	22	14	11	6	4.1	
LOS ANGELES U	94			18.3	8.9	13.7	0.5	26.7	1	5.6	23	0	0			36	-42	21	4	0	0	0	3.0	NE#	16.1	N	14	16	12	3	3.7	85
MT SHASTA R	1080	894.7		4.4	-3.9	0.4	-0.3	11.1	1	-10.0	22	0	29			144	-18	85	14	0	914	381						5	8	18	7.5	
OAKLAND	1	1022.1	1022.5	11.7	6.1	9.1	0.2	16.7	3	2.2	13	0	0	5.6	80	99	2	56	13	1	0	0	3.3	16	20.6*	16	20	7	7	17	7.1	
POINT ARGUELLO R	112	1007.1		15.6	3.9	9.8	-0.1	20.0	3	-1.1	16+	0	4			37	-23	20	7	0	0	0			10.3*	29	21+	10	11	10	5.0	
RED BLUFF	104	1008.8	1021.9	11.1	2.8	6.7	-0.8	17.2	26	-2.2	13	0	5	2.2	77	58	-51	47	10	1	0	0	4.5	15	25.0	SE	20	5	8	18	7.5	43
SACRAMENTO	5	1021.4	1022.8	11.7	2.8	7.3	-0.1	16.7	26	-2.2	13	0	6	5.0	90	97	17	68	11	0	T	0	3.0	33	14.3	SE	20	5	4	22	7.8	45
SACRAMENTO U	7			12.2	3.3	7.8	-0.2	17.2	26	-1.1	5	0	1			85	-6	58	8		0	0										
SANDBERG R	1377			7.2	0.0	3.6	-0.8	21.7	1	-4.4	23+	0	20			23	-42				69	51	6.3		17.9*	17	21+					
SAN DIEGO	4	1016.1	1019.5	18.3	7.2	12.9	0.2	24.4	1	3.9	15	0	0	3.9	60	33	-18	26	7	1	0	0	2.5	7	12.1	S	22	17	9	5	3.8	80
SAN FRANCISCO	2	1021.9	1022.6	13.3	4.4	9.0	-0.2	16.1	26+	0.6	13+	0	0	5.6	78	111	9	68	12	1	0	0	3.6	27	26.4	SSE	20	7	6	18	6.9	
SAN FRANCISCO U	16			13.3	7.8	10.6	0.2	18.9	5	5.6	23+	0	0			86	-30	49	11	1	0	0	2.9	NW#	14.3	S	20					67
SANTA CATALINA	478	963.1		15.0	9.4	12.1	0.1	26.1	1	6.1	24	0	0			22	-45	11	5	0	0	0						13	12	6	4.1	
SANTA MARIA	73	1012.9	1021.8	17.2	1.1	9.3	-0.8	22.2	31	-3.3	13	0	14	2.2	69	31	-41	19	6	1	0	0	3.8	32	10.7*	2	2	14	12	5	4.0	
STOCKTON	9	1021.4	1022.9	11.1	1.7	6.5	0.0	15.0	26	-4.4	13	0	12	3.3	83	51	-14	34	10	0	0	0	3.2	14	17.9*	16	20	3	6	22	8.0	
COLORADO																																
ALAMOSA	2297	768.5		1.7	-22.2	-10.4	-2.3	11.7	2	-36.1	14+	0	31			7	0	3	7	0	127	76						21	6	4	2.8	
COLORADO SPRINGS	1881	806.7	1016.4	6.1	-8.3	-0.9	0.9	15.0	28+	-18.9	13	0	31	-13.9	41	T	-7	T	0	0	T	T	4.5	3	14.3*	31	19	16	8	7	3.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
DENVER	1610	834.1	1015.3	7.8	- 8.9	- 0.8	1.2	18.3	20	-20.6	12	0	31	-12.2	47	7	- 7	3	5	0	66	25	4.5	18	15.6	NW	25+	15	9	7	4.2	78
GRAND JUNCTION	1478	861.6	1023.3	2.8	-10.0	- 3.6	-0.3	12.2	21	-19.4	14	0	31	-11.7	59	12	- 4	7	6	0	122	25	4.5	13	15.6	SE	18	12	8	11	5.3	69
PUEBLO	1414	854.0	1016.5	9.4	- 8.3	0.7	1.8	18.3	28+	-19.4	13+	0	28	-11.7	46	1	- 7	1	1	0	13	25	5.4	27	32.2	W	17	16	9	6	3.6	91
CONNECTICUT																																
BRIDGEPORT	2	1014.9	1015.9	3.9	- 3.9	- 0.2	0.8	10.0	25	-13.9	15	0	24	- 5.0	71	72	- 21	21	10	0	264	254	7.2	27	30.0*	34	21	13	7	11	5.2	
HARTFORD	52	1008.3	1014.5	2.8	- 7.8	- 2.7	0.6	11.1	25	-21.1	15	0	29	- 7.2	72	141	50	53	10	0	351	279	3.6	36	22.4	NW	21	10	10	11	6.0	59
NEW HAVEN	2	1014.8		3.9	- 5.0	- 0.5	0.8	10.0	25	-13.9	15	0	26			97	- 3	26	10	0	300	254	4.4		17.9	W	10	13	8	10	5.2	65
DELAWARE																																
WILMINGTON	24	1013.3	1016.5	5.6	- 4.4	0.7	-0.1	16.7	25	-17.2	15	0	26	- 5.0	69	105	19	32	9	0	170	152	4.5	29	17.0*	30	21	16	5	10	4.6	
DIST.OF COLUMBIA																																
WASHINGTON U	22			8.3	- 1.7	3.3	0.8	18.3	3	-16.1	16+	0	15			107		27	9													
WASH NATL AP	4	1012.1	1016.8	7.8	- 3.3	2.4	-0.3	18.3	25	-13.9	15	0	23	- 4.4	64	101	24	29	9	0	226	229	4.2	20	18.8	NW	21	17	3	11	4.5	66
FLORIDA																																
APALACHICOLA U	4	1018.6		13.9	6.7	10.3	-2.6	20.6	20+	- 4.4	14	0	4			210	130	52	16	2	T	0	3.5	E#	14.8	N	12	6	4	21	7.3	54
DAYTONA BEACH	9	1019.0	1020.9	18.9	8.3	13.7	-1.4	27.8	9	- 2.8	14	0	3	9.4	79	134	85	52	12	1	0	0	4.2	36	15.6*	31	12	5	8	18	7.2	
FORT MYERS	4	1019.5		22.8	11.7	17.3	-0.2	29.4	8	0.0	15	0	1			73	35	34	7	1	0	0	4.7		12.5*	28	13	3	9	19	7.5	
JACKSONVILLE	7	1019.2	1020.6	17.2	6.1	11.7	-1.6	24.4	24	- 5.6	15	0	4	6.7	76	185	123	63	15	0	0	0	3.8	18	17.4	S	31	5	7	19	7.1	63
KEY WEST	2	1018.3	1019.5	23.3	17.8	20.5	-0.4	27.8	28+	8.3	15	0	0	16.1	78	2	- 37	2	1	0	0	0	5.5	6	13.0	NW	13+	7	9	15	6.4	61
LAKELAND U	65			20.0	10.0	14.8	-1.7	28.9	8	- 2.8	14	0	2			145	93	96	9	2	0	0	3.5					4	8	19	7.3	38
MIAMI BEACH	3			22.2	17.2	19.8	-0.8	30.0	28	3.3	15+	0	0			40	- 2	40	2	0	0	0	6.3	SE				2	13	16	7.0	43
MIAMI	2	1018.4	1019.8	23.3	16.1	19.7	0.3	29.4	28	2.2	15	0	0	15.6	78	11	- 40	11	3	0	0	0	3.9	12	12.5*	24	17	0	14	17	7.8	
ORLANDO	32	1015.8	1020.6	20.0	9.4	14.7	-1.1	28.3	9+	- 2.8	14	0	1	9.4	76	157	106	85	12	1	0	0	4.4	4	10.3*	33	20+	4	7	20	7.6	
PENSACOLA	4			13.9	5.0	9.5	-2.4	21.1	9	- 6.7	14	0	6			300	193	94	16	4	T	T	3.6	35	15.2	E	6					25
TALLAHASSEE	18	1018.3	1021.1	15.6	3.9	9.7	-2.4	21.1	7	- 8.9	15	0	8	5.0	77	235	149	65	15	3	0	0	4.0	18	14.3*	32	20	5	5	21	7.5	
TAMPA	6	1019.2	1020.8	15.6	8.9	14.8	-1.4	27.2	8	- 2.8	15	0	3	10.0	76	129	75	78	10	2	0	0	5.4	6	13.9*	34	12	3	8	20	7.6	42
WEST PALM BEACH	5	1019.5	1020.7	22.8	14.4	18.6	-0.8	28.3	9	1.7	14	0	0	13.9	76	25	- 38	12	7	0	0	0	4.5	15	12.5*	27	13	1	7	23	8.5	
GEORGIA																																
ATHENS	245	990.1	1019.8	11.1	0.0	5.4	-1.6	22.2	23	-10.0	15	0	15	- 0.6	70	188	64	71	14	1	T	51	3.8	24	10.3*	30	20	9	5	17	6.3	
ATLANTA	306	977.1	1020.3	10.0	- 0.6	4.9	-2.2	20.0	23	-10.0	15	0	15	- 1.1	70	153	40	72	14	0	20	25	3.1	25	18.8	W	20	9	5	17	6.4	52
AUGUSTA	44	1013.2	1020.2	13.3	0.6	6.9	-1.7	22.2	23+	-10.0	15	0	15	1.7	74	180	104	58	13	0	T	T	3.5	24	14.3*	29	20	8	3	20	6.7	
COLUMBUS	117	1005.9		12.8	0.6	6.7	-2.1	21.1	23	-10.6	15	0	16			178	75	43	16	1	T	T	3.6	6	13.9*	28	20	5	5	21	7.5	
MACON	109	1006.6	1020.6	12.8	1.7	7.2	-2.3	20.0	23	- 8.9	15	0	11	1.1	72	211	125	83	16	4	T	T	3.1	30	14.8	NW	20	6	4	21	7.1	42
ROME	194	996.6		10.6	- 3.3	3.6	-2.1	21.7	23	-13.9	15	0	24			151	11	81	11	2	41	127						9	9	13	5.9	
SAVANNAH	15	1017.9	1020.5	15.0	2.8	9.0	-1.9	21.7	7+	- 7.8	15	0	12	3.9	74	160	89	50	15	2	T	0	4.9	25	15.2	NW	20	8	3	20	7.1	45
THOMASVILLE U	86			15.0	5.0	9.9	-2.2	20.0	24	- 6.7	14	0	5			230	139	50	14	3	T	0										
HAWAII																																
HILO	9	1015.8	1017.9	26.7	17.8	22.3	0.7	28.3	30	15.6	20	0	0	17.2	78	372	72	117	25	0	0	0	3.8	25	12.5*	S	18	4	11	16	6.9	44
HONOLULU	2	1017.2	1017.6	27.2	20.6	23.9	1.4	28.3	30+	17.8	24	0	0	16.7	66	55	- 40	14	10	1	0	0	4.9	6	13.4	NE	16	10	14	7	5.1	73
KAHULUI	13	1013.6	1016.7	26.7	19.4	23.4	1.2	30.0	29	15.6	23+	0	0	17.8	72	28	- 52	12	13	1	0	0	5.9	7	13.4	NE	12	15	13	3	3.8	75
LIHUE	35	1012.9	1018.6	26.1	20.0	23.2	1.7	27.8	31+	17.8	31+	0	0	18.3	76	187	47	109	22	2	0	0	5.8	5	13.0	NE	16+	6	15	10	6.1	53
IDAHO																																
BOISE	865	922.9	1022.2	1.1	- 7.8	- 3.3	-1.7	8.3	20	-17.2	13	0	30	- 5.0	87	62	29	19	17	1	544	152	3.4	13	13.4	SE	16	4	7	20	7.8	49
IDAHO FALLS 42NW R	1460			- 5.0	-21.1	-13.1	-2.7	3.3	20	-31.7	15	0	31			11	- 3	4	7				2.2		16.5A	SSW	21					
IDAHO FALLS 46W R	1504	849.3		- 3.9	-18.9	-11.4	-2.2	5.6	2	-30.6	15	0	31			12	- 7	5	5	0	142	229	1.8		14.3A	SSW	21					
LEWISTON	431	964.3		6.1	- 1.1	2.7	3.4	14.4	1	- 5.6	8+	0	22			12	- 15	4	6	0	130	76						2	4	25	8.6	
POCATELLO	1355	864.3	1023.6	- 1.7	-12.8	- 7.1	-1.7	6.1	1	-28.3	13	0	30	-10.0	80	19	- 11	6	16	0	292	356	4.9	24	18.8	S	21	0	11	20	8.1	33
ILLINOIS																																
CAIRO U	96	1004.7		8.9	- 1.7	3.7	0.7	17.8	24+	-11.1	14	0	22			35	- 78	17	7	1	94	76	4.2	S#	14.8	SW	19	14	7	10	4.7	70
CHICAGO O HARE	201	988.7	1014.2	2.8	- 7.2	- 2.4	0.0	15.6	24	-25.0	1	0	27	- 6.7	72	18	- 28	8	10	1	41	25	6.0	24	17.4*	6	12	11	5	15	5.8	
CHICAGO MIDWAY	186	991.2	1014.8	- 1.1	- 6.1	- 1.4	1.9	16.1	24	-16.1	1	0	25	- 6.1	70	27	- 20	14	8	2	64	25	5.8	21	16.5	NE	12	8	8	15	6.2	53
MOLINE	177	992.2	1015.1	3.3	- 7.2	- 2.0	3.2	14.4	22	-18.9	1	0	26	- 6.1	74	40	- 1	17	8	2	135	76	5.1	25	16.1	W	25	9	13	9	5.3	65
PEORIA	199	993.4	1016.4	3.9	- 7.2	- 1.8	1.7	14.4	22	-19.4	1	0	27	- 6.1	74	26	- 22	9	9	1	122	127	4.7	18	15.6	NE	12	11	5	15	6.0	60
ROCKFORD	222	985.7	1013.7	2.2	- 8.3	- 2.9	2.6	12.8	22	-22.2	1	0	28	- 6.7	74	25	- 26	12	7	2	51	102	4.9	29	14.3*	28	25	11	7	13	5.6	
SPRINGFIELD	179	992.2	1016.1	5.6	- 6.7	- 0.7	1.3	16.7	22	-21.7	14	0	26	- 5.6	70	42	- 6	21	6	2	274	279	5.8	19	16.1	SW	25+	11	5	15	5.8	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	116	1001.5	1017.9	8.3	- 5.6	1.5	0.3	21.1	22	-21.1	14	0	25	- 5.0	65	56	- 45	19	7	2	102	102	3.5	18	15.2	SW	19	12	8	11	5.3	58
FORT WAYNE	241	983.2	1015.6	2.8	- 5.6	- 1.5	1.3	14.4	22	-20.0	14	0	25	- 5.6	75	63	- 5	27	7	1	203	178	5.5	23	18.8	SW	25	7	10	14	6.4	61
INDIANAPOLIS	242	985.4	1016.4	4.4	- 5.6	- 0.7	0.9	17.8	22	-20.6	14	0	27	- 6.1	70	52	- 26	19	8	2	234	203	5.1	23	17.9	S	19	8	10	13	6.1	60
SOUTH BEND	234	985.4	1014.4	2.8	- 5.6	- 1.5	2.1	13.3	22	-22.2	1	0	26	- 6.1	72	40	- 16	9	12	2	254	178	5.8	23	14.3*	25	25	6	8	17	6.8	
IOWA																																
BURLINGTON	212	990.6	1015.9	4.4	- 6.7	- 1.1	3.2	16.1	22	-16.1	28+	0	28	- 6.7	70	33	- 9	13	7	1	119	102	5.9	22	17.0	NW	20	10	11	10	5.5	67
DES MOINES	289	983.0	1015.3	- 1.1	- 7.8	- 2.3	3.9	12.8	21	-21.7	13	0	30	- 7.8	70	13	- 20	8	6	0	163	102	5.4	18	13.9	NE	12	13	6	12	5.0	61
DUBUQUE	325	988.2		0.6	- 8.9	- 4.1	3.1	10.6	22	-21.1	10	0	30			8	- 39	5	4	1	74	102			20.1*	27	25	9	10	12	5.6	
SIOUX CITY	334	972.4	1015.2	3.3	- 9.4	- 3.3	4.1	15.0	2	-28.3	13	0	31	- 8.9	70	9	- 11	7	4	0	76	76	4.6	32	14.3	NW	8+	15	6	10	4.5	76
WATERLOO	265	980.6	1013.8	1.7	-10.0	- 4.2	3.6	11.1	22	-23.9	10	0	31	- 8.3	74	9	- 21	6	5	0	97	76	5.1	31	12.5*	6	11	10	11	10	5.4	
KANSAS																																
CONCORDIA	448	964.1	1015.4	7.8	- 7.2	0.4	2.9	18.3	20	-22.8	13	0	29	- 8.3	56	2	- 1	2	3	0	41	25	5.8	18	17.0	NW	8	19	3	9	3.8	76
DODGE CITY	791	925.8	1016.2	10.0	- 6.1	1.9	2.4	21.1	21	-21.1	13	0	30	- 9.4	49	1	- 13	1	1	0	10	T	5.8	35	17.9	N	8	17	5	9	4.0	82
GOODLAND	1111	885.4	1015.8	8.9	- 8.9	0.2	2.7	20.6	21	-21.7	12	0	30	-10.6	53	T	- 10	T	0	0	T	T	6.3	25	19.7*	33	24+	17	11	3	3.2	
TOPEKA	267	979.2	1016.0	8.9	- 6.7	1.2	3.0	20.6	22	-20.6	13	0	30	- 6.7	60	14	- 12	9	5	0	51	51	5.6	18	17.0	N	12	14	7	10	4.3	69
WICHITA	403	966.0	1016.1	10.0	- 5.0	2.7	2.7	22.8	22	-18.3	13	0	29	- 7.2	56	18	- 3	18	3	0	5	T	5.9	18	21.9	S	10	16	8	7	4.0	78
KENTUCKY																																
COVINGTON	265	984.5	1016.6	5.6	- 5.6	0.1	0.3	17.2	22	-26.1	14	0	25	- 5.6	68	73	- 17	21	9	1	389	178	4.5	21	13.4*	25	25+	10	8	13	5.7	
LEXINGTON	298	981.2	1017.9	7.2	- 3.9	1.7	0.3	18.9	23+	-18.9	14	0	23	- 5.0	66	72	- 54	19	8	1	254	152	4.5	20	12.5*	25	25	14	6	11	5.0	
LOUISVILLE	144	997.9	1017.5	8.3	- 3.9	2.2	0.5	20.0	22	-18.3	14	0	22	- 5.0	62	62	- 42	18	8	2	384	178	4.0	18	13.9	W	26	11	6	14	5.7	62
LOUISIANA																																
ALEXANDRIA	28	1015.9	1020.7	10.0	1.1	7.6	0.0	22.8	19	-11.7	14	0	17	2.2	73	163	28	48	13	2	T	0	2.8	20	10.3*	30	12	8	6	17	6.5	
BATON ROUGE	20	1017.3	1020.5	15.6	3.9	9.8	-1.8	22.8	24	- 6.7	14	0	9	3.9	71	157	36	53	14	1	0	0	3.7	11	10.3*	5	16+	7	6	18	7.1	
LAKE CHARLES	4	1019.0	1020.4	14.4	4.4	9.4	-2.6	22.2	22+	- 6.7	14	0	7	5.0	77	139	27	42	12	2	T	0	4.2	18	11.2*	7	16	6	4	21	7.2	
NEW ORLEANS	1	1018.1	1020.5	15.6	4.4	10.0	-2.6	23.3	23	- 6.1	1	0	9	6.7	81	244	146	101	15	3	0	51	3.3	6	8.9*	15	24+	5	6	20	7.5	
NEW ORLEANS AUDUBON	2	1013.1		15.6	6.1	10.6	0.0	22.8	24+	- 3.3	14+	0	6			258	149	92	15	3			2.2	E#	7.2	NE	16+	5	8	18	7.2	39
SHREVEPORT	77	1010.7	1020.3	10.0	2.2	8.1	-0.6	24.4	19	- 9.4	14	0	10	0.0	62	65	- 57	22	9	1	25	25	4.9	18	12.5*	30	24+	12	7	12	5.3	63
MAINE																																
CARIBOU	190	987.5	1011.8	- 5.0	-15.6	-10.3	1.6	3.9	25	-27.2	18+	0	31	-12.8	76	67	13	18	13	0	513	406	4.9	27				5	10	16	6.9	
PORTLAND	19	1009.3	1013.4	1.7	-10.0	- 4.2	1.4	7.8	25+	-24.4	1	0	31	- 8.9	71	120	9	34	11	0	442	330	4.5	26	15.6	N	14	10	12	9	5.5	67
MARYLAND																																
BALTIMORE	45	1012.1	1016.8	6.1	- 4.4	1.0	-0.6	14.4	25	-18.9	15	0	25	- 6.7	59	134	47	37	9	0	262	178	4.0	28	20.1	W	10	17	5	9	4.1	68
BALTIMORE U	4			7.2	- 1.1	3.1	0.2	17.2	3	-11.1	14	0	17			133	46	42	9													
MASSACHUSETTS																																
BLUE HILL OBS R	189	988.3		2.8	- 5.6	- 1.4	1.4	11.1	25	-14.4	15+	0	27			135	21	44	10		511	330	7.6	NW#	27.3	SSE	25					60
BOSTON	5	1009.0	1013.9	3.9	- 3.9	- 0.2	1.0	12.8	25	-12.2	15+	0	23	- 6.1	67	116	16	43	10	1	366	229	5.8	32	18.8	NE	13	14	6	11	5.1	63
NANTUCKET	13	1012.8	1014.0	4.4	- 2.8	0.8	0.2	8.9	25+	- 8.9	15+	0	23	- 3.3	75	135	28	43	12	0	533	483	7.2	29	21.9	NW	28	11	5	15	5.7	56
PITTSFIELD	357			1.1	-10.6	- 4.8	0.9	10.6	25	-23.9	1	0	29			89	13	30	14		919	432										
WORCESTER	301	976.0	1013.2	1.7	- 6.7	- 2.7	1.8	10.6	25+	-16.1	14+	0	29	- 8.3	66	138	43	59	10	0	378	381	5.9	27	18.8*	29	10	13	8	10	5.3	
MICHIGAN																																
ALPENA	210	989.3		0.0	-11.1	- 5.6	1.2	6.7	21	-24.4	13+	0	31			33	- 17	12	11	0	231	229	3.8	SW	13.9	E	24	3	6	22	7.6	51
DETROIT	186	987.0	1014.6	2.8	- 4.4	- 0.9	1.9	11.7	25	-14.4	1	0	25	- 6.1	70	57	5	23	11	1	170	152	5.8	22	18.8	SW	25	6	6	19	7.4	39
DETROIT M WAYNE CO	193	990.0	1015.0	1.7	- 6.1	- 2.2	0.9	12.2	25	-18.9	1	0	29	- 6.7	71	56	7	23	11	1	135	127	4.2	23				5	7	19	7.2	
DETROIT WILLOW RUN	217	985.3	1014.5	2.2	- 6.1	- 1.9	1.1	11.7	25	-18.9	1	0	28	- 5.0	79	43	- 7	24	9	1	94	127	5.4	21	17.9*	24	25	5	7	19	7.5	
FLINT	233	986.0	1014.7	1.7	- 6.7	- 2.4	3.1	11.1	25	-22.8	1	0	28	- 7.2	70	37	- 7	9	10	1	132	127	5.4	23	13.9*	23	25	4	7	20	7.5	
GRAND RAPIDS	210	987.1	1013.6	1.7	- 6.7	- 2.5	1.7	11.1	24+	-26.1	1	0	28	- 5.0	81	35	- 14	14	9	1	472	203	5.6	18	17.0	SW	25	5	7	19	7.5	42
LANSING	260	980.2	1013.8	2.2	- 6.1	- 2.1	2.2	12.2	22	-25.0	1	0	28	- 5.6	77	33	- 17	13	11	0	163	127	4.0	23	18.8	SW	25	4	7	20	7.4	37
MARQUETTE U	206	983.2		0.0	- 7.2	- 3.7	3.2	6.7	2	-15.0	26	0	31			33	- 15	20	14	0	295	432	3.6	W#	15.6	SW	1	4	4	23	7.9	48
MUSKEGON	191	989.7	1013.5	2.2	- 5.6	- 1.7	1.7	13.3	24	-22.8	1	0	27	- 4.4	80	50	- 4	25	13	2	389	610	6.5	29	15.6*	25	25	3	4	24	8.2	
SAULT STE MARIE	220	988.0	1011.4	- 2.2	-10.6	- 6.4	2.6	3.3	3	-26.7	12	0	31	- 7.8	86	70	18	21	22	1	965	635	5.4	12	15.6*	29	26+	3	3	25	8.5	32
MINNESOTA																																
DULUTH	435	969.3	1012.2	- 3.3	-13.3	- 8.4	4.6	5.6	1	-25.6	28	0	31	-11.7	74	28	- 1	16	6	0	254	330	5.4	30	25.0	NE	23	5	12	14	6.6	47
INTERNATIONAL FALLS	359	968.6	1011.7	- 6.1	-17.2	-11.7	4.4	3.9	1	-37.2	12	0	31	-15.0	76	19	- 3	6	9	0	152	381	5.2	27	13.4*	21	20+	2	10	19	7.7	
MINNEAPOLIS	251	978.9	1013.9	- 1.7	-11.7	- 6.7	4.2	5.6	20+	-24.4	13	0	31	-10.6	71	12	- 6	7	5	0	127	76	4.5	29	17.0	SW	17	12	9	10	5.0	60

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Average speed	Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	975.4	1013.8	- 0.6	-11.1	- 5.9	4.3	7.8	22	-21.7	28+	0	31	- 8.9	77	9	- 14	4	6	0	127	51	6.8	29	15.6*	29	25+	11	9	11	5.5	
ST CLOUD	315	973.7		- 2.8	-13.9	- 8.4	3.8	5.6	17	-26.1	27+	0	31			5	- 14	3	4	0	48	76						8	12	11	5.5	
MISSISSIPPI																																
JACKSON	93	1007.7	1020.1	13.3	1.7	7.4		21.7	19	- 9.4	15	0	13	1.1	66	132		40	13	2	38	51	4.1	14	12.5*	20	19	7	5	19	6.6	
MERIDIAN	89	1006.8	1021.0	12.8	- 0.6	6.3	-2.7	21.7	24	-12.2	15	0	18	1.7	76	121	2	36	12	3	25	381	2.7	18	13.0*	22	24	7	4	20	6.8	
VICKSBURG U	71	1010.4		13.3	3.3	8.3	-1.2	22.8	19	- 7.8	13	0	10			140	10	54	12	1	T	T	4.2		11.6	NW	20+	8	8	15	6.7	44
MISSOURI																																
COLUMBIA	237	986.2	1015.3	8.3	- 3.9	2.2	3.2	21.1	22+	-15.6	14	0	24	- 5.6	62	19	- 24	15	4	0	48	51	5.4	18	18.3	W	9	11	7	13	5.2	65
KANSAS CITY	226	979.5	1015.3	8.3	- 2.8	2.9	3.1	20.6	22	-16.7	13	0	20	- 5.6	57	30	- 5	16	4	0	191	178	4.0	20	12.5	NE	12	15	6	10	4.6	71
ST JOSEPH	247	979.8		6.7	- 7.2	- 0.2	2.4	18.3	22	-21.1	13	0	30			7	- 23	6	4	0	74	76	4.0	22	13.0*	1	12+	18	5	8	4.1	
ST LOUIS	163	995.4	1016.7	7.8	- 4.4	1.5	1.6	21.1	22	-18.3	14	0	25	- 6.7	58	43	- 7	13	8	2	206	203	4.5	18	15.6	NW	24	12	8	11	5.2	69
ST LOUIS RFC	142			8.3	- 1.7	3.1	2.2	20.0	22+	-12.2	14	0	18			48	- 7	23	7		178	203										
SPRINGFIELD	386	968.1	1016.8	10.6	- 5.0	2.8	1.9	22.2	23+	-17.8	14	0	25	- 6.1	58	13	- 36	8	8	1	66	51	4.9	16	15.6	S	19	14	7	10	4.5	75
MONTANA																																
BILLINGS	1087	886.9	1013.9	2.8	- 6.1	- 1.6	3.3	9.4	20+	-16.7	12	0	30	-10.0	57	3	- 11	2	6	0	46	25	6.3	25	16.1	NW	21	6	10	15	6.8	65
GLASGOW	694	936.3		- 0.6	-11.7	- 6.2	6.2	8.9	1	-25.0	24	0	31			5	- 7	3	5	0	53	25						2	12	17	7.4	
GREAT FALLS	1116	883.2	1014.3	3.3	- 6.7	- 1.8	3.7	16.1	1	-27.2	22	0	27	-10.0	57	17	1	13	7	0	203	178	7.6	23	19.7	SW	16	7	4	20	7.1	45
HAVRE	787	921.6		0.6	-11.7	- 5.4	4.7	14.4	1	-25.0	23+	0	30			9	- 4	3	9	0	107	51	4.3	SW#	21.0	SW	16	4	11	16	7.1	50
HELENA	1187	873.0	1017.0	0.0	-11.1	- 5.6	1.9	9.4	1	-21.7	22	0	31	-10.6	67	8	- 4	3	6	0	157	152	3.6	29	15.6	W	2	7	4	20	7.4	46
KALISPELL	904	908.8		1.1	- 8.9	- 4.1	2.7	6.1	1	-22.2	8	0	31			31	- 3	19	17	0	508	432	2.2					0	3	28	9.2	
MILES CITY				1.7	-10.0	- 4.1	4.5	13.9	1	-23.9	24	0	31			18	7	10	6	0	284	203	4.5	27	15.6*	32	21+					
MISSOULA	972	900.3	1018.4	- 0.6	-10.6	- 5.6	1.5	8.9	1	-18.9	12	0	31	- 7.8	82	18	- 6	4	14	0	310	229	2.2	32	12.1	W	20	1	2	28	9.2	27
NEBRASKA																																
GRAND ISLAND	561	947.2	1015.7	6.7	9.4	- 1.6	3.7	21.7	2	-28.9	13	0	30	- 9.4	61	2	- 14	2	1	0	0	25	4.9	24	13.4*	36	11+	17	7	7	4.1	
LINCOLN U	351			6.1	- 6.1	- 0.2	3.6	20.0	2	-22.8	13	0	29			5	- 18	4	3	0	64	51	4.6	SW#	15.6	S	28	16	7	8	4.3	72
NORFOLK	471	957.4		- 1.1	-11.1	- 3.6	3.4	16.7	2	-30.6	13	0	31			6	- 14	4	3	0	74	51						18	5	8	3.9	
NORTH PLATTE	847	912.9	1015.2	7.2	-11.1	- 2.2	2.3	18.3	21+	-22.8	13	0	31	-11.7	55	T	- 11	T	0	0	T	T	4.0	34	17.9	NW	24	15	11	5	3.8	88
OMAHA	298	974.0	1015.2	4.4	- 8.3	- 1.9	3.5	17.8	2	-25.0	13	0	29	- 8.9	62	14	- 7	10	4	0	124	102	4.0	16	14.3	NW	24	16	6	9	4.4	73
OMAHA N OMAHA AP	403	965.3		3.3	- 7.8	- 2.2	3.7	17.2	2	-26.1	13	0	30			8	- 15	6	4	0	119	102						16	5	10	4.5	
SCOTTSBLUFF	1204	876.0	1016.0	5.6	- 9.4	- 1.8	1.9	16.1	21+	-23.3	13	0	30	-10.6	56	1	- 6	1	2	0	0	25	6.3	30	18.3*	32	24	14	4	13	5.1	
VALENTINE	789	921.0		4.4	-11.1	- 3.2	3.4	16.7	20	-27.8	12	0	31			4	- 7	4	1		61	51	4.5	W#	17.9	NW	17	11	8	12	5.2	74
NEVADA																																
ELKO	1547	846.6	1024.4	0.6	-15.0	- 7.3	-2.1	8.3	1	-26.1	13	0	31	-10.0	79	32	3	9	15	0	569	279	2.7	24	15.6*	19	21+	2	10	19	7.5	
ELY	1907	808.8	1022.7	2.2	-16.1	- 7.1	-1.9	16.1	1	-27.2	24+	0	31	-17.8	72	36	16	21	[illegible]	0	[illegible]	178	3.6	19	21.9	SW	21	6	11	14	6.7	65
LAS VEGAS	659	954.1	1021.8	12.8	- 1.1	5.6	-0.6	18.9	2	- 6.7	9	0	23	-10.6	33	1	- 12	1	2	0	T	T	3.6	27	17.4*	34	2	17	8	6	3.7	90
RENO	1342	864.5	1022.0	7.2	- 6.7	0.3	1.2	20.0	1	-13.3	23	0	27	- 6.1	65	17	- 13	12	3	0	119	76	2.7	18	22.8	SW	20	7	8	16	6.9	67
WINNEMUCCA	1310	870.1		4.4	- 8.3	- 1.9	0.8	14.4	1	-18.3	13	0	30			31	4	6	13	0	381	127	3.6	18	20.1	SW	17	2	11	18	7.6	26
NEW HAMPSHIRE																																
CONCORD	103	1002.8	1013.9	1.1	-11.7	- 5.1	0.9	9.4	25	-26.7	1	0	30	- 9.4	72	92		42	10	0	610	432	3.6	32	13.0*	34	22	8	12	11	5.9	54
MT WASHINGTON OBS	1909	792.6		- 8.9	-18.3	-13.4	0.9	1.1	23	-30.6	12+	0	31			234	96	45	21	0	1092	203	21.9	NW	58.6Y	W	5	2	9	20	8.1	22
NEW JERSEY																																
ATLANTIC CITY	18	1014.3	1016.5	7.2	- 3.3	1.8	0.3	17.8	3	-16.1	15	0	22	- 3.9	68	161	71	47	9	0	384	203	5.8	29	16.1*	8	13	16	5	10	4.7	70
ATLANTIC CITY U	3			6.7	- 1.7	2.6	0.3	12.8	3	-11.7	15	0	19			148	53	48	8				8.5		24.6*	[illegible]	21					
NEWARK	3	1014.5	1015.8	5.0	- 2.2	1.3	0.6	12.8	25	-13.3	15	0	20	- 6.1	62	130	45	38	12	1	343	330	5.4	27	23.2*	30	21	13	9	9	4.9	
TRENTON U	17	1008.0		5.6	- 2.2	1.6	1.0	15.0	25	-13.3	14	0	18			88	9	26	9	2	229	229	4.5	NW#	18.8	NW	21+	13	9	9	4.8	68
NEW MEXICO																																
ALBUQUERQUE	1618	848.8	1020.3	6.1	- 8.3	- 1.1	-2.8	13.9	21+	-17.8	14	0	31	-13.3	45	2	- 9	1	3	0	13	T	3.1	36	15.6	NW	19	21	7	3	2.6	84
CLAYTON	1515	842.7		10.0	- 7.2	1.4	0.7	20.0	2	-21.1	13	0	28			T	- 9	T	0	0	T	T						21	4	6	3.2	
RATON	1944	802.4		7.2	-12.8	- 2.7	-1.1	16.7	2	-25.0	13	0	30			T	- 9	T	0	0	T	T						19	7	5	3.1	
ROSWELL	1103	893.7		13.3	-10.0	1.5	-1.8	22.8	21	-22.8	13	0	29			20	8	19	2	0	28	25	3.1	27	19.2	W	19	20	6	5	3.0	85
SILVER CITY	1638	835.9		10.6	- 7.2	1.7	-2.5	17.2	26	-15.6	13	0	30			3	- 13	2	2	0	15	25						21	6	4	2.5	
NEW YORK																																
ALBANY	84	1012.0	1015.6	1.1	-10.0	- 4.5	0.7	10.0	25	-26.1	15	0	29	- 8.3	72	85	22	25	13	0	693	406	3.9	17	18.8	W	10	5	13	13	6.5	55
BINGHAMTON	485	958.5	1014.1	- 0.6	- 8.3	- 4.4	0.1	7.8	25	-21.1	15	0	30	-12.8	81	76	13	20	17	0	828	533	4.5	15	17.9	NW	21	6	6	19	7.4	40

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	C.	C.	°C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
BUFFALO	215	985.7	1014.3	1.7	- 5.0	- 1.5	2.7	12.2	23	-13.9	29	0	26	- 6.1	71	54	- 18	23	20	0	348	406	5.8	25	18.3	W	26	3	7	21	7.8	46
NEW YORK U	40	1003.9		5.6	- 1.1	2.1	1.4	12.8	25	-12.8	14	0	16			117	33	33	9	0	338	330	4.5	SW#	19.2	NE	13	16	7	8	4.3	67
NEW YORK LA GUARDIA	6	1013.6	1015.5	4.4	- 1.7	1.3	0.4	10.0	6	-12.2	14	0	18	- 6.1	59	107	23	27	12	1	259	254	6.3	27	26.4	NE	13	12	9	10	5.1	
ROCHESTER	166	995.3	1015.2	2.2	- 6.1	- 2.1	1.7	12.2	25+	-21.1	1	0	27	- 6.7	69	51	- 10	20	12	0	513	483	5.8	26	16.5	W	25+	3	9	19	7.5	43
SCHENECTADY	66			1.1	- 8.9	- 3.9	0.7	8.9	25	-22.2	16+	0	29			72	7	23	11	0	488	406						19	3	9	4.4	
SYRACUSE	127	992.0	1014.8	1.1	- 8.3	- 3.4	1.1	12.8	25	-21.1	12	0	28	- 7.8	72	55	- 25	11	18	0	457	356	4.9	25	23.2	S	25	4	10	17	7.4	56
NORTH CAROLINA																																
ASHEVILLE U	671	937.7		4.4	- 2.8	3.4	-0.9	20.6	23	-15.0	15	0	21			72	- 9	33	9	0	25	127	3.6	NW#	13.4	NW	20+	15	7	9	4.6	65
CAPE HATTERAS R	2	1017.4	1018.0	12.8	3.9	8.2	0.1	19.4	24	- 7.2	15	0	6	3.3	73	159	60	52	13	0	0	0	5.4	25	17.9	ENE	12	12	5	14	5.6	66
CHARLOTTE	224	990.1	1018.9	11.7	- 1.1	5.3	-0.7	21.1	23+	-11.1	15	0	19	- 3.3	59	144	55	43	12	0	0	25	3.1	23	13.9	W	20	13	3	15	5.6	55
GREENSBORO	272	985.9	1018.8	9.4	- 2.8	3.4	-0.9	20.0	23	-13.9	15	0	22	- 3.3	66	114	27	43	10	1	38	51	3.6	22	15.2	NE	1	14	3	14	5.2	58
RALEIGH	132	1004.2	1018.3	11.7	- 1.1	5.1	-0.2	20.6	22	-12.8	15	0	18	- 2.2	64	93	11	26	10	0	0	25	3.6	22	17.9*	22	20	13	4	14	5.4	55
WILMINGTON	9	1016.7	1019.5	14.4	2.2	8.2	-0.7	21.1	24+	- 6.7	15	0	11	1.7	69	180	107	47	15	0	T	T	4.2	25	22.4	W	20	10	6	15	5.7	60
WINSTON SALEM	295	982.4	1018.5	8.9	- 1.7	3.7	-1.1	20.0	23	-10.0	15	0	17	- 3.9	62	129	35	46	11	0	51	76	3.6	24	13.9*	27	20	13	5	13	5.1	
NORTH DAKOTA																																
BISMARCK	502	951.4	1014.5	- 1.7	-16.1	- 8.9	3.3	11.7	20	-38.9	12	0	29	-13.9	67	10	- 1	7	5	0	119	76	4.0	29	21.9	NW	17	10	10	11	5.7	66
FARGO	274	977.7	1013.6	- 6.7	-15.0	- 9.1	4.6	7.8	2	-30.0	12	0	30	-13.9	68	14		9	5	0	213	152	4.9	18	18.3	W	17	8	9	14	6.2	63
WILLISTON	579	943.0		- 1.7	-15.6	- 8.8	4.4	6.7	1	-34.4	27	0	31			11	- 3	5	4	0	127	76	4.0	SW	31.3	NW	17	7	11	13	5.9	59
OHIO																																
AKRON	369	976.9	1016.1	- 1.1	- 6.1	- 1.8	0.3	13.3	25+	-20.6	14	0	28	- 7.2	69	56	- 17	21	10	0	432	254	5.4	23	13.0*	31	20	6	13	12	6.3	
CINCINNATI OBS	232			6.7	- 3.3	1.6	0.7	17.8	23+	-15.0	14	0	23			75	- 18	20	10	2	391	229	3.6	S#	13.0	SW	25					58
CINCINNATI U	169	993.8		7.8	- 2.2	2.6	0.0	19.4	23	-14.4	14	0	20			67	- 25	22	10		386											
CLEVELAND	237	986.4	1015.2	2.8	- 5.0	- 1.2	1.2	13.9	24	-15.0	29	0	27	- 6.1	71	37	- 31	12	11	0	406	203	5.4	18	17.0	W	26+	7	5	19	7.2	50
COLUMBUS	247	986.3	1017.1	3.9	- 6.1	- 1.1	0.1	14.4	25+	-25.6	14	0	27	- 5.6	73	46	- 34	13	10	0	305	178	4.5	18	16.5	SW	25	9	8	14	5.9	55
COLUMBUS U	221			4.4	- 3.9	0.5	0.7	15.6	23	-16.7	14	0	24			54	- 20	21	9	0	330	152										
DAYTON	304	982.8	1016.4	4.4	- 5.0	- 0.3	1.1	15.6	22	-18.9	14	0	26	- 5.0	72	41	- 40	12	9	1	493	254	6.3	20	15.2	S	25+	10	8	13	6.0	69
MANSFIELD	395			2.2	- 6.1	- 1.7	0.9	12.8	24	-20.6	14	0	28			37	- 45	7	12	0	432	254						7	7	17	6.6	
TOLEDO	206	988.9	1015.1	2.2	- 6.1	- 1.9	1.2	12.8	25+	-22.2	14	0	26	- 6.1	72	47	- 12	18	10	1	218	102	4.9	23	16.1	SW	26	9	6	16	6.6	56
YOUNGSTOWN	359	971.9	1015.9	1.7	- 6.1	- 2.3	0.3	11.7	25+	-21.1	14	0	28	- 7.2	72	52	- 29	18	12	1	521	305	5.5	23	13.4*	25	10	6	8	17	6.9	
OKLAHOMA																																
OKLAHOMA CITY	390	972.6	1017.2	11.7	- 2.2	4.5	1.7	23.3	22	-14.4	13	0	20	- 6.7	51	21	- 12	18	3	0	T	T	6.3	18	17.9	NW	12+	16	10	5	3.6	80
TULSA	206	991.9	1017.4	12.8	- 2.8	4.9	2.6	24.4	22	-16.1	13	0	25	- 5.6	54	16	- 27	14	5	0	28	25	5.4	18	15.2	S	2	17	6	8	3.7	77
OREGON																																
ASTORIA	2	1014.4	1015.1	9.4	3.3	6.5	1.7	11.7	31+	0.0	21+	0	2	4.4	86	470	172	110	31	1	T	0	5.0	12	19.2*	24	16	0	3	28	9.2	
BURNS U	1265	873.2		- 1.1	- 8.9	- 3.6	0.4	6.7	1	-16.1	23	0	31			53	12	24	14	0	523	229						3	8	20	8.0	
EUGENE	110	1005.0		9.4	2.2	5.8	1.8	16.1	26	- 1.7	3	0	10			377	216	96	22	0	T	0	4.2		16.1*	20	19	1	2	28	9.0	
MEACHAM	1234			- 0.6	- 5.6	- 2.8	0.5	5.6	1	- 8.9	12	0	30			181	74	38	26	0	1407	737						0	2	29	9.4	
MEDFORD	396	972.7	1021.6	5.6	- 1.7	1.8	-0.1	15.6	19	- 5.6	13	0	27	0.6	96	142	62	47	17	0	0	T	1.3	36	8.9*	22	19	1	2	28	9.0	
PENDLETON	452	962.5	1017.0	8.3	0.6	4.6	4.5	17.2	1	- 4.4	13+	0	12	- 1.1	70	27	- 9	11	11	0	T	T	4.9	20	16.5*	24	19	2	7	22	7.9	
PORTLAND	6	1011.5	1017.2	8.3	1.7	4.9	1.4	11.7	29+	- 2.2	28	0	7	2.8	86	242	105	45	27	0	T	0	4.9	12	21.9	S	17	0	3	28	9.2	18
PORTLAND U	9			4.4	4.4	6.8	2.3	15.0	1	1.7	28+	0	0			346	185	55	24		T	0										
ROSEBURG	154	1000.8		4.4	1.1	5.3	0.7	15.6	26	- 2.2	23	0	11			279	139	81	21	0	20	25	1.8	S#	11.6	S	17	0	4	27	9.1	24
SALEM	59	1010.7	1018.1	8.3	2.2	5.4	1.8	13.9	26	- 1.7	28	0	5	3.3	85	284	114	46	24	0	T	0	5.2	18	13.9*	18	19	0	5	26	8.8	
SEXTON SUMMIT R	1169	883.9		3.3	- 1.7	0.8	-0.4	10.0	1	- 5.0	23	0	26			262	120	62	19	0	1143	787	5.8	S				1	6	24	8.9	
PACIFIC AREA																																
CANTON ISLAND	3	1007.2	1007.4	31.1	25.6	28.3	-0.1	33.3	4	22.2	23	4	0	24.4	80	383	317	94	22	2	0	0	4.7	36	13.0*	22	17	3	2	26	8.9	
ENIWETOK	5	1010.4		29.4	25.0	27.2	-0.1	30.6	20+	22.2	23	0	0			51	25	12	18	0	0	0	7.6									
TAGUAC GUAM R	110			28.9	22.2	25.6	-0.1	29.4	31+	17.8	19+	0	0			51	- 67	11	17	0	0	0	4.2	NE#	10.7	NE	22					69
JOHNSTON	2	1013.8	1014.6	26.7	23.3	25.0	-0.1	27.8	12	21.1	30	0	0	20.6	75	26	- 73	6	10	0	0	0	8.5	9	17.0	E	13+	5	22	4	5.0	66
KOROR R	29	1008.0	1010.5	30.0	24.4	27.1	0.3	32.2	26	22.8	21	1	0	23.9	86	185	-113	53	23	0	0	0	4.2	6	9.8	NE	21	0	0	31	10.0	64
KWAJALEIN		1010.1	1010.3	26.7	21.1	27.1	0.4	30.6	22+	22.8	14+	0	0	22.8	79	23	- 69	6	13	0	0	0	8.2	6	14.3*	6	6	5	11	15	7.1	
PONAPE R	37	1004.8	1009.3	30.6	25.0	27.7	0.7	31.7	15	22.2	11	0	0	22.8	77	91	-190	23	19	2	0	0	4.5	6	9.4	NE	28	0	3	28	9.0	60
TRUK MOEN ISLAND	2	1009.0	1009.1	30.0	25.6	27.7	0.6	31.1	24	23.9	27+	0	0	23.3	76	51	-163	22	12	0	0	0	3.9	4	9.8	NE	27	0	10	21	8.4	76
WAKE	3	1015.1	1015.3	28.3	23.3	25.6	0.4	29.4	6+	21.1	23+	0	0	19.4	70	23	- 6	9	10	0	0	0	5.1	7	12.5*	6	15+	13	14	4	4.5	
YAP R	16	1009.2	1010.1	29.4	24.4	26.9	0.0	30.6	30+	22.8	10	0	0			60	-140	13	0		0	0	5.5		1.3	NE	21	0	1	30	9.7	86

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.					.		%
PENNSYLVANIA																																
ALLENTOWN	115	1001.6	1016.3	3.3	- 6.1	- 1.6	0.1	13.3	25	-16.7	15	0	28	- 6.7	70	119	38	37	9	1	368	254	5.4	29	23.7*	30	21	13	9	9	5.0	
ERIE	223	988.4	1015.3	2.8	- 5.0	- 1.1	1.5	13.3	24+	-16.1	14	0	26	- 5.0	74	60	- 8	25	18	0	655	432	7.6	16	17.4*	26	10	3	9	19	7.6	
HARRISBURG	102	1002.6	1017.0	4.4	- 6.1	- 1.0	-0.6	12.2	25	-19.4	15	0	25	- 7.8	61	121	51	37	9	0	493	457	4.0	27	16.5	W	21	13	6	12	5.2	66
PHILADELPHIA	2	1011.7	1016.3	5.6	- 4.4	0.6	0.6	13.3	25	-16.7	15	0	25	- 5.0	68	100	15	35	9	0	188	178	4.9	24	17.4	N	13	14	8	9	4.8	66
PITTSBURGH	347	984.4	1016.2	- 1.1	- 4.4	- 0.3	1.4	14.4	23	-21.1	14	0	24	- 6.7	65	65	- 11	29	12	1	516	381	5.4	23	19.7*	26	25	6	4	21	7.2	49
PITTSBURGH U	226			4.4	- 3.3	1.1	0.4	17.2	23	-15.0	14	0	22			62	- 9	32	11		559											52
READING U	81	1003.8		4.4	- 3.3	0.7	0.3	15.6	25	-12.2	14	0	22			121	43	36	11	0	353	330	5.4	W#	21.5	N	13	15	7	9	4.7	61
SCRANTON	287	980.6	1015.8	2.2	- 6.7	- 2.3	0.1	11.7	25	-22.8	15	0	26	- 7.8	66	86	28	24	11	0	686	508	3.6	24	19.2	SE	25	11	5	15	6.0	51
WILLIAMSPORT	161	997.2	1016.9	2.8	- 7.8	- 2.3	-0.5	11.1	25	-23.9	15	0	28	- 7.2	70	126	58	38	11	0	838	610	4.2	27	14.3*	24	26	12	5	14	5.8	
RHODE ISLAND																																
BLOCK ISLAND	34	1009.2		3.9	- 2.8	0.5	0.4	10.0	25+	-11.1	14	0	22			86	- 12	30	11	0	150	152						13	7	11	5.4	
PROVIDENCE	17	1007.8	1014.1	4.4	- 6.1	- 0.8	0.8	12.2	25	-17.8	1	0	28	- 7.2	64	144	47	51	12	1	318	279	5.4	29	17.4*	22	25	14	6	11	5.1	60
SOUTH CAROLINA																																
CHARLESTON	12	1018.0	1020.0	15.6	2.8	9.2	-0.7	23.3	6	- 7.8	15	0	10	2.8	72	166	101	57	16	1	T	0	3.9	27	24.1Y	W	20	9	4	18	6.6	41
CHARLESTON U	3			13.9	4.4	9.2	-1.7	19.4	24+	- 5.0	14	0	6			178	117	69	17		T	0	4.6		18.3	W	20					
COLUMBIA	66	1006.9	1020.1	12.8	0.6	6.7	-1.6	21.7	22	-10.0	15	0	14	0.0	70	161	84	48	14	1	0	0	3.1	23	20.6*	28	20	10	6	15	6.0	52
FLORENCE	45	1013.4	1019.4	13.3	1.1	7.1	-1.6	21.1	24	- 7.8	15	0	12	0.0	66	147	80	38	13	0	T	T	3.6	25	14.8*	30	20	10	6	15	5.9	
GNVLE SPARTANBURG	292	981.4	1019.4	10.0	- 0.6	5.4	-1.3	21.1	23	-10.0	15	0	16	- 3.3	58	138	29	64	12	0	13	25	3.6	25	15.2	W	20	13	2	16	5.5	63
SOUTH DAKOTA																																
HURON	391	966.3	1014.8	1.1	-13.3	- 6.2	4.7	12.2	2	-32.2	12	0	31	-11.7	67	4	- 9	2	4	0	76	76	5.2	30	15.2	NW	3	11	6	14	5.6	61
RAPID CITY	965	897.5	1014.7	5.0	- 8.9	- 2.0	3.6	15.6	21+	-25.6	12	0	30	-10.0	59	9		6	5	0	89	51	4.9	33	20.1	W	20	13	6	12	5.2	63
SIOUX FALLS	433	961.2	1014.6	1.7	-11.7	- 5.0	4.3	13.9	30	-28.9	13	0	31	- 9.4	74	9	- 7	9	2	0	89	76	4.5	30	12.5*	4	11	14	3	14	5.3	
TENNESSEE																																
BRISTOL	459	962.8	1018.8	8.3	- 5.6	1.2	-2.3	18.9	23	-20.0	16+	0	28	- 6.7	60	83	- 11	21	11	0	226	229	2.2	24	15.6*	29	9	14	4	13	5.2	
CHATTANOOGA	204	991.9	1020.2	11.1	- 2.2	4.4	-1.0	21.7	23	-12.2	2	0	16	- 1.7	70	152	9	70	10	1	86	152	3.1	18	16.5	W	20+	11	5	15	5.8	54
KNOXVILLE	290	983.3	1019.8	8.3	- 3.3	2.4	-2.8	18.3	23	-13.9	15	0	22	- 3.3	69	120	- 4	38	11	2	216	229	3.1	24	15.6	W	20	15	4	12	5.2	59
MEMPHIS	80	1004.3	1019.4	11.1	- 1.1	5.1	-0.2	21.1	23	-10.0	15+	0	22	- 0.6	70	95	- 60	39	9	3	0	25	4.0	18	14.8	NW	24	11	11	9	4.9	73
MEMPHIS U	83			11.1	1.1	6.0	0.4	20.6	23	- 8.9	14	0	12			85	- 63	31	9		0	25										
NASHVILLE	176	998.4	1018.7	10.6	- 2.8	3.8	-0.6	20.0	22	-12.2	14	0	22	- 2.2	68	94	- 45	20	10	2	127	229	4.1	18	17.9	W	19	12	7	12	5.0	68
OAK RIDGE	276	985.8		8.9	- 3.9	2.7	-1.7	17.8	23	-13.3	15	0	25			122	- 29	32	10	1	8	127	2.2		20.1Y		20	12	7	12	5.2	
TEXAS																																
ABILENE	536	955.4	1017.9	15.6	0.6	7.9	0.9	27.2	18	-11.1	14+	0	16	- 5.6	45	60	38	54	3	1	51	51	4.5	20	19.2	NW	11	18	7	6	3.6	78
AMARILLO	1097	887.5	1016.0	11.1	- 5.0	2.9	0.3	22.2	21+	-17.8	13	0	27	-11.1	42	T	- 17	T	0	0	T	T	6.7	24	18.8	W	18	24	5	2	2.6	86
AUSTIN	182	996.9	1019.6	16.7	3.9	10.2	-0.1	24.4	19	- 8.3	14	0	11	1.7	62	65	6	38	5	1	15	0	4.6	18	13.9	NW	24	14	8	9	4.6	70
BROWNSVILLE	5	1016.4	1018.9	20.6	10.0	15.3	-1.0	27.2	19	0.0	13	0	1	9.4	72	9	- 25	5	4	0	0	0	5.4	18	14.8	NW	16	9	2	20	6.9	50
CORPUS CHRISTI	13	1018.3	1019.6	19.4	8.3	13.8	-0.3	26.1	22+	- 2.8	13	0	4	7.8	73	41	- 1	30	7	1	0	0	5.1	36	14.8	SE	30	8	6	17	6.7	58
DALLAS	147	1000.0	1019.1	13.9	1.1	7.4	-0.3	25.0	22	-11.7	14	0	14	- 1.7	57	83	24	45	4	0	138	178	4.9	18	20.1	SE	30	17	5	9	4.1	77
DEL RIO	313	983.9		17.2	1.7	9.6		26.1	19	- 7.2	14	0	15			11		9	2	0	0	0	4.6					16	6	9	4.1	
EL PASO	1194	887.6	1018.4	11.7	- 3.9	4.1	-2.0	17.8	22+	-12.2	10	0	23	-12.8	31	T	- 12	T	0	0	0	0	3.9	[illegible]	24.1	W	19	22	4	5	2.5	92
FORT WORTH	166	997.7	1019.1	13.3	- 0.6	6.6	-0.9	24.4	22	-15.6	14	0	19	- 1.7	61	90	38	44	4	0	305	203	4.5	18	16.1*	31	12	16	5	10	4.3	
GALVESTON U	2			13.9	8.3	11.2	-1.6	19.4	22+	- 3.9	13	0	3			105	17	31	11	0	0	0		NNW	[illegible]	N	19	16	5	10	4.3	35
HOUSTON U	12			16.1	8.3	12.2	-0.4	24.4	22	- 4.4	13	0	3			73	- 22	32	9		0	0										
HOUSTON	15	1017.0	1019.7	16.1	5.6	10.9	-1.1	23.3	22+	- 6.1	14	0	6	5.6	75	73	- 23	32	9	0	0	0	4.9	34	14.3*	33	9	7	5	19	7.2	51
LAREDO	152	1003.4	1019.1	15.6	6.7	13.3	-0.9	29.4	19	- 3.3	13	0	5	2.2	55	9	- 20	5	5	0	0	0	4.5	12	13.4*	15	30+	14	5	12	5.0	
LUBBOCK	988	903.4	1017.6	12.2	- 5.0	3.8	-0.2	21.7	26	-17.2	13	0	28	- 8.3	46	11	- 6	9	2	0	T	T	6.3	26	[illegible]	2	19	21	3	7	3.0	
MIDLAND	870	916.3	1016.9	15.0	- 1.7	6.4	-0.2	23.9	21+	-13.9	13	0	20	- 8.9	40	10	- 10	10	2	0	T	0	5.1	24	[illegible]	2	19	20	8	3	2.8	
PORT ARTHUR	5	1018.2	1019.7	15.6	5.0	10.2	-1.8	23.9	8	- 7.2	14	0	6	6.7	82	109	1	28	12	2	T	0	4.8	18	[illegible]	NW	12+	6	5	20	7.4	46
SAN ANGELO	580	949.8	1018.4	15.6	- 1.1	7.3	-1.0	25.6	22+	-10.0	13	0	20	- 5.6	47	24	- 1	23	2	0	T	T	4.0	18	14.3*	29	19	19	7	5	3.2	
SAN ANTONIO	241	994.4	1019.5	17.2	3.9	10.6	-0.6	25.6	19	- 9.4	14	0	8	1.7	60	86	42	65	6	0	T	0	3.9	34	13.4	NW	24	14	8	9	4.6	71
VICTORIA	32	1014.9		18.3	6.7	12.4	-0.6	24.4	22+	- 6.1	14	0	4			52	- 8	29	3	1	0	0	4.8		19.7Y		11	6	10	15	6.5	
WACO	152	997.4	1019.1	15.6	1.1	8.2	-0.7	24.4	22	-13.9	14	0	15	0.6	64	80	22	52	4	0	142	102	6.7	18	17.0*	31	8	14	7	10	4.5	
WICHITA FALLS	303	979.2	1017.6	14.4	- 1.7	6.4	0.4	25.6	22	-13.9	13	0	18	- 5.0	52	34	6	32	3	0	30	25	5.4	18	14.3*	33	12+	15	11	5	3.5	
UTAH																																
MILFORD	1533	845.7		3.9	-12.2	- 4.3	-0.2	13.3	1	-21.1	13	0	31			11	- 3	6	5	0	163	76						8	6	17	6.2	
SALT LAKE CITY	1286	870.7	1025.0	0.0	-11.1	- 5.6	-2.9	7.2	21	-23.3	13	0	30	- 8.9	77	24	- 10	7	10	0	462	178	3.6	16	15.6	S	21+	6	4	21	7.5	43
WENDOVER	1291	873.3		- 1.1	- 7.2	- 3.1	-0.3	7.8	20+	-13.9	13	0	30			5	- 4	2	6	0	61	25						9	7	15	6.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	C.	C.		C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	998.9	1014.1	- 1.1	-10.6	- 5.6	3.2	10.0	25	-21.7	15+	0	31	-10.6	66	58	8	29	11	0	191	203	4.5	18	13.0	W	10	2	10	19	7.7	48
VIRGINIA																																
LYNCHBURG	289	991.7		8.3	- 2.8	2.7	-0.4	18.3	22	-13.9	15+	0	19			122	39	37	10	0	160	102	3.7		15.2	W	20	15	3	13	4.9	58
NORFOLK	8	1016.1	1017.9	11.1	0.6	5.7	0.6	18.3	25+	- 6.7	15+	0	16	- 1.1	67	116	31	27	8	1	T	T	5.8	18	20.1	SW	26	16	2	13	4.5	65
RICHMOND	49	1011.3	1017.7	10.0	- 3.3	3.4	-0.3	20.0	25	-17.8	15	0	22	- 3.9	63	106	18	28	10	0	127	127	4.0	23	13.0	SW	25	15	3	13	4.7	68
ROANOKE	358	974.7	1018.0	8.3	- 2.2	2.9	-0.4	18.9	23	-11.1	14	0	19	- 6.1	56	132	53	40	11	0	399	152	4.5	24	23.7*	30	21	15	5	11	4.6	
WASHINGTON																																
OLYMPIA	58	1007.1	1014.5	7.2	1.1	4.3	0.9	11.1	31+	- 5.0	7	0	9	3.3	92	384	185	75	25	0	61	T	4.4	18	19.7*	22	19+	0	3	28	9.2	
SEATTLE TACOMA	122	1000.1	1014.4	7.2	1.7	4.4	0.9	11.1	16+	- 1.7	7	0	7	1.1	81	248	102	49	24	2	13		5.4	20	17.0*	23	19	0	2	29	9.4	
SEATTLE U	4			8.3	4.4	6.3	1.2	12.2	16	1.1	20+	0	0			207	75	49	24		36	T										23
SPOKANE	718	945.6	1015.5	1.1	- 4.4	- 1.5	2.2	6.1	1	-11.7	8	0	31	- 3.3	86	80		21	18	0	668	279	4.5	21	17.9	SW	19	3	3	25	8.5	32
STAMPEDE PASS R	1206	874.8		- 1.7	- 4.4	- 3.2	1.6	3.9	1	- 6.7	24+	0	31			554	249	77	28	0	4155	3988						0	0	31	9.9	
TATOOSH ISLAND R	31	1008.3	1011.3	8.3	4.4	6.4	0.8	11.1	1	0.0	20	0	1	3.9	83	361	86	35	31	3	T	T	8.9	27	32.2	SW	19	0	2	29	9.5	08
WALLA WALLA U	289			8.9	1.7	5.4	4.7	18.3	1	- 5.6	13	0	9			25	- 23		10	0	T											
YAKIMA	323	976.5	1016.4	5.6	- 3.9	0.7	3.2	11.7	1	- 9.4	23	0	31	- 3.9	77	15	- 15	6	6	0	109	25	2.8	29	13.0*	29	6	4	8	19	7.4	
WEST INDIES																																
SAN JUAN P.R.	2	1015.2	1018.1	28.9	20.6	24.8	1.2	31.7	18	17.2	31	0	0	20.0	76	51	- 68	13	17	0	0	0	3.3	7	11.2	E	31	6	20	5	5.6	71
SWAN ISLAND	9	1014.1		28.3	23.3	25.8	0.1	29.4	7	20.6	14	0	0			80	- 8	33	18	1	0	0						11	14	6	4.8	
WEST VIRGINIA																																
BECKLEY	763	927.1	1018.7	6.1	- 4.4	0.7		18.3	23	-16.7	15	0	25	- 6.7	63	87		22	13	0	279	178	5.4	29	17.0*	30	20	13	6	12	5.0	
CHARLESTON	286	981.3	1017.6	7.8	- 3.3	2.1	-0.4	19.4	23	-16.1	15	0	24	- 4.4	65	66	- 44	18	10	0	287	229	3.5	23	15.6*	24	25	14	7	10	4.9	
ELKINS	600	945.9	1017.2	6.7	- 7.2	- 0.2	-0.5	18.3	23	-24.4	15	0	29	- 6.1	69	81	- 11	22	14	0	330	203	4.1	27	16.5*	25	25	9	10	12	5.7	
HUNTINGTON	252	987.2	1018.2	7.2	- 4.4	1.2	-1.3	18.9	23	-17.8	14	0	25	- 5.0	67	54	- 39	13	9	0	254	203	3.1	18	15.6*	26	20	15	4	12	5.3	
PARKERSBURG U	187			7.2	- 3.9	1.8	0.3	18.3	23	-14.4	15+	0	23			56	- 29	15	9	1	305	254	3.7		15.2	W	26					60
WISCONSIN																																
GREEN BAY	208	989.2	1012.7	- 1.7	-10.6	- 6.2	2.3	8.9	22	-19.4	15+	0	31	-10.0	75	29		23	8	1	51	25	4.9	24	16.1	SW	25	8	8	15	6.3	49
LA CROSSE	199	988.4	1014.0	0.6	- 8.9	- 4.3	4.3	10.6	22	-22.2	13	0	31	- 8.9	71	9	- 22	6	7	0	145	102	4.9	18	15.6#	29	25	12	9	10	5.4	
MADISON	262	976.8	1013.4	1.1	- 8.9	- 3.9	4.1	11.7	22	-18.9	28+	0	29	- 8.9	69	24	- 12	20	8	1	36	51	4.5	18	16.1	W	25	9	7	15	6.1	54
MILWAUKEE	205	987.9	1013.7	1.1	- 7.8	- 3.3	3.1	11.7	22	-18.9	1	0	28	- 7.2	75	30	- 17	14	8	2	97	76	5.4	21	16.1	NW	25	9	9	13	5.7	53
WYOMING																																
CASPER	1621	833.1	1016.2	0.0	-10.0	- 5.0	-0.2	8.9	1	-21.1	12	0	31	-16.7	62	19	5	11	9	0	335	178	7.6	22	17.4*	22	21	7	11	13	6.2	
CHEYENNE	1867	808.4	1015.8	3.3	- 9.4	- 3.3	0.4	12.8	21	-21.1	13	0	31	-14.4	46	1	- 12	1	2	0	25	T	8.4	29	25.5	W	25	12	11	8	4.5	75
LANDER	1696	831.5	1017.5	0.0	-12.8	- 6.4	0.6	11.1	1	-24.4	14+	0	30	-13.9	58	11	- 1	6	2	0	211	254	3.2	24	21.9	NE	20+	6	17	8	6.0	66
SHERIDAN	1202	880.3	1015.3	3.3	- 9.4	- 3.1	2.8	15.0	1	-22.2	13	0	31	- 8.9	67	9	- 7	4	7	0	124	51		SE	2.5	SW	21	6	12	13	6.5	65

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

V Sun below horizon January 1-23, inclusive.
X Sun below horizon January 1-17, inclusive.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	680	1938	1753
Huntsville	744	2136	1922
Mobile	486	1305	1068
Montgomery	609	1654	1468
ALASKA			
Anchorage	1573	6076	6469
Annette	905	3521	3975
Barrow	2647	11347	11028
Barter Island	2584	10874	10796
Bethel	1859	7793	7570
Cold Bay	1081	5379	5402
Cordova	1168	5160	5597
Fairbanks	2509	8841	8794
Juneau	1098	4716	5140
King Salmon	1548	6556	6552
Kotzebue	2232	9190	8846
McGrath	3446	10152	8680
Nome	1931	8201	7918
St. Paul Is.	1189	6009	6000
Shemya	1087	5212	5300
Yakutat	1106	4850	5124
ARIZONA			
Flagstaff	1225	3784	3887
Phoenix (U)	462	885	
Phoenix	558	1094	1050
Prescott	913	2370	2513
Tucson	533	1093	1183
Winslow	1061	2795	2960
Yuma	349	634	611
ARKANSAS			
Ft. Smith	751	2111	2074
Little Rock	742	2095	2073
Texarkana	602	1662	1610
CALIFORNIA			
Bakersfield	568	1634	1367
Bishop	915	2390	2555
Blue Canyon	889	2806	2791
Burbank	385	847	893
Eureka (U)	564	2263	2573
Fresno	651	1858	1620
Long Beach	266	668	940
Los Angeles (U)	250	499	708
Los Angeles	297	625	1013
Mt. Shasta (R)	990	3191	3169
Oakland	511	1649	1592
Point Arguello (R)	470	1752	1920
Red Bluff	640	1809	1531
Sacramento (U)	579	1692	1468
Sacramento	612	1809	1506
Sandberg (R)	816	2273	2181
San Diego	296	619	742
San Francisco (U)	427	1617	1648
San Francisco	515	1656	1638
Santa Catalina	342	771	
Santa Maria	500	1530	1554
Stockton	653	1924	
COLORADO			
Alamosa	1601	4818	5043
Colorado Springs	1068	3162	3632
Denver	1059	3145	3365
Grand Junction	1220	3161	3451
Pueblo	978	2942	3201
CONNECTICUT			
Bridgeport	1029	3019	3053
Hartford	1169	3509	3528
Middletown	1146	3597	
New Haven	1044	3138	3202
DELAWARE			
Wilmington	982	2918	2816
DIST. OF COLUMBIA			
Washington (U)	829	2365	
Washington	882	2572	2474
FLORIDA			
Apalachicola (U)	441	1096	835
Daytona Beach	279	706	534
Fort Myers	110	334	279
Jacksonville	371	1047	798
Key West	31	63	68
Lakeland (U)	221	584	416
Miami	67	177	139
Miami Beach	57	120	96
Orlando	235	582	481
Pensacola	491	1320	930
Tallahassee	474	1365	961
Tampa	216	622	433
West Palm Beach	82	226	158
GEORGIA			
Athens	712	2029	1806
Atlanta	743	2122	1843
Augusta	630	1806	1512
Columbus	640	1749	1515
Macon	614	1674	1375
Home	816	2350	2070
Savannah	514	1442	1167
Thomasville (U)	461	1288	983
IDAHO			
Boise	1202	3248	3426
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	1652	4897	4907
Idaho Falls 42NW(R)	1748	5019	5125
Lewiston	867	2804	3278
Pocatello	1416	3933	4063
ILLINOIS			
Cairo (U)	809	2352	2360
Chicago (Midway)	1090	3279	3457
Chicago (O'Hare)	1149	3734	
Moline	1129	3574	3712
Peoria	1118	3485	3509
Rockford	1181	3674	3920
Springfield	1055	3209	3248
INDIANA			
Evansville	937	2855	2756
Ft. Wayne	1099	3334	3564
Indianapolis	1056	3291	3293
South Bend	1100	3369	3612
IOWA			
Burlington	1075	3362	3577
Des Moines	1145	3503	3811
Dubuque	1242	3911	4262
Sioux City	1202	3649	4102
Waterloo	1255	3957	4207
KANSAS			
Concordia	992	2968	3166
Dodge City	911	2728	2940
Goodland	1006	3185	3517
Topeka	945	2834	3101
Wichita	867	2633	2808
KENTUCKY			
Lexington	924	2821	2750
Louisville	895	2724	2795
LOUISIANA			
Alexandria	592	1653	
Baton Rouge	466	1265	1056
Lake Charles	488	1222	961
New Orleans (Audubon Park)	424	1036	
New Orleans	459	1221	936
Shreveport	568	1586	1400
MAINE			
Caribou	1595	5424	5480
Greenville (U)	1460	5231	
Portland	1251	4258	4129
MARYLAND			
Baltimore (U)	843	2415	2367
Baltimore	959	2893	2738
MASSACHUSETTS			
Blue Hill Obs. (R)	1094	3504	3464
Boston	1026	3090	3059
Nantucket	973	2970	3003
Pittsfield	1281	4217	4228
Worcester	1167	3812	3854
MICHIGAN			
Alpena	1328	4354	4417
Detroit (City AP)	1066	3139	3460
Detroit (M. Wayne Co.)	1139	3598	3591
Detroit (Willow Run)	1124	3403	3491
Escanaba (U)	1283	4173	4590
Flint	1148	3649	3889
Grand Rapids	1157	3504	3816
Lansing	1130	3604	3835
Marquette (U)	1225	4037	4522
Muskegon	1108	3457	3803
S. Ste. Marie	1371	4532	5037
MINNESOTA			
Duluth	1487	4729	5599
Internat. Falls	1668	5303	6126
Minneapolis	1390	4264	4886
Rochester	1347	4275	4694
St. Cloud	1488	4549	5116
MISSISSIPPI			
Jackson	602	1707	1428
Meridian	663	1866	1481
Vicksburg (U)	553	1615	1306
MISSOURI			
Columbia	888	2835	2999
Kansas City	857	2576	2901
St. Joseph	1027	2991	3270
St. Louis (RFC)	842	2615	2675
St. Louis	932	2942	2882
Springfield	861	2645	2718
MONTANA			
Billings	1107	3638	3976
Butte	1480	4897	
Glasgow	1359	4276	5237
Great Falls	1118	3666	4192
Havre	1318	4342	4953
Helena	1328	4331	4690
Kalispell	1246	4455	5047
Miles City	1248	3791	4463
Missoula	1327	4520	4804
NEBRASKA			
Grand Island	1102	3382	3641
Lincoln (U)	1028	3079	3411
Norfolk	1212	3639	4038
North Platte	1140	3534	3891
Omaha	1117	3334	3670
Omaha N. Omaha AP	1145	3439	3946
Scottsbluff	1116	3413	3878
Valentine	1196	3661	4253
NEVADA			
Elko	1426	4177	4264
Ely	1411	4118	4328
Las Vegas	703	1641	1736
Reno	1002	3232	3520
Tonopah	1133	3180	
Winnemucca	1125	3398	3919
NEW HAMPSHIRE			
Concord	1295	4128	4299
Mt. Washington Obs. (R)	1768	7884	
NEW JERSEY			
Atlantic City	916	2686	2655
Atlantic City (U)	873	2649	
Newark	946	2747	2856
Trenton (U)	928	2767	2810
NEW MEXICO			
Albuquerque	1076	2704	2651
Clayton	942	2683	2966
Raton	1169	3331	3583
Roswell	936	2428	2578
Silver City	924	2295	
NEW YORK			
Albany	1266	3918	3879
Binghamton	1265	4156	4092
Buffalo	1099	3589	3888
New York (U)	902	2632	2682
New York (LaGuardia)	944	2647	2638
Rochester	1132	3658	3687
Schenectady	1238	3768	
Syracuse	1205	3740	3749
NORTH CAROLINA			
Asheville (U)	826	2596	2407
Cape Hatteras (R)	558	1626	1452
Charlotte	721	2091	1917
Greensboro	826	2519	2300
Raleigh	731	2283	2076
Wilmington	559	1627	1432
Winston-Salem	807	2428	2175
NORTH DAKOTA			
Bismarck	1520	4627	5186
Devils Lake (U)	1642	5028	5705
Fargo	1528	4585	5368
Grand Forks FAA	1618	4817	
Pembina	1738	5171	
Williston	1507	4559	
OHIO			
Akron	1117	3525	3547
Cincinnati (U)	869	2610	
Cincinnati	1011	3094	2928
Cincinnati Obs.	929	2825	2805
Cleveland	1084	3442	3603
Columbus	1076	3302	3149
Columbus (U)	990	2985	
Dayton	1032	3151	3216
Mansfield	1111	3480	3589
Toledo	1121	3527	3669
Youngstown	1145	3686	3500
OKLAHOMA			
Oklahoma City	761	2160	2367
Tulsa	739	2178	2250
OREGON			
Astoria	653	2476	2882
Burns (U)	1214	3886	4000
Eugene	691	2349	2670
Meacham	1174	4122	4294
Medford	915	2812	2757
Pendleton	760	2746	3134
Portland (U)	632	2063	2352
Portland	739	2596	2659
Roseburg	720	2329	2518
Salem	715	2564	2634
Sexton Summit (R)	973	3431	3292
PENNSYLVANIA			
Allentown	1103	3287	3297
Erie	1077	3335	3464
Harrisburg	1072	3214	3000
Philadelphia (U)	846	2412	
Philadelphia	985	2998	2958
Pittsburgh (U)	953	2910	2879
Pittsburgh	1035	3362	3397
Reading (U)	975	2822	2848
Scranton	1140	3441	3683
Williamsport	1143	3412	3407
RHODE ISLAND			
Block Island	988	2986	2886
Providence	1059	3283	3277
SOUTH CAROLINA			
Charleston (U)	505	1333	1112
Charleston	504	1422	1283
Columbia	640	1814	1576
Florence	622	1797	1497
Greenville-Spartanburg	714	2051	
SOUTH DAKOTA			
Huron	1361	4147	4621
Pierre	1231	3725	
Rapid City	1129	3461	4082
Sioux Falls	1299	4007	4551
TENNESSEE			
Bristol	952	2752	2552
Chattanooga	773	2188	2106
Knoxville	884	2600	2193
Memphis (U)	680	1997	1868
Memphis	739	2168	1954
Nashville	803	2406	2193
Oak Ridge	865	2564	2312
TEXAS			
Abilene	573	1557	1693
Amarillo	855	2366	2540
Austin	451	1198	1112
Brownsville	204	594	420
Corpus Christi	263	772	631
Dallas	604	1619	1508
Del Rio	484	1197	
El Paso	789	1830	1723
Fort Worth	651	1642	1539
Galveston (U)	393	953	758
Houston (U)	346	919	816
Houston	413	1072	835
Laredo	285	816	589
Lubbock	808	2143	2249
Midland	656	1695	1711
Port Arthur	447	1171	991
San Angelo	609	1632	1428
San Antonio	428	1161	1029
Victoria	332	926	770
Waco	562	1498	1305
Wichita Falls	655	1767	1872
UTAH			
Milford	1258	3533	3802
Salt Lake City	1331	3622	3443
Wendover	1193	3438	3511
VERMONT			
Burlington	1327	4573	4337
VIRGINIA			
Lynchburg	865	2591	2485
Norfolk	697	2201	1980
Richmond	826	2537	2332
Roanoke	852	2615	2488
WASHINGTON			
Olympia	772	2713	2982
Seattle (U)	664	2195	2493
Seattle	663	2199	2823
Seattle-Tacoma	771	2632	2958
Spokane	1098	3652	3972
Stampede Pass (R)	1192	5022	5131
Tatoosh Island (R)	660	2778	3172
Walla Walla	742	2607	
Walla Walla (U)	714	2521	2907
Yakima	982	3326	3636
WEST VIRGINIA			
Beckley	978	3403	
Charleston	899	2931	2594
Elkins	1028	3674	
Huntington	950	2951	2478
Parkersburg (U)	918	2909	2777
WISCONSIN			
Green Bay	1365	4348	4641
La Crosse	1258	3890	4459
Madison	1237	4117	4269
Milwaukee	1199	3902	3999
WYOMING			
Casper	1298	3720	4345
Cheyenne	1203	3531	4137
Lander	1376	4085	4833
Sheridan	1189	3697	4505

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

JANUARY 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS
Alabama	2	1	10	6	5					0	0	5	0																
Alaska *																													
Arizona *																													
Arkansas	3	1	0	1	5	0	0	6	0	0	2	3	0																
California	1	1	0	0	3					0	4	4	0																
Colorado										0	4	6	0																
Connecticut										0	0	4	0					0	0	4	0								
Delaware																		0	0	4	0	0	11+	3	0				
Florida	4	1	0	0	4					0	0	4	0																
Georgia										0	0	4	0					0	0	3	0								
Hawaii *																													
Idaho																			10	4									
Illinois						0	0	5	0																				
Indiana																		0	0	5	0								
Iowa *																													
Kansas *																													
Kentucky	4	1	0	2	4	0	0	?	0	0	1	5	0	0	0	3	0												
Louisiana *																													
Maine																		0	0	4	0								
Maryland										0	0	4	0					10	0	4	0	3	100+	4	0				
Massachusetts										0	0	5	0					3	0	4	0	0	8	4	0	0	0	R 5	0
Michigan										3	1	4	0																
Minnesota																						0	0	4	0				
Mississippi						0	0	3	0	0	Few	5	0	0	0	2	0									0	0	3	0
Missouri						0	0	4	0	0	0	4	0	0	0	4	0												
Montana *																													
Nebraska *																													
Nevada *																													
New Hampshire																		0	0	4	0	0	25	0	0				
New Jersey																		2	0	5	0								
New Mexico *																													
New York												5						19				3						4	
North Carolina										1	0	6	0					0	0	4	0					0	0	5	0
North Dakota *																													
Ohio *																													
Oklahoma *																													
Oregon										0	2-3	5	2					0	15-20	4	2					0	5-10	5	4
Pacific Area *																													
Pennsylvania										0	0	4	0					1	0	4	0								
Puerto Rico *																													
Rhode Island										0	0	4	0					0	0	4	0								
South Carolina										0	1	4	0									0	18	4	0				
South Dakota *																													
Tennessee						0	0	2	0	0	9	5	0	0	0	4	0	0	0	4	0	0	0	3	0	0	0	3	0
Texas *																													
Utah *																													
Vermont																		0	0	4	0								
U.S. Virgin Is. *																													
Virginia										0	1	4	0																
Washington										0	0	5	0																
West Virginia																		0	A	A	0								
Wisconsin *																													
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
R Rain
A Automobile accidents

† Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5,000,000
7	$5,000,000 to $50,000,000
8	$50,000,000 to $500,000,000
9	$500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JANUARY 1964

Major flooding occurred in tributary streams in southwest Washington and northwest Oregon during the latter part of January. Record high water was reported on some creeks in Oregon. According to the USGS, the monthly mean flow for the Chehalis River near Grand Mound, Wash., was the second highest for January in 34 years.

ST. LAWRENCE DRAINAGE

Lake Ontario.--Loose ice extending from shore to shore on the upper Niagara River damaged approximately 30 boat slips at the La Salle Yacht Club in eastern New York on the 5th. Docks reinforced with steel pilings were also crushed. The Niagara River was running 2 1/2 feet above normal at the time. Other docks were damaged nearby and on Cayuga Island. Along the lower Niagara River ice surged 40 feet above normal and forced one family to evacuate. The water level of the Upper Niagara's east branch rose 4 feet above normal during a southwest gale on the 10th. This caused flooding at Wheatfield, N. Y. There was also some flooding along Ellicott Creek and the Erie Barge Canal at Tonawanda and North Tonawanda, N. Y. On Grand Island a 200-foot dock was torn out at Sandy Beach Yacht Club.

The Lake Erie ice which was broken up by melting and wind action was blown into the Niagara River by a southwest gale on the 25th. This produced an ice bridge below Niagara Falls which was said to be the highest since 1938 when the ice destroyed the "Honeymoon Bridge". Both branches of the Niagara River were running 4 to 5 feet above normal when the ice began to move in. About 30 families were evacuated as flooding commenced in Wheatfield, N. Y., and other areas. Ice surged to massive buildups on the 26th, which reached 60 feet above the river water level from the base of Niagara Falls to the Whirlpool Bridge, 2 miles downstream. By the 27th some buildups were reported at 80 feet. This caused extensive damage to boats, equipment, and structures used for sightseeing in the gorge. Another ice jam clogged the river between Lewiston and Youngstown producing some overflow.

ATLANTIC SLOPE DRAINAGE

Rainfall on the 21st and 22d ranging from 1 to 2.5 inches in southern New England and central New England caused small streams and brooks to run full with some scattered minor flooding. Larger rivers rose and crested well below flood stage during the next 2 days. A second heavy rainstorm on the 25th over the same area caused additional flooding along small streams. No significant damage resulted from the overflows.

Minor flooding occurred along the Millstone and Raritan Rivers in New Jersey on the 10th from rainfall ranging from 1 to 2 inches. No damage was reported.

Snowmelt and light rains on the 21st and 26th caused moderate rises on all streams in the Susquehanna Basin. The Susquehanna in Pennsylvania rose to about three-quarters bankfull; the West Branch and the Juniata crested at half bankfull during the period from the 25th to the 27th. There was heavy ice movement and all main channels were opened by this rise. Some local ice-jam flooding was reported on the West Branch, Conodoguinet, and on the Susquehanna in the vicinity of Duncannon and above Safe Harbor, Pa. Snow cover at the end of the month averaged 5 inches in the upper half of the basin with a trace in the lower half.

There were two periods of flooding in eastern North Carolina during the month. The first rise was due to general rainfall during the 72-hour period ending on the 9th. Minor flooding resulted on the Neuse and Cape Fear Rivers. The second overflow was due to moderate to heavy rains on the 25th. Shallow flooding occurred again on the Neuse and Cape Fear Rivers.

Minor flooding occurred on the Broad River at Blair, S. C., on the 10th and on the Pee Dee River at Peedee, S. C., from the 13th to the 16th. Minor flooding began on the North Fork of the Edisto at Orangeburg, S. C., on the 10th and continued to the 18th. There were two more periods of flooding on the North Fork during the month. The Edisto at Givhans Ferry, S. C., began overflowing on the 15th and continued through the end of the month. Moderate flooding occurred on the Rocky River at Norwood, N. C., on the 25th and 26th. These overflows were due to heavy rain on the 9th, 13th, and 24th to the 26th. The city of Charleston, S. C., recorded the most rain for this month since 1915 and the most number of rainy days since 1885.

The flooding on streams in Georgia during January was due to general rains. The rainfall over most of the State was unusually heavy. At Macon, Ga., rainfall of 8.3 inches was the fourth heaviest of record. The longest period of rainfall was from the 5th to the 13th. The flooding was confined chiefly to swamplands and low-lying land subject to flooding.

The heavy rains on the 7th to the 10th caused the Apalachicola to rise above flood stage at Blountstown, Fla., on the 9th, the Choctawhatchee River at Caryville, Fla., on the 10th, and the Flint River at Albany, Ga., on the 11th. Flooding on the Flint extended to Bainbridge, Ga., on the 13th and continued in flood until the 20th. The Apalachicola River remained in flood at Blountstown, Fla., the remainder of the month. The Choctawhatchee River was above flood stage at Caryville, Fla., from the 10th to the 15th. Very little damage resulted from this flooding as only low-lying, wooded, and unpopulated areas were affected. Logging interests had to move equipment to higher elevations and reassign personnel to other areas, involving no losses.

Excessively heavy rains on the morning of the 25th over northwest Georgia and northeast Alabama resulted in flooding on the Oostanaula River at Resaca, Ga., and the Etowah River at Canton, Ga. Rainfall amounts over northwest Georgia averaged from 3 to over 4 inches for the 24-hour period ending at 7 a.m. on the 25th. The Etowah River at Canton, Ga., crested over 4 feet, above flood stage on the 26th. The Oostanaula River at Resaca, Ga., crested about 2 feet above flood stage on the 28th.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--With the exception of the Canadian Border, the Minnesota Arrowhead, and extreme northern and northeastern Wisconsin, precipitation was only half of the long term January mean. In much of the southwestern half of Minnesota it was less than 1/4 inch. January temperatures averaged 4° to 8° above the mean. Compared to January 1963, the temperatures averaged 14° to 18° warmer. Streamflow over the upper Mississippi upstream from St. Paul and Chippewa and the Wisconsin Rivers in Wisconsin continues below normal. Hydrogeneration along the Wisconsin River System ranked 23d out of the past 24 years.

A comparison of snow depths in the Upper Mississippi Basin on January 31 with that of other years is given in the following table:

COMPARATIVE SNOW DEPTHS (INCHES)

Station	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955
(Minnesota)										
Bemidji	11	2	13	4	8	8	5	11	26	8
International Falls	14	4	16	11	8	20	8	11	22	15
Duluth	9	6	15	9	16	11	11	14	29	17
Alexandria	2	2	9	0	5	0	5	2	16	6
New Ulm	T	4	2	T	1	2	3	T	6	4
Minneapolis	3	4	6	2	2	0	2	2	11	6
Rochester	0	6	3	T	2	3	2	1	10	3
(Wisconsin)										
Park Falls	5	10	19	2	14	12	12	13	21	17
Wausau	3	6	9	T	4	6	5	7	12	--
Portage	0	9	7	1	2	10	4	4	2	--

Missouri Basin.--There was 1 to 2 inches of snow on the ground in the northern counties of South Dakota at the end of the month. Elsewhere in the State, the ground was bare except for a scattering of snow drifts. Rivers were frozen throughout January, except for a few strips of open channel developing in the Missouri River in the latter half of the month.

The Missouri River was blocked intermittently by ice between Plattsmouth and Jefferson City, Mo., throughout the month. The ice blocks broke up at Lexington, Mo., on the 4th; at Nebraska City, Mo., on the 19th; above Jefferson City on the 22d; and above Rulo, Mo., on the 23d. The breakups were followed by minor rises downstream.

Ohio Basin.--Periods of thawing and freezing of the ice cover on the Allegheny River in Pennsylvania resulted in fluctuating gage heights with the movement of ice. Snowmelt augmented by rain showers on the 25th resulted in a general movement of the ice cover. Backwater from ice gorges at East Hickory and Parker, Pa., crested near bankfull stages with little or no damages. An ice gorge developed in the upper pool of Lock 8, Mosgrove, Pa., on the Allegheny River and backwater from this gorge and ice movement destroyed or seriously damaged 30 cottages and trailers. This gorge was 10 miles long, 20 feet high in places with ice cakes 8 to 12 inches thick. The gorge was stationary at the end of the month with water levels above the gorge falling slowly, lessening the flooding from backwater.

South Chickamauga Creek near Chickamauga, Tenn., was in flood from the 24th to the 26th.

Lower Mississippi Basin.--The Mississippi was very low at the end of December and remained below the 0.0 foot of the gage at Memphis, Tenn., until January 11. It reached the second lowest stage of record at this point, -4.9 feet on the 3d. At Vicksburg, Miss., the Mississippi reached a low stage of -5.8 feet, on the 6th, 7th, and 8th. This was the lowest stage at Vicksburg since October 1940.

WEST GULF OF MEXICO DRAINAGE

Flash flooding occurred on the extreme upper Nueces and Frio Rivers in Texas on the 30th due to locally heavy rains of 2 to 4 inches. Low water crossings were closed due to the high water.

PACIFIC SLOPE DRAINAGE

Heavy rains on the 17th through the 23d brought substantial rises on the upper Sacramento River and its tributaries in California. Overflow occurred at Colusa and Tisdale Weirs. Twelve feet of snow was reported on the ground at Norden near Donner Summit by the 23d, but this pack had settled to 7 feet by the end of the month.

Moderate to heavy rain on the 19th produced a 2-foot overflow on the Smith River at Ft. Dick, Calif., early on the morning of the 20th. Redwood Creek at Orick, Calif., rose to a crest of 20.9 feet, nearly 3 feet above flood stage on the morning of the 20th. Moderate damages resulted from the overflows.

Serious flooding occurred in the lower Coquille Basin in Oregon from the 18th to the 24th. Although no records were broken, the Coquille River remained above flood stage for over 48 hours at Coquille, Oreg., to crest at 24.1 feet, 3 feet above flood stage on the 20th. Due to the width of the Valley at this point, 3 feet above flood stage inundates a considerable area. Two separate crests occurred at Myrtle Point, Oreg., with the second crest on the 20th nearly 9 feet above flood stage. Less serious flooding occurred during this same period along the Umpqua River below its confluence with Cow and Myrtle Creeks. According to USGS, the West Fork of Cow Creek near Glendale, Oreg., and North Myrtle Creek near Myrtle Creek, Oreg., reported record high water marks. In spite of such high water in its tributaries, the Umpqua River crested only 1.9 feet above flood stage at Roseburg, Oreg., on the 20th.

Four to 6 inches of precipitation from the 17th to the 20th over the Willamette Basin in Oregon caused flooding along the tributary streams and on the Willamette at Harrisburg and Oregon City. During this period, the freezing level had stayed down near 2,500 feet. Near record snowfalls were reported along the western slopes. All tributary streams responded with sharp rises, particularly left bank Willamette tributaries heading in the low elevation coast mountain range where crests were generally several feet above flood stage. Runoff from Cascade range tributaries was from lower elevations only, due to the low freezing level. The Santiam River at Jefferson, Oreg., crested at just about flood stage, while only near bankfull stages were reported at McKenzie and upper Willamette points.

Heavy rain falling on low elevation snow produced major flooding on the Chehalis and Skookumchuck Rivers in Washington on the 25th and 26th. Flood crests on the Chehalis were 2 to 5 feet above flood stage. Lowlands in the Chehalis-Centralia area were inundated, but no major damage resulted.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Millstone: Blackwells Mills, N.J.	8	10	10	8.1	10
Raritan: Manville, N. J.	12	10	10	12.6	10
Boundbrook, N. J.	8	10	10	9.2	10
Neuse: Smithfield, N. C.	13	(11 (27	14 29	15.1 # 13.6	13 28
Goldsboro, N. C.	14	13	18	# 16.25	16-17
Kinston, N. C.	14	16	21	15.0	19
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	11 26	14 29	23.0 23.8	12 28
Rocky: Norwood, N. C.	15	25	26	E 20.0	25
Pee Dee: Cheraw, S. C.	30	26	27	30.8	26
Peedee, S. C.	19	13 27	16 Feb. 3	# 19.2 # 20.9	15 31
Saluda: Pelzer, S. C.	6	25	28	9.3	26
Chappells, S. C.	13	26	26	13.8	26
Broad: Blair, S. C.	14	10 25	10 28	14.9 20.0	10 26
North Fork Edisto: Orangeburg, S.C.	8	10 19 26	18 23 28	# 8.7 # 8.1 # 8.1	12 20 27
Edisto: Givhans Ferry, S. C.	10	15	1/	# 11.9	24
Savannah: Milhaven, Ga.	15	15	31	16.1	21
Clyo,	11	Dec. 26 13	1 31	11.3 14.8	Dec. 31 24
Ogeechee: Dover, Ga.	7	14	31	8.2	19
Eden, Ga.	9	15	31	11.5	21
Ocmulgee: Macon, Ga.	18	9 25	10 28	18.5 19.3	10 27
Abbeville, Ga.	12	13	31	14.2	17
Lumber City, Ga.	15	21	22	15.4	21
Oconee: Milledgeville, Ga.	20	26	27	24.2	26
Altamaha: Charlotte, Ga.	15	16	31	18.3	22
Satilla: Atkinson, Ga.	13	17	31	15.8	25,26
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga.	20	11	16	23.5	11
Bainbridge, Ga.	25	13	20	26.8	15
Apalachicola: Blountstown, Fla.	15	8	1/	20.7	13
Choctawhatchee: Caryville, Fla.	12	10	15	12.9	13
Oostanaula: Resaca, Ga.	22	27	28	24.0	28
Etowah: Canton, Ga.	17	25	26	22.2	25

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM	Ft.			Ft.	
Ohio Basin					
South Chicakmauga Creek: Chickamauga (nr.), Tenn.	10	24	26	# 15.2	26
PACIFIC SLOPE DRAINAGE					
Sacramento: Colusa Weir, Calif.	62	21	23	63.7	22
Tisdale Weir, Calif.	44	22	24	47.6	22
Smith: St. Dick, Calif.	30	19		32.0	20
Redwood Creek: Orick, Calif.	19	19		20.9	20
Rogue: Raygold, Oreg.	12	20	20	12.4	20
Umpqua: Roseburg, Oreg.	22	20	20	23.9	20
Winston, Oreg.	26	20	20	26.5	20
Coquille: Myrtle Point, Oreg.	35	18 19	18 21	35.55 43.9	18 20
Coquille, Oreg.	21	20	22	24.1	20
Marys: Philomath, Oreg.	20	19	20	20.6	19
Luckiamute: Suver, Oreg.	27	19 25	21 27	29.1 28.8	20 26
South Yamhill: Whiteson, Oreg.	38	19 25	22 27	42.2 42.8	20 26
Pudding: Aurora, Oreg.	20	19	Feb. 1	(23.5 (24.3	20 26
Tualatin: Dilley, Oreg.	12	6 17	8 Feb. 2	13.1 (13.8 (14.7	6 20 25
Farmington, Oreg.	29	19	Feb. 3	(33.2 (34.4	21 27
Oswego, Oreg.	20	20	31	(21.9 (24.7	22 28
Johnson Creek: Sycamore, Oreg.	[illegible]	19 25	20 26	9.6 11.3	19 25
Willamette: Harrisburg, Oreg.	12	20	20	E 12.5	20
Oregon City (Upper), Oreg.	12	21 26	23 29	12.6 12.8	22 27
Oregon City (Lower), Oreg.	25	21 25	23 29	26.0 27.6	22 27
Chehalis: Centralia, Wash.	63	25	27	68.6	26
Grand Mound, Wash.	14	25	27	16.8	26
Skookumchuck: Centralia, Wash.	68	25	26	70.1	26

* Provisional
E Estimated
1/ Continued at end of month
# Highest stage observed

RAWINSONDE DATA

Average monthly values

JANUARY 1964

ALBANY, N. Y.
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	- 6.7	77	278	3.7
1000	31	124			296	3.5
950	31	528	- 4.6	69	269	9.9
900	31	953	- 5.7	66	281	15.9
850	31	1,400	- 6.8	61	284	21.2
800	31	1,872	- 8.3	56	287	24.5
750	31	2,374	- 9.3	52	287	28.6
700	31	2,905	-11.0	45	283	33.4
650	31	3,470	-13.8	47	279	37.1
600	31	4,077	-16.7	42	277	41.6
550	31	4,724	-20.6	42	274	46.8
500	31	5,425	-25.1	41	272	50.9
450	31	6,181	-30.3	42	272	55.8
400	31	7,013	-35.7	46	272	62.9
350	31	7,930	-41.4		271	67.0
300	31	8,962	-47.8		270	70.5
250	31	10,151	-52.8		267	75.4
200	30	11,579	-55.3		268	69.5
175	30	12,432	-54.9		267	69.9
150	30	13,416	-55.3		268	64.5
125	30	14,577	-56.5		269	57.1
100	30	15,988	-58.2		268	53.4
80	30	17,385	-59.6		271	48.6
70	30	18,223	-59.2		271	43.7
60	29	19,189	-58.3		272	39.6
50	29	20,338	-57.9		273	35.4
40	28	21,740	-58.4		276	38.7
30	27	23,552	-56.8		288	37.7
25	26	24,706	-56.1		286	36.1
20	23	26,131	-55.0		287	36.9
15	15	27,943	-54.8			
10						
7						
5						

ALBUQUERQUE, N. MEX.
838 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,619	- 6.0	57	33	1.6
1000	31	212				
950	31	620				
900	31	1,056				
850	31	1,509				
800	31	1,990	- 2.6	39	311	4.3
750	31	2,497	- 4.6	40	305	9.5
700	31	3,042	- 7.0	36	299	13.8
650	31	3,613	-10.1	34	297	18.6
600	31	4,230	-13.6		294	21.2
550	31	4,884	-17.9		295	22.1
500	31	5,594	-22.8		288	25.8
450	31	6,353	-28.0		286	28.0
400	31	7,196	-33.7		285	29.1
350	31	8,120	-40.2		285	33.8
300	31	9,156	-47.1		291	37.3
250	31	10,345	-53.2		285	43.1
200	31	11,774	-55.1		282	43.5
175	31	12,625	-55.5		276	45.1
150	31	13,605	-57.1		275	43.5
125	31	14,751	-60.1		274	39.4
100	31	16,132	-63.1		273	38.7
80	30	17,504	-63.4		277	28.6
70	30	18,334	-62.1		268	21.8
60	30	19,283	-60.9		273	16.1
50	30	20,417	-60.1		279	11.3
40	30	21,820	-57.3		285	9.5
30	28	23,651	-55.0		293	5.8
25	26	24,824	-53.9		311	3.5
20	24	26,262	-51.8		322	3.7
15	13	28,133	-50.4		26	10.3
10						
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AMARILLO, TEXAS
891 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	- 3.0	56	287	7.8
1000	31	162				
950	31	575				
900	31	1,011				
850	31	1,468	2.4	38	296	15.7
800	31	1,957	1.1	34	299	16.1
750	31	2,474	- 1.2	33	293	15.7
700	31	3,021	- 4.5	30	280	16.9
650	31	3,597	- 8.0		273	20.6
600	31	4,218	-12.1		273	22.9
550	31	4,873	-16.7		276	23.5
500	31	5,587	-21.8		276	26.6
450	31	6,346	-27.0		268	30.1
400	31	7,194	-32.9		268	35.4
350	31	8,121	-39.5		264	37.1
300	31	9,160	-46.5		264	44.9
250	31	10,353	-52.8		267	53.0
200	31	11,786	-54.7		267	56.9
175	31	12,640	-55.3		265	58.5
150	31	13,622	-56.7		265	55.8
125	31	14,773	-58.8		266	50.9
100	31	16,164	-62.1		266	46.4
80	31	17,540	-62.7		268	39.0
70	31	18,364	-61.8		267	33.2
60	30	19,314	-61.0		266	26.6
50	29	20,449	-59.7		272	18.5
40	28	21,852	-57.4		264	12.2
30	28	23,680	-55.3		315	5.1
25	25	24,846	-53.4		299	7.2
20	23	26,283	-51.7		349	4.1
15	14	28,136	-50.7		15	7.8
10						
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ANCHORAGE, ALASKA
994 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	29	-10.1	72	2	2.3
1000	31	21				
950	31	382	- 6.2	60	16	7.2
900	31	801	- 6.0	58	55	5.8
850	31	1,247	- 8.1	60	97	8.9
800	31	1,716	-10.8	61	115	8.9
750	31	2,209	-13.7	58	134	9.5
700	31	2,731	-16.6	57	144	8.2
650	31	3,283	-20.1	57	157	7.6
600	31	3,873	-24.2	54	168	6.4
550	31	4,497	-28.8	53	175	6.2
500	31	5,177	-33.9	51	196	5.8
450	31	5,902	-39.4		207	4.9
400	31	6,703	-45.7		224	8.2
350	31	7,580	-51.5		241	9.9
300	31	8,571	-55.1		241	14.4
250	31	9,733	-54.9		250	20.4
200	31	11,167	-52.1		258	22.5
175	31	12,034	-51.0		259	26.6
150	31	13,038	-50.2		258	29.5
125	30	14,234	-49.6		262	33.4
100	30	15,696	-49.2		266	36.9
80	29	17,157	-48.9		268	39.0
70	29	18,041	-48.8		269	40.6
60	29	19,047	-48.3		272	42.0
50	28	20,253	-47.8		276	44.3
40	28	21,728	-46.7		278	47.8
30	28	23,642	-45.7		283	51.7
25	27	24,864	-45.0		289	54.4
20	25	26,360	-44.0		292	56.3
15	16	28,351	-42.4		293	58.1
10	5	31,032	-42.7			
7						
5						

* ANNETTE, ALASKA
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	1.9	84	129	5.6
1000	31	23			139	6.8
950	31	435	.0	75	151	11.1
900	31	867	- 3.0	80	168	13.2
850	31	1,318	- 5.8	81	182	15.9
800	31	1,791	- 8.7	77	192	16.7
750	31	2,290	-11.9	74	203	16.3
700	31	2,814	-15.3	65	214	16.5
650	31	3,368	-18.8	65	217	18.3
600	31	3,963	-22.6	60	225	18.3
550	31	4,594	-27.2	58	228	20.2
500	31	5,277	-32.2	57	231	21.2
450	31	6,008	-37.8	55	235	21.8
400	31	6,817	-43.6		244	25.3
350	31	7,703	-49.5		249	29.7
300	31	8,702	-53.6		253	35.2
250	31	9,870	-54.7		264	38.7
200	31	11,304	-52.5		269	35.4
175	31	12,169	-51.3		271	35.4
150	31	13,171	-50.9		271	36.7
125	31	14,357	-51.1		275	35.0
100	30	15,808	-51.3		281	35.0
80	30	17,257	-51.4		283	34.0
70	30	18,129	-51.2		287	31.5
60	30	19,126	-51.0		289	31.1
50	30	20,314	-50.6		294	30.5
40	30	21,769	-49.9		299	31.7
30	30	23,654	-48.6		303	34.0
25	29	24,852	-48.2		309	35.7
20	29	26,323	-47.7		318	35.9
15	28	28,236	-46.8		324	42.3
10	25	30,951	-45.3		330	50.3
7	19	33,396	-41.8		335	62.4
5	8	35,668	-40.0			

ATHENS, GA.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	1.6	81	284	3.1
1000	31	163				
950	31	580	4.6	59	282	9.3
900	31	1,021	4.0	54	276	14.8
850	31	1,486	3.6	49	266	19.0
800	31	1,977	2.2	45	265	22.9
750	31	2,492	.2	40	261	26.2
700	31	3,047	- 2.5	36	261	30.5
650	31	3,628	- 5.6		262	35.9
600	31	4,256	- 9.0		263	42.5
550	31	4,921	-13.1		260	48.8
500	31	5,644	-18.1		257	52.4
450	31	6,416	-23.3		253	59.6
400	31	7,276	-29.1		251	69.7
350	31	8,219	-35.0		252	84.3
300	31	9,277	-42.3		254	90.7
250	30	10,484	-50.2		255	100.0
200	30	11,918	-55.8		256	99.8
175	30	12,764	-57.6		258	91.9
150	29	13,727	-59.7		258	90.3
125	29	14,859	-62.7		259	77.1
100	29	16,225	-65.0		264	57.3
80	28	17,585	-65.6		264	42.5
70	28	18,398	-65.2		262	38.3
60	27	19,334	-63.9		265	27.0
50	27	20,458	-62.4		272	22.7
40	25	21,846	-59.8		275	18.3
30	25	23,655	-57.0		287	14.2
25	25	24,814	-54.7		286	16.9
20	25	26,247	-53.0		289	12.6
15	19	28,117	-50.1			
10	5	30,786	-47.5			
7						

* BARROW, ALASKA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	-28.9	62	58	6.6
1000	31	93	-28.7	63	63	6.6
950	31	468	-26.2	72	81	8.5
900	31	855	-23.7	72	81	7.4
850	31	1,274	-22.7	64	95	7.0
800	31	1,718	-23.4	64	118	5.4
750	31	2,191	-24.3	65	201	3.1
700	31	2,690	-26.2	67	236	7.0
650	31	3,224	-28.6	68	249	10.5
600	31	3,794	-31.6	62	255	14.2
550	31	4,406	-35.1	56	254	19.2
500	31	5,064	-39.1	54	255	22.3
450	31	5,777	-43.8		257	25.8
400	31	6,563	-49.0		254	28.7
350	31	7,429	-54.2		253	32.2
300	31	8,406	-59.1		251	32.1
250	31	9,540	-61.5		257	33.4
200	30	10,936	-59.2		260	35.5
175	29	11,770	-58.6		262	36.9
150	28	12,739	-58.5		264	42.2
125	28	13,885	-58.4		266	47.6
100	28	15,290	-57.9		269	55.8
80	27	16,702	-56.9		271	65.7
70	25	17,581	-55.7		272	71.3
60	25	18,553	-55.1		274	81.4
50	25	19,719	-54.2		276	91.7
40	25	21,154	-53.1		278	101.6
30	25	23,010	-52.3		278	112.7
25	24	24,216	-50.9		280	122.6
20	23	25,676	-49.4		284	125.7
15	20	27,642	-46.1		287	135.4
10	14	30,416	-39.9		287	133.1
7	8	33,045	-35.0			

BARTER IS., ALASKA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	-27.5	63	91	2.9
1000	31	89	-27.2	59	75	2.5
950	31	459	-25.1	63	102	6.6
900	31	855	-21.6	61	107	6.4
850	31	1,278	-20.1	59	115	2.7
800	31	1,727	-20.4	56	207	.8
750	31	2,201	-21.9	53	271	4.7
700	31	2,710	-23.3	50	271	7.2
650	31	3,248	-26.2	49	277	10.5
600	31	3,825	-29.5	49	278	13.8
550	31	4,438	-33.0	49	279	17.1
500	31	5,106	-37.2	47	274	19.6
450	31	5,825	-42.0		273	21.2
400	31	6,616	-47.4		274	25.3
350	31	7,488	-53.1		276	26.2
300	31	8,468	-58.5		278	30.1
250	31	9,603	-61.5		278	28.7
200	31	10,994	-58.9		276	31.1
175	29	11,834	-57.8		277	33.4
150	28	12,805	-57.5		276	38.5
125	27	13,969	-56.9		276	40.0
100	27	15,382	-56.7		277	47.0
80	26	16,806	-55.9		279	53.4
70	26	17,663	-55.7		280	56.7
60	26	18,638	-55.3		278	60.2
50	26	19,902	-54.6		283	66.4
40	25	21,238	-54.7		283	72.3
30	24	23,081	-54.1		285	79.8
25	20	24,290	-51.8		288	85.3
20	16	25,745	-49.9		294	95.6
15	12	27,654	-45.4		287	94.8
10						
7						

BETHEL, ALASKA
993 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	39	-15.6	78	30	6.6
1000	31	- 20			26	6.6
950	31	377	- 8.3	69	74	10.5
900	31	794	- 7.8	62	108	7.4
850	31	1,238	- 9.3	59	136	5.8
800	31	1,705	-12.0	58	147	5.8
750	31	2,191	-14.8	59	156	5.4
700	31	2,716	-17.8	55	169	5.2
650	31	3,262	-21.4	53	172	6.4
600	31	3,952	-25.1	50	174	9.5
550	31	4,473	-29.3	48	193	9.3
500	31	5,154	-34.1	52	203	11.5
450	31	5,879	-39.6		208	11.7
400	31	6,680	-45.5		223	12.0
350	31	7,557	-51.3		213	12.6
300	31	8,550	-55.1		213	13.0
250	31	9,712	-55.2		229	20.2
200	31	11,148	-51.7		243	24.1
175	31	12,017	-50.5		246	28.7
150	31	13,023	-49.7		249	30.1
125	29	14,218	-49.2		252	34.6
100	29	15,683	-48.5		255	38.3
80	28	17,159	-47.4		257	41.8
70	28	18,050	-46.8		259	41.4
60	27	19,064	-46.2		260	44.5
50	26	20,291	-45.0		264	44.5
40	25	21,789	-43.6		270	47.8
30	25	23,727	-42.4		271	52.3
25	24	24,957	-42.0		274	53.8
20	23	26,481	-41.5		280	53.2
15	6	28,299	-44.5			
10						
7						

BISMARCK, N. DAK.
952 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	505	-12.3	71	331	2.1
1000	31	124				
950	31	522			308	3.9
900	31	940	- 5.3	56	301	12.8
850	31	1,390	- 4.9	48	305	16.5
800	31	1,865	- 6.8	47	304	18.6
750	31	2,367	- 9.7	47	303	20.8
700	31	2,896	-12.6	51	301	23.9
650	31	3,456	-15.7	53	300	24.7
600	31	4,059	-19.2	50	295	29.3
550	31	4,695	-23.8	48	293	31.9
500	31	5,390	-28.8	46	293	34.6
450	31	6,125	-34.5	44	292	35.9
400	31	6,948	-40.7		292	39.6
350	31	7,845	-46.9		289	39.8
300	31	8,852	-52.4		285	44.3
250	31	10,020	-55.4		285	48.0
200	31	11,442	-54.8		283	43.5
175	31	12,301	-52.7		280	43.9
150	31	13,296	-52.9		281	42.7
125	31	14,471	-53.3		281	40.4
100	31	15,901	-55.3		281	38.9
80	31	17,323	-55.3		283	33.8
70	31	18,174	-55.3		288	28.2
60	31	19,160	-54.8		290	27.4
50	31	20,326	-54.3		289	25.1
40	31	21,756	-54.2		301	27.0
30	30	23,602	-53.5		307	26.6
25	28	24,779	-53.6		315	25.1
20	26	26,212	-53.4		321	29.1
15	20	28,055	-52.9		320	37.9
10						
7						

BOISE, IDAHO
919 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	- 4.4	90	150	2.9
1000	31	198				
950	31	606				
900	31	1,034	- 2.7	71	151	2.5
850	31	1,488	- 3.1	64	217	2.9
800	31	1,965	- 5.3	63	260	9.9
750	31	2,471	- 7.8	61	275	15.0
700	31	3,004	-10.1	54	281	20.0
650	31	3,571	-13.1	48	285	24.7
600	31	4,179	-16.6	46	281	26.6
550	31	4,825	-20.7	43	283	30.5
500	31	5,526	-25.3	41	276	33.4
450	31	6,279	-30.9	39	276	34.4
400	31	7,109	-37.1	39	279	38.9
350	31	8,020	-43.4		280	45.3
300	31	9,041	-50.5		278	50.5
250	31	10,213	-56.5		280	51.3
200	31	11,620	-58.0		284	50.3
175	31	12,465	-56.0		286	44.5
150	31	13,449	-55.0		284	40.0
125	31	14,612	-56.0		280	35.5
100	30	16,030	-57.1		284	30.9
80	30	17,440	-57.5		285	26.0
70	30	18,288	-57.1		288	19.8
60	30	19,260	-56.8		290	13.8
50	30	20,419	-55.4		297	12.8
40	30	21,846	-53.9		322	10.1
30	28	23,699	-52.2		358	8.2
25	25	24,869	-51.2		5	7.0
20	23	26,317	-50.5		26	9.9
15	18	28,187	-49.6			
10	7	30,773	-51.7			
7						
5						

* BROWNSVILLE, TEXAS
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	11.7	82	313	1.0
1000	31	155	13.8	76	142	1.4
950	31	585	12.3	69	178	5.1
900	31	1,041	11.2	56	190	7.2
850	31	1,518	10.5	46	225	8.5
800	31	2,021	8.7	46	233	12.4
750	31	2,550	6.4	46	235	17.5
700	31	3,117	3.6	43	239	21.6
650	31	3,707	- .1	41	244	26.2
600	31	4,253	- 3.8	40	247	34.6
550	31	5,025	- 8.3	44	249	40.0
500	31	5,768	-13.2	49	249	49.7
450	31	6,554	-17.9	49	250	62.9
400	31	7,438	-23.6	50	247	75.6
350	31	8,401	-30.5	49	247	83.5
300	31	9,478	-38.8	42	247	104.9
250	31	10,703	-48.4		248	109.9
200	31	12,141	-57.3		250	100.2
175	31	12,980	-59.7		249	93.6
150	31	13,937	-62.6		249	88.2
125	29	15,052	-66.2		249	72.8
100	28	16,391	-70.1		250	49.3
80	28	17,716	-70.4		249	32.2
70	25	18,514	-69.4		255	28.4
60	21	19,433	-67.2		261	14.8
50	20	20,539	-64.7		259	11.8
40	19	21,916	-61.3		254	3.1
30	19	23,716	-57.7		263	4.7
25	19	24,873	-55.3		252	6.8
20	19	26,306	-52.6		97	7.2
15	18	28,171	-50.1		83	3.9
10	14	30,843	-46.1			
7	8	33,228	-39.8			
5	5	35,619	-33.3			

BUFFALO, N. Y.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	218	- 2.3	73	234	5.8
1000	31	119				
950	31	526	- 2.8	69	240	15.2
900	31	954	- 4.5	62	247	19.2
850	31	1,403	- 5.8	55	256	20.2
800	31	1,876	- 7.6	51	261	22.0
750	31	2,379	- 9.3	48	267	24.5
700	31	2,908	-11.6	45	266	29.7
650	31	3,473	-14.2	43	265	35.4
600	31	4,076	-17.8	46	270	37.1
550	31	4,720	-21.5	45	268	42.7
500	31	5,420	-25.7	43	271	47.8
450	31	6,171	-30.9	42	272	49.3
400	31	7,004	-36.2	45	269	52.8
350	31	7,919	-42.1		266	58.1
300	31	8,947	-48.1		263	63.9
250	31	10,134	-53.0		260	70.5
200	31	11,564	-54.8		262	75.4
175	31	12,420	-54.0		265	73.6
150	30	13,403	-54.8		267	66.8
125	29	14,559	-56.0		268	56.9
100	29	15,972	-57.5		270	55.8
80	29	17,380	-58.0		270	43.5
70	29	18,224	-59.1		271	40.8
60	28	19,187	-59.2		273	39.2
50	27	20,337	-57.7		280	32.4
40	26	21,748	-57.3		283	31.3
30	23	23,578	-56.8		281	30.9
25	21	24,731	-56.1		290	32.2
20	18	26,154	-54.3		286	34.2
15	14	28,037	-52.3			
10	9	30,727	-49.8			
7						
5						

* BURRWOOD, LA.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	11.4	84	39	4.5
1000	31	163	12.4	73	64	3.5
950	31	595	10.0	69	234	1.9
900	31	1,041	8.2	62	242	6.6
850	31	1,513	7.7	48	254	10.5
800	31	2,012	6.4	46	257	15.5
750	31	2,539	4.2	39	254	20.6
700	31	3,098	1.5	42	252	23.5
650	31	3,690	- 1.6	41	252	30.3
600	31	4,325	- 5.2	40	252	35.0
550	31	4,996	- 9.2	41	250	38.7
500	31	5,734	-14.0	40	250	44.7
450	31	6,523	-18.8	43	249	50.7
400	31	7,397	-24.5	49	249	61.8
350	31	8,356	-31.2	47	249	66.6
300	31	9,430	-39.1	44	250	82.2
250	31	10,654	-48.8		251	91.7
200	31	12,091	-56.8		250	95.8
175	31	12,932	-58.7		248	86.6
150	31	13,893	-61.8		251	83.9
125	30	15,017	-65.0		252	69.7
100	30	16,364	-69.0		252	57.5
80	27	17,687	-69.0		251	45.6
70	26	18,493	-67.7		251	35.9
60	25	19,419	-66.4		249	28.6
50	25	20,528	-64.4		249	17.1
40	25	21,905	-60.3		260	13.6
30	24	23,711	-57.2		275	12.4
25	24	24,867	-55.7		279	9.1
20	22	26,295	-53.1		275	9.7
15	20	28,161	-49.7		299	7.6
10	17	30,848	-44.2		272	14.6
7	15	33,257	-40.7		261	24.7
5	11	35,608	-35.0			

*CANTON IS., PACIFIC AREA
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	27.5	83	30	4.9
1000	30	77	27.0	80	33	5.2
950	30	528	23.7	83	30	7.2
900	30	1,003	20.9	77	24	7.2
850	30	1,497	18.2	75	8	5.1
800	30	2,015	15.4	71	339	3.5
750	29	2,561	12.7	66	323	4.5
700	29	3,140	9.8	65	296	5.4
650	28	3,752	6.3	71	284	8.5
600	28	4,407	2.7	71	281	9.1
550	27	5,106	- 1.2	73	270	7.8
500	27	5,863	- 5.1	63	261	7.2
450	26	6,682	- 9.5	50	269	7.6
400	26	7,588	-14.9	46	273	5.8
350	25	8,586	-21.6	39	256	5.2
300	25	9,705	-29.8	35	236	6.0
250	24	10,975	-40.1	30	210	8.7
200	24	12,457	-52.9		207	10.1
175	24	13,305	-60.2		181	10.9
150	22	14,247	-68.0		157	10.1
125	20	15,323	-76.2		117	7.2
100	19	16,585	-83.3		67	3.5
80	14	17,832	-79.2		46	1.9
70	12	18,602	-72.3		302	2.1
60	11	19,523	-66.0		270	9.9
50	10	20,638	-62.2		254	8.2
40	10	22,028	-59.8		278	9.9
30	10	23,840	-56.5		287	3.1
25	10	24,998	-55.4		181	.6
20	10	26,426	-53.7			
15	9	28,287	-49.9			
10	9	30,953	-47.0			
7	5	33,350	-44.4			
5	5	35,619	-39.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	CAPE HATTERAS, N. C. 1017 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	7.3	79	295	3.7
1000	31	140	8.8	71	289	6.8
950	31	561	7.6	62	268	10.7
900	31	1,008	5.7	56	259	13.6
850	31	1,475	4.2	49	263	19.4
800	31	1,968	2.9	44	265	24.1
750	31	2,486	.6	42	265	27.8
700	31	3,039	-2.1	42	266	32.8
650	31	3,621	-4.8	40	265	38.1
600	31	4,251	-8.3	35	265	43.7
550	31	4,917	-12.2		263	49.1
500	31	5,645	-16.7		266	56.3
450	31	6,419	-21.9		266	61.2
400	31	7,286	-27.8		263	70.9
350	31	8,233	-34.2		260	76.1
300	31	9,295	-41.9		259	88.6
250	31	10,508	-49.8		266	94.8
200	31	11,948	-55.2		267	101.0
175	31	12,797	-56.4		271	94.8
150	31	13,772	-58.4		271	86.8
125	31	14,911	-61.5		267	77.9
100	31	16,285	-63.9		272	63.9
80	31	17,649	-64.8		267	48.2
70	31	18,473	-64.1		267	42.9
60	31	19,411	-62.8		269	33.8
50	31	20,538	-61.1		272	27.4
40	31	21,932	-58.3		283	22.0
30	31	23,754	-55.3		285	13.6
25	31	24,920	-54.0		286	12.4
20	31	26,360	-51.5		288	12.8
15	31	28,242	-48.3		299	15.9
10	29	30,927	-44.1		272	34.8
7	26	33,353	-39.8		269	53.6
5	10	35,572	-38.1			

Standard pressure surface (mb.)	CARIBOU, ME. 988 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	191	-12.3	80	294	4.1
1000	31	97				
950	31	489	-10.8	71	298	10.3
900	31	905	-11.0	70	291	14.0
850	31	1,345	-10.9	66	291	17.3
800	31	1,811	-11.6	62	295	20.0
750	31	2,305	-12.7	55	292	23.3
700	31	2,830	-14.8	50	291	26.2
650	31	3,386	-17.3	46	283	27.2
600	31	3,985	-20.3	42	278	30.1
550	31	4,623	-23.9	40	274	36.3
500	31	5,316	-28.3	37	274	39.6
450	31	6,058	-33.5		279	41.0
400	31	6,882	-39.1		274	44.1
350	31	7,785	-44.8		274	51.3
300	31	8,804	-49.5		272	60.4
250	31	9,992	-51.7		268	65.9
200	31	11,434	-52.8		270	60.8
175	31	12,296	-52.4		270	60.0
150	31	13,293	-52.6		272	55.2
125	31	14,467	-53.9		266	45.3
100	30	15,894	-56.0		266	48.4
80	30	17,309	-57.1		270	43.1
70	30	18,159	-57.1		270	42.5
60	30	19,129	-57.8		267	38.3
50	30	20,278	-58.3		273	38.5
40	29	21,679	-57.8		273	33.4
30	29	23,491	-58.2		277	37.1
25	29	24,637	-58.6		281	44.5
20	29	26,043	-57.6		286	51.3
15	29	27,869	-55.8		283	57.9
10	27	30,451	-53.4		282	65.3
7	24	32,793	-49.3		272	86.1
5	8	34,939	-49.6			

Standard pressure surface (mb.)	CHARLESTON, S. C. 1018 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	13	5.2	86	265	3.1
1000	30	158	8.0	70	273	5.2
950	30	582	8.3	56	265	11.7
900	30	1,028	7.2	49	257	15.2
850	30	1,498	5.9	43	257	19.2
800	30	1,993	4.7		262	22.1
750	30	2,516	3.0		261	27.6
700	30	3,074	-.1		258	31.5
650	30	3,663	-3.0		258	37.3
600	30	4,295	-6.3		264	36.5
550	30	4,963	-10.5		261	44.9
500	30	5,698	-15.2		260	49.5
450	30	6,475	-20.9		261	55.4
400	30	7,347	-26.5	42	258	64.7
350	30	8,299	-33.1	43	258	80.8
300	30	9,365	-40.8		260	87.8
250	30	10,581	-49.7		263	98.1
200	30	12,015	-57.1		265	98.3
175	30	12,856	-58.6		265	98.7
150	30	13,820	-60.6		266	83.3
125	29	14,948	-63.6		266	71.7
100	29	16,308	-66.1		270	57.7
80	27	17,657	-67.6		268	45.5
70	26	18,472	-66.1		269	38.7
60	25	19,400	-64.8		276	29.1
50	25	20,518	-62.8		278	22.5
40	24	21,902	-59.8		282	16.1
30	24	23,715	-56.0		275	18.8
25	22	24,879	-54.3		291	10.9
20	21	26,308	-52.5		296	13.6
15	16	28,190	-49.1		293	18.6
10	6	30,791	-48.3			
7						
5						

Standard pressure surface (mb.)	* COLD BAY, ALASKA 989 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	-.8	85	208	3.7
1000	31	-61				
950	31	348	-2.1	75	229	5.2
900	31	776	-4.9	78	227	4.9
850	31	1,223	-7.6	80	236	4.7
800	31	1,693	-10.5	75	236	6.4
750	31	2,187	-13.5	70	242	7.6
700	31	2,708	-16.7	65	247	8.0
650	31	3,257	-20.4	64	240	8.5
600	31	3,849	-24.4	63	222	10.1
550	31	4,474	-28.9	58	224	11.1
500	31	5,152	-33.7	56	230	13.0
450	31	5,879	-38.8		232	15.2
400	31	6,682	-44.0		238	18.8
350	31	7,568	-49.0		242	22.0
300	31	8,573	-51.8		233	22.5
250	31	9,753	-51.7		233	28.6
200	31	11,207	-49.4		241	28.2
175	31	12,083	-48.9		243	28.4
150	31	13,097	-48.6		246	29.9
125	31	14,300	-47.9		247	27.6
100	31	15,772	-47.4		245	28.7
80	31	17,249	-47.2		247	25.8
70	31	18,144	-46.8		251	26.4
60	30	19,163	-46.4		250	22.9
50	30	20,375	-46.0		253	21.4
40	30	21,864	-44.8		261	18.6
30	30	23,796	-43.2		277	17.1
25	30	25,027	-42.1		287	17.9
20	29	26,542	-41.5		284	16.9
15	27	28,482	-41.5		308	17.1
10	25	31,231	-41.0		319	17.7
7	21	33,679	-40.5		331	20.6
5	10	36,012	-37.9			

Standard pressure surface (mb.)	COLUMBIA, MO. 987 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	238	-1.7	71	221	2.7
1000	31	128				
950	31	540	.8	57	251	9.7
900	31	973	.5	52	267	16.1
850	31	1,431	-.5	47	275	19.2
800	31	1,915	-2.5	42	278	21.2
750	31	2,423	-4.6	39	279	22.5
700	31	2,965	-7.5	36	277	24.9
650	31	3,534	-10.8	35	274	27.2
600	31	4,150	-14.1		272	31.7
550	31	4,800	-18.4		269	33.4
500	31	5,510	-23.3		269	38.3
450	31	6,264	-29.0		267	42.0
400	31	7,105	-35.1		269	45.8
350	31	8,024	-41.1		269	51.9
300	31	9,056	-47.8		266	60.6
250	31	10,243	-53.2		267	62.9
200	30	11,679	-54.4		270	62.4
175	30	12,535	-53.9		268	60.4
150	30	13,523	-54.9		271	57.7
125	30	14,683	-57.0		270	52.1
100	30	16,087	-59.5		270	45.5
80	30	17,481	-60.0		266	35.0
70	30	18,317	-60.0		271	32.2
60	30	19,278	-59.2		272	25.8
50	30	20,423	-58.3		280	18.8
40	30	21,831	-56.9		293	16.3
30	29	23,664	-54.7		302	13.2
25	27	24,835	-53.6		310	15.0
20	25	26,275	-52.1		308	16.3
15	18	28,144	-51.1		301	18.8
10						
7						
5						

Standard pressure surface (mb.)	DAYTON, OHIO 980 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	297	-3.1	74	201	4.1
1000	31	134				
950	31	544	-1.5	67	232	13.0
900	31	972	-2.1	63	255	19.2
850	31	1,426	-2.7	51	265	22.5
800	31	1,906	-4.4	44	265	23.9
750	31	2,413	-6.1	42	262	27.2
700	31	2,951	-8.1	39	263	30.9
650	31	3,520	-11.2	34	264	34.0
600	31	4,134	-14.6		262	39.6
550	31	4,783	-18.7		262	40.8
500	31	5,492	-23.2		262	43.3
450	31	6,250	-28.4		264	45.8
400	31	7,090	-34.1		262	45.8
350	31	8,011	-40.8		265	44.7
300	31	9,044	-47.7		270	53.4
250	31	10,232	-53.0		265	64.1
200	31	11,663	-54.4		264	76.7
175	31	12,518	-54.4		264	79.6
150	31	13,504	-55.3		263	71.3
125	31	14,662	-57.5		266	63.1
100	31	16,063	-59.9		267	52.4
80	31	17,453	-60.7		269	45.5
70	31	18,290	-60.0		271	40.0
60	31	19,249	-59.8		272	35.4
50	30	20,391	-59.3		275	30.9
40	29	21,794	-57.3		283	23.7
30	27	23,614	-56.3		300	17.7
25	26	24,773	-55.2		303	22.9
20	24	26,213	-53.2		297	30.9
15	14	28,041	-51.0		299	37.7
10						

Standard pressure surface (mb.)	DEL RIO, TEXAS 982 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	314	3.8	59	358	2.3
1000	30	165				
950	30	590	7.7	46	105	.4
900	30	1,033	7.9	36	255	4.9
850	30	1,503	6.5	31	262	10.5
800	30	1,999	4.9	29	273	12.8
750	30	2,525	2.8	28	270	16.3
700	30	3,078	.1		264	21.8
650	30	3,667	-3.5		260	24.7
600	30	4,295	-7.9		260	28.9
550	30	4,962	-12.3		259	29.9
500	30	5,687	-17.1		257	33.2
450	30	6,464	-22.7		258	40.6
400	30	7,324	-28.4		258	49.0
350	30	8,269	-34.8		257	55.9
300	30	9,328	-42.5		256	62.7
250	30	10,538	-50.7		255	71.1
200	30	11,974	-55.5		256	72.7
175	30	12,821	-57.5		256	71.1
150	30	13,793	-59.4		257	62.9
125	30	14,923	-63.0		258	55.4
100	30	16,284	-67.0		258	45.8
80	30	17,628	-67.1		256	35.4
70	30	18,435	-66.3		257	28.4
60	30	19,372	-64.8		258	22.7
50	30	20,493	-62.0		255	15.7
40	29	21,882	-58.7		268	11.7
30	29	23,700	-56.0		279	6.8
25	27	24,865	-54.5		296	4.7
20	26	26,300	-52.5		282	5.4
15	23	28,167	-50.0		301	4.9
10	13	30,860	-47.0			

Standard pressure surface (mb.)	DENVER, COLO. 835 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,611	-5.4	58	214	5.6
1000	31	166				
950	31	578				
900	31	1,012				
850	31	1,464				
800	31	1,946	-.6	35	270	7.4
750	31	2,459	-3.4	32	291	12.6
700	31	3,002	-7.0	33	294	14.2
650	31	3,572	-11.0	34	310	16.9
600	31	4,187	-15.1	33	302	22.7
550	31	4,835	-19.7	34	300	24.3
500	31	5,540	-24.7	33	296	26.0
450	31	6,292	-30.2		294	26.4
400	31	7,126	-36.7		288	28.0
350	31	8,037	-43.4		289	31.9
300	31	9,060	-49.6		288	36.7
250	31	10,237	-55.2		289	44.1
200	31	11,654	-56.2		282	45.6
175	31	12,505	-55.3		278	46.0
150	31	13,488	-55.6		274	46.0
125	30	14,654	-56.6		275	36.7
100	30	16,060	-58.8		271	31.1
80	30	17,459	-59.7		280	24.3
70	30	18,298	-59.6		278	21.4
60	30	19,259	-58.6		277	18.1
50	28	20,407	-57.5		286	14.6
40	28	21,823	-56.2		306	8.5
30	26	23,665	-54.0		337	8.4
25	25	24,836	-53.4		336	10.7
20	25	26,275	-52.5		338	8.5
15	20	28,158	-50.8		346	14.0
10	12	30,835	-48.1			

Standard pressure surface (mb.)	DODGE CITY, KANS. 923 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	792	-3.8	61	298	6.2
1000	31	151				
950	31	562				
900	31	992	1.6	40	306	9.7
850	31	1,454	2.1	33	315	15.0
800	31	1,942	.2	32	310	14.4
750	31	2,455	-2.6	32	297	15.5
700	31	3,001	-5.9	34	288	15.9
650	31	3,574	-9.7	35	284	18.8
600	31	4,191	-13.9	36	279	21.2
550	31	4,842	-18.5	36	278	23.9
500	31	5,550	-23.4	35	275	26.2
450	31	6,308	-28.9		271	30.7
400	31	7,148	-35.0		266	35.0
350	31	8,066	-41.6		265	39.8
300	31	9,096	-48.2		265	47.8
250	31	10,281	-54.0		267	52.3
200	31	11,707	-55.0		266	56.1
175	31	12,560	-55.0		265	57.7
150	31	13,545	-55.1		267	54.2
125	31	14,701	-58.0		265	46.6
100	31	16,099	-60.4		268	40.4
80	31	17,488	-60.6		265	31.7
70	31	18,326	-60.3		267	26.4
60	31	19,282	-59.9		268	19.8
50	31	20,423	-58.8		275	15.2
40	30	21,826	-56.9		288	10.1
30	30	23,659	-54.3		310	8.5
25	30	24,831	-53.4		322	7.4
20	27	26,276	-52.3		327	9.7
15	14	28,160	-50.4		315	15.7
10						

Standard pressure surface (mb.)	EL PASO, TEXAS 884 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,193	-.3	37	312	3.3
1000	31	194				
950	31	610				
900	31	1,056				
850	31	1,512	3.5	32	295	5.2
800	31	2,003	1.6	33	282	11.7
750	31	2,521	-.8	33	275	16.5
700	31	3,069	-3.6	33	271	22.0
650	31	3,647	-6.5		274	25.4
600	31	4,274	-10.0		276	26.2
550	31	4,935	-14.3		277	31.3
500	31	5,656	-19.2		277	34.4
450	31	6,425	-24.7		274	37.9
400	31	7,279	-30.9		274	42.3
350	31	8,213	-37.7		277	50.5
300	31	9,262	-44.4		275	57.1
250	31	10,464	-51.3		268	61.8
200	31	11,900	-55.2		265	62.7
175	31	12,750	-56.4		263	58.9
150	31	13,725	-58.2		264	59.2
125	31	14,864	-61.3		264	51.9
100	31	16,237	-64.5		266	42.7
80	31	17,596	-65.2		266	31.3
70	31	18,414	-65.0		262	25.8
60	31	19,352	-63.4		255	18.1
50	30	20,475	-61.2		266	15.0
40	27	21,874	-57.8		271	8.2
30	27	23,699	-55.1		287	3.9
25	25	24,867	-53.7		283	2.9
20	19	26,311	-51.1		293	4.5
15	11	28,183	-48.6			
10						

Standard pressure surface (mb.)	ELY, NEV. 809 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,908	-11.5	79	186	9.7
1000	31	248				
950	31	653				
900	31	1,079				
850	31	1,524				
800	31	1,993			200	5.8
750	31	2,505	-5.2	52	253	5.2
700	31	3,041	-7.3	43	288	11.8
650	31	3,615	-9.9	37	301	17.7
600	31	4,229	-13.4	37	301	22.7
550	31	4,883	-17.9	39	298	27.6
500	31	5,591	-22.4	37	303	30.3
450	31	6,354	-27.7		312	33.6
400	31	7,194	-33.8		321	34.6
350	31	8,116	-40.8		317	34.2
300	31	9,147	-48.7		308	35.7
250	31	10,324	-56.1		309	40.0
200	31	11,730	-57.9		307	42.7
175	31	12,575	-56.4		297	36.3
150	31	13,553	-56.5		292	37.5
125	31	14,707	-57.8		289	35.5
100	31	16,108	-60.0		291	29.3
80	31	17,498	-60.5		293	21.0
70	31	18,340	-59.7		297	17.3
60	31	19,296	-58.9		303	10.7
50	31	20,444	-57.1		323	7.2
40	28	21,861	-55.7		13	6.0
30	24	23,705	-53.7		42	7.0
25	22	24,882	-52.1		54	7.4
20	22	26,331	-50.9		55	7.4
15	12	28,233	-47.3			
10						
7						
5						

Standard pressure surface (mb.)	* FAIRBANKS, ALASKA 988 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	135	-27.2	69	19	.8
1000	31	46				
950	31	427	-18.2	71	93	3.9
900	31	830	-14.0	70	115	7.4
850	31	1,265	-12.4	65	128	3.9
800	31	1,728	-13.2	58	212	2.7
750	31	2,214	-15.6	58	233	5.2
700	31	2,735	-18.6	58	243	7.4
650	31	3,278	-22.1	53	240	9.3
600	31	3,868	-26.0	51	236	9.3
550	31	4,486	-30.5	48	248	9.5
500	31	5,163	-35.2	48	251	11.8
450	31	5,885	-40.3		250	12.2
400	31	6,683	-46.2		247	13.0
350	30	7,558	-52.5		243	13.8
300	30	8,540	-57.5		241	15.9
250	30	9,685	-59.0		255	20.4
200	30	11,096	-55.3		263	25.1
175	30	11,950	-54.1		266	27.6
150	29	12,947	-53.2		266	33.0
125	29	14,123	-52.7		270	37.9
100	29	15,564	-52.2		271	46.2
80	29	17,011	-51.3		275	52.1
70	29	17,882	-50.8		275	55.0
60	29	18,885	-50.1		276	58.7
50	29	20,078	-49.4		279	62.7
40	28	21,555	-48.0		280	66.2
30	27	23,477	-46.6		284	73.0
25	26	24,685	-45.6		284	77.7
20	26	26,173	-45.0		288	86.4
15	22	28,098	-44.6		291	88.6
10	20	30,802	-43.0		297	99.3
7	15	33,257	-41.9		301	104.3
5	5	35,637	-41.0			

Standard pressure surface (mb.)	FLINT, MICH. 986 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	234	-3.2	71	225	5.2
1000	31	118				
950	31	526	-3.7	71	236	10.7
900	31	951	-5.0	69	256	15.2
850	31	1,400	-5.7	58	262	19.0
800	30	1,874	-6.9	51	261	23.1
750	30	2,375	-8.6	45	261	25.1
700	30	2,909	-10.9	47	262	28.6
650	30	3,472	-13.6	46	263	31.1
600	30	4,080	-17.0	45	260	36.9
550	30	4,724	-20.9	42	264	41.6
500	30	5,428	-25.5	43	268	48.0
450	30	6,173	-30.8	45	266	48.0
400	30	7,008	-36.7		266	54.4
350	30	7,920	-42.8		267	60.8
300	30	8,944	-49.5		268	63.7
250	29	10,128	-54.2		265	66.0
200	29	11,556	-54.2		266	61.8
175	29	12,414	-53.6		267	61.2
150	29	13,403	-54.3		268	59.6
125	29	14,567	-55.8		269	53.0
100	29	15,981	-57.1		268	48.8
80	29	17,389	-58.3		269	41.4
70	29	18,236	-58.4		271	35.4
60	29	19,199	-57.7		276	28.4
50	28	20,353	-57.5		279	26.0
40	27	21,763	-56.9		282	28.0
30	27	23,589	-55.7		290	30.1
25	26	24,752	-55.3		292	31.1
20	24	26,191	-54.5		299	31.5
15	21	28,051	-52.0		301	36.3
10	8	30,762	-48.8			
7						
5						

Standard pressure surface (mb.)	FORT WORTH, TEXAS 998 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	180	2.5	69	246	2.1
1000	31	160			327	3.5
950	31	582	6.5	52	235	10.5
900	31	1,022	6.3	38	255	13.0
850	31	1,490	5.0	33	267	14.8
800	31	1,982	2.8	34	271	16.7
750	31	2,502	.2	32	268	17.9
700	31	3,053	-2.7		264	20.2
650	31	3,635	-6.1		264	24.3
600	31	4,259	-10.3		264	27.2
550	31	4,921	-14.6		260	31.1
500	31	5,640	-19.3		255	35.4
450	31	6,409	-24.7		256	41.4
400	31	7,263	-31.0		256	47.8
350	31	8,196	-38.0		257	53.2
300	31	9,242	-44.7		259	55.8
250	31	10,444	-51.4		261	65.7
200	31	11,878	-55.0		257	68.6
175	31	12,729	-56.2		260	63.9
150	31	13,704	-58.6		259	60.0
125	31	14,843	-61.3		262	54.2
100	31	16,216	-64.7		261	47.6
80	31	17,575	-65.3		261	36.7
70	31	18,397	-64.3		260	30.5
60	31	19,335	-62.9		265	24.3
50	31	20,463	-61.0		265	16.9
40	31	21,856	-58.8		268	13.4
30	29	23,673	-55.8		290	8.0
25	28	24,836	-54.8		291	6.2
20	24	26,273	-52.8		320	8.0
15	21	28,146	-50.3		296	14.8
10						
7						
5						

Standard pressure surface (mb.)	GLASGOW, MONT. 929 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	696	-8.4	79	287	1.2
1000	31	122				
950	31	523				
900	31	946	-4.8	62	296	11.3
850	31	1,397	-4.3	58	299	19.2
800	31	1,872	-6.8	55	301	21.6
750	31	2,371	-9.5	54	299	22.9
700	31	2,904	-12.7	55	293	24.1
650	31	3,460	-16.2	52	293	25.8
600	31	4,063	-20.3	50	295	29.7
550	31	4,695	-24.7	48	293	31.9
500	31	5,388	-29.4	44	295	34.0
450	31	6,125	-34.6		300	37.3
400	31	6,944	-41.0		300	41.6
350	31	7,839	-47.8		300	46.8
300	31	8,842	-53.7		298	51.3
250	31	10,004	-56.8		298	48.4
200	31	11,421	-54.9		291	44.5
175	31	12,277	-53.6		285	42.7
150	31	13,269	-53.4		287	42.2
125	31	14,443	-54.0		289	39.8
100	30	15,880	-54.4		288	34.4
80	30	17,305	-55.2		294	32.4
70	30	18,158	-54.4		295	29.5
60	30	19,145	-54.2		300	25.3
50	30	20,313	-54.0		303	23.9
40	30	21,747	-53.0		304	23.5
30	30	23,599	-53.0		311	25.1
25	30	24,775	-52.5		324	25.3
20	27	26,226	-52.0		327	25.6
15	23	28,091	-50.9		326	32.1
10	19	30,770	-49.4			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1964

GRAND JUNCTION, COLO.
854 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,474	- 7.6	65	116	2.5
1000	31	229				
950	31	635				
900	31	1,066				
850	31	1,513			108	3.3
800	31	1,991	- 4.6	46	149	4.9
750	31	2,495	- 6.7	46	225	4.3
700	31	3,034	- 9.3	47	273	10.9
650	31	3,600	-12.0	41	285	15.2
600	31	4,213	-15.6	40	290	18.6
550	31	4,856	-19.9	37	291	22.3
500	31	5,565	-24.7	37	291	27.2
450	31	6,316	-30.4		288	29.5
400	31	7,152	-35.9		292	35.0
350	31	8,068	-42.1		293	41.0
300	31	9,095	-48.9		300	46.8
250	31	10,276	-55.0		309	47.4
200	31	11,695	-55.5		306	43.3
175	31	12,548	-54.7		298	41.8
150	31	13,534	-55.1		293	39.6
125	30	14,691	-57.0		291	35.5
100	30	16,096	-59.9		286	27.8
80	30	17,486	-60.8		287	23.1
70	30	18,325	-59.4		289	18.6
60	29	19,282	-58.9		291	14.2
50	28	20,431	-58.1		293	10.1
40	28	21,844	-56.0		316	6.2
30	27	23,682	-54.0		341	9.1
25	27	24,855	-52.7		14	7.4
20	26	26,303	-51.7		27	8.0
15	22	28,178	-49.6		5	7.4
10	19	30,851	-47.0		338	7.0
7	13	33,231	-44.4		307	17.5
5	[illegible]	35,481	-43.0			

GREAT FALLS, MONT.
882 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,123	- 3.3	61	228	12.4
1000	31	120				
950	31	531				
900	31	964				
850	31	1,418	- 2.2	47	244	22.5
800	31	1,898	- 4.7	52	265	22.3
750	31	2,399	- 8.3	55	277	24.1
700	31	2,936	-11.7	55	284	27.2
650	31	3,496	-15.1	50	287	28.0
600	31	4,102	-18.6	46	286	27.2
550	31	4,742	-23.0	47	291	30.1
500	31	5,437	-28.1	48	292	32.8
450	31	6,176	-33.8	49	293	34.4
400	31	7,002	-40.0		290	37.9
350	31	7,900	-46.7		289	40.6
300	31	8,909	-52.8		291	45.8
250	31	10,077	-55.7		295	49.1
200	30	11,492	-55.6		288	44.7
175	30	12,345	-54.4		286	41.4
150	30	13,336	-53.2		283	41.6
125	30	14,510	-53.6		288	35.9
100	27	15,922	-54.4		282	33.0
80	27	17,352	-54.0		287	31.9
70	26	18,221	-54.3		286	28.0
60	26	19,204	-54.1		291	25.1
50	25	20,375	-53.4		296	22.7
40	25	21,815	-52.1		308	21.6
30	25	23,681	-51.6		314	20.4
25	25	24,865	-51.1		316	20.8
20	25	26,320	-50.2		331	24.3
15	24	28,199	-49.7		343	27.4
10	21	30,853	-48.1		341	33.0
7	15	33,255	-45.9		344	41.4
5	10	35,544	-43.7			

GREEN BAY, WIS.
986 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	210	- 7.9	77	251	4.1
1000	31	98				
950	31	500	- 6.2	71	272	7.4
900	31	923	- 5.6	61	284	11.1
850	31	1,370	- 6.4	54	287	14.2
800	31	1,844	- 7.8	50	288	17.9
750	31	2,340	- 9.4	47	283	21.8
700	31	2,875	-11.8	47	283	25.8
650	31	3,433	-14.9	46	282	29.3
600	31	4,041	-18.4	45	280	31.5
550	31	4,679	-22.4	42	280	33.4
500	31	5,379	-27.3	41	278	35.7
450	31	6,123	-32.7	40	275	38.3
400	31	6,949	-38.6		270	43.7
350	31	7,855	-44.5		269	48.6
300	31	8,873	-50.4		267	55.0
250	31	10,051	-54.2		265	58.5
200	31	11,481	-53.6		267	56.1
175	31	12,341	-52.9		264	56.3
150	31	13,335	-53.3		271	52.6
125	31	14,505	-54.4		271	47.6
100	31	15,930	-55.8		271	43.3
80	31	17,348	-56.6		274	37.1
70	31	18,191	-56.8		275	33.8
60	30	19,171	-56.7		278	30.9
50	30	20,328	-56.2		282	27.0
40	29	21,746	-56.1		291	25.3
30	27	23,584	-55.0		300	26.6
25	26	24,749	-54.2		304	29.7
20	20	26,182	-53.3		307	33.2
15	13	28,046	-51.8		302	44.5

GREENSBORO, N. C.
986 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	273	- .3	81	267	2.3
1000	31	154				
950	31	572	3.7	52	264	8.2
900	31	1,010	3.1	48	257	12.6
850	31	1,472	2.1	50	265	16.5
800	31	1,961	1.1	47	266	24.1
750	31	2,476	- .9	40	264	28.7
700	31	3,027	- 3.8	38	262	31.3
650	31	3,605	- 7.1	36	260	34.8
600	31	4,229	-10.5		262	39.0
550	31	4,889	-14.5		261	45.5
500	31	5,611	-18.9		259	54.6
450	31	6,381	-24.1		256	61.4
400	31	7,239	-29.9		254	69.5
350	31	8,177	-36.5		253	73.0
300	31	9,229	-43.7		252	83.9
250	31	10,434	-50.8		255	92.7
200	31	11,868	-55.3		260	97.1
175	30	12,716	-56.9		263	92.5
150	30	13,689	-58.6		266	87.8
125	30	14,828	-61.2		265	74.4
100	30	16,204	-63.5		264	62.5
80	29	17,576	-64.5		264	46.4
70	29	18,398	-63.9		264	38.9
60	29	19,341	-63.1		269	32.4
50	28	20,467	-61.2		269	28.4
40	28	21,859	-59.5		273	23.1
30	28	23,673	-56.7		287	17.5
25	27	24,837	-54.8		296	16.3
20	25	26,266	-53.2		290	20.2
15	17	28,131	-50.8			

GUAM, MARIANA IS.
1000 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	111	24.1	86	79	7.6
1000	31	114			80	7.6
950	31	566	22.0	83	75	19.8
900	31	1,032	19.1	80	78	20.8
850	31	1,522	16.8	70	81	19.0
800	31	2,038	14.6	58	78	21.0
750	31	2,584	13.0	40	83	17.9
700	31	3,160	10.6		84	16.7
650	31	3,776	7.4		91	15.5
600	31	4,428	3.8		93	16.7
550	31	5,127	- .3		93	14.2
500	31	5,886	- 5.0		88	9.7
450	31	6,702	-10.2		84	8.0
400	31	7,606	-15.8		64	3.5
350	31	8,598	-22.8		103	1.2
300	31	9,710	-31.1		259	2.7
250	31	10,976	-41.2		252	6.0
200	31	12,452	-53.1		238	7.8
175	31	13,299	-60.0		225	8.5
150	31	14,244	-67.5		203	8.2
125	30	15,319	-75.7		160	8.5
100	30	16,584	-81.9		123	13.0
80	30	17,841	-79.1		101	14.2
70	30	18,605	-75.0		98	8.9
60	30	19,518	-68.2		200	1.2
50	30	20,625	-64.2		261	9.1
40	30	22,004	-59.9		275	15.0
30	28	23,822	-55.0		272	19.0
25	28	24,995	-52.0		274	16.7
20	25	26,449	-49.8		290	11.3
15	18	28,327	-48.9		348	6.8
10	6	30,978	-45.5			

HILO, HAWAII
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	11	19.3	85	245	7.6
1000	31	155	21.4	76	246	4.1
950	31	596	18.4	79	83	5.6
900	31	1,061	15.0	81	91	8.7
850	31	1,543	11.9	79	91	7.6
800	31	2,050	9.4	70	91	9.5
750	31	2,585	7.4	49	88	12.4
700	31	3,151	5.3	41	90	13.0
650	31	3,754	2.7		89	12.4
600	31	4,398	- 1.1		78	11.5
550	31	5,085	- 5.1		57	8.4
500	31	5,830	-10.0		7	5.8
450	31	6,632	-15.4		301	10.1
400	31	7,516	-21.4		294	15.0
350	31	8,488	-27.7		281	27.0
300	31	9,582	-34.2		278	43.1
250	31	10,837	-42.2		276	55.0
200	31	12,314	-52.5		279	56.1
175	30	13,162	-58.7		280	53.8
150	30	14,117	-64.8		282	45.8
125	29	15,216	-70.4		285	37.9
100	29	16,521	-76.2		288	25.8
80	29	17,801	-76.9		299	10.3
70	29	18,575	-73.8		305	5.2
60	27	19,482	-69.2		288	4.3
50	26	20,581	-65.1		308	3.7
40	25	21,954	-60.4		286	9.1
30	25	23,764	-56.2		289	11.5
25	23	24,932	-53.9		299	10.3
20	22	26,374	-51.3		282	10.1
15	17	28,237	-49.2		268	8.7
10	7	30,909	-43.8			
7						

HUNTINGTON, W. VA.
989 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	246	- 1.9	73	195	2.9
1000	31	153				
950	31	565	.1	59	235	12.0
900	31	997	- .8	58	255	19.8
850	31	1,453	- 1.8	54	261	22.7
800	31	1,934	- 3.1	42	262	25.6
750	31	2,443	- 4.8	39	263	29.5
700	31	2,985	- 7.0	41	262	33.6
650	31	3,556	-10.0	42	262	37.9
600	31	4,173	-13.4	38	263	39.2
550	31	4,825	-17.3		265	39.0
500	31	5,540	-21.8		265	43.3
450	31	6,297	-27.2		264	44.3
400	31	7,146	-33.2		268	46.6
350	31	8,072	-39.6		264	55.4
300	31	9,111	-46.0		264	58.3
250	31	10,308	-51.8		264	69.5
200	31	11,743	-54.7		267	73.8
175	31	12,596	-55.2		265	68.2
150	31	13,577	-56.7		265	67.4
125	31	14,727	-58.9		266	60.0
100	31	16,118	-61.6		266	54.4
80	28	17,487	-61.9		268	45.8
70	26	18,321	-61.3		272	39.6
60	26	19,277	-60.1		271	33.6
50	25	20,416	-59.9		275	26.6
40	24	21,811	-58.9		287	21.2
30	21	23,638	-56.4		290	26.2
25	19	24,797	-54.5		298	27.0
20	18	26,232	-52.4		300	30.1
15	13	28,111	-50.4		303	32.1
10	6	30,788	-48.4			

* INTERNAT. FALLS, MINN.
966 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	360	-14.0	75	241	3.3
1000	31	95				
950	31	486	-12.6	78	260	6.8
900	31	901	-10.9	80	284	10.9
850	31	1,342	- 9.5	69	290	13.6
800	31	1,809	-10.9	67	291	17.5
750	31	2,305	-12.2	61	294	19.6
700	31	2,829	-14.6	59	294	20.6
650	31	3,385	-17.6	56	291	25.3
600	31	3,982	-21.2	54	290	26.4
550	31	4,614	-25.3	52	289	30.3
500	31	5,305	-30.3	50	284	29.7
450	31	6,038	-35.5	50	285	33.8
400	31	6,857	-41.3		281	37.1
350	31	7,752	-47.4		282	38.7
300	31	8,757	-53.2		279	41.6
250	31	9,924	-55.3		278	43.1
200	31	11,349	-54.0		277	41.2
175	31	12,207	-53.4		278	43.1
150	31	13,200	-53.1		278	39.8
125	31	14,374	-53.2		279	41.4
100	31	15,806	-54.8		280	39.0
80	29	17,230	-55.4		281	34.2
70	27	18,082	-55.7		283	33.6
60	26	19,069	-55.7		284	32.6
50	26	20,230	-55.9		288	31.3
40	26	21,653	-55.3		291	35.4
30	24	23,479	-55.4		297	38.3
25	24	24,642	-55.2		300	41.6
20	24	26,069	-54.2		303	43.3
15	22	27,920	-53.7		306	48.4
10	20	30,544	-52.2		306	58.9
7	10	32,925	-48.4			

JACKSON, MISS.
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	94	3.6	83	176	.8
1000	31	164	4.5	70	175	1.0
950	31	582	6.1	56	244	7.4
900	31	1,028	5.5	46	259	11.5
850	31	1,494	4.0	43	264	13.6
800	31	1,986	2.6	42	262	17.1
750	31	2,504	.5	39	262	19.4
700	31	3,059	- 1.8	34	259	25.1
650	31	3,640	- 4.9		256	30.5
600	31	4,271	- 8.8		258	33.2
550	31	4,933	-12.9		259	36.9
500	31	5,662	-17.2		258	41.0
450	31	6,435	-22.5		255	49.5
400	31	7,300	-28.7		254	56.3
350	31	8,242	-35.3		254	63.3
300	31	9,299	-42.6		256	77.1
250	31	10,509	-49.9		249	87.8
200	31	11,947	-55.4		253	75.0
175	31	12,795	-56.3		255	71.3
150	31	13,769	-58.7		254	58.5
125	31	14,902	-62.8		253	57.1
100	30	16,264	-65.5		254	46.4
80	29	17,621	-66.2		255	37.7
70	29	18,437	-65.2		256	30.3
60	27	19,375	-64.0		253	28.9
50	27	20,496	-62.5		264	24.1
40	26	21,883	-59.8		274	16.3
30	25	23,697	-56.7		273	12.6
25	24	24,859	-54.4		292	10.5
20	24	26,296	-52.5		306	9.5
15	18	28,161	-50.1			
10	10	30,816	-46.5			

JACKSONVILLE, FLA.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	8.3	89	286	1.7
1000	31	171	10.5	77	324	1.6
950	31	597	9.4	69	232	6.8
900	31	1,046	8.4	61	236	12.2
850	31	1,519	8.1	48	249	15.7
800	31	2,019	7.0		256	20.2
750	31	2,551	4.7		256	26.4
700	31	3,109	2.2		256	33.0
650	31	3,698	- 1.0		259	35.4
600	31	4,338	- 5.0	41	259	39.8
550	31	5,009	- 9.1	41	256	46.4
500	31	5,749	-13.6	45	255	52.8
450	31	6,538	-18.4	45	257	62.5
400	31	7,416	-24.1	44	258	69.7
350	31	8,376	-31.0	42	264	77.7
300	31	9,451	-39.3		263	88.6
250	31	10,674	-48.9		263	94.4
200	31	12,110	-57.0		266	97.9
175	31	12,950	-59.5		264	95.8
150	30	13,909	-62.0		268	81.0
125	30	15,028	-65.4		268	71.3
100	29	16,376	-68.9		270	57.5
80	29	17,711	-68.8		266	36.7
70	29	18,519	-68.5		267	32.8
60	28	19,437	-66.7		268	24.5
50	26	20,549	-63.4		265	15.7
40	26	21,931	-59.6		292	8.9
30	26	23,745	-56.4		313	4.9
25	25	24,908	-53.9		337	4.1
20	25	26,350	-51.3		294	4.1
15	23	28,238	-47.7		289	8.9
10	20	30,932	-41.7		252	18.5
7	9	33,331	-37.4			

JOHN F. KENNEDY INT. AP, N. Y.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	- .4	61	299	7.0
1000	31	132	- .7	59	306	7.8
950	31	541	- 1.3	58	299	11.8
900	31	972	- 2.1	56	291	15.2
850	31	1,426	- 3.1	49	283	18.5
800	31	1,905	- 4.2	46	281	24.5
750	31	2,414	- 5.9	45	279	29.3
700	31	2,951	- 8.1	46	276	33.8
650	31	3,521	-11.1	44	272	37.7
600	31	4,135	-14.8	43	270	42.3
550	31	4,786	-18.8	42	272	47.4
500	31	5,492	-23.1	41	270	51.3
450	31	6,253	-28.0	37	269	58.3
400	31	7,093	-34.0		270	67.0
350	31	8,017	-40.2		271	71.3
300	31	9,054	-46.3		269	82.9
250	31	10,248	-52.3		270	89.4
200	31	11,680	-54.8		268	84.7
175	31	12,533	-55.0		267	82.9
150	31	13,516	-55.8		267	76.9
125	31	14,672	-57.7		269	69.7
100	30	16,067	-60.6		271	58.7
80	29	17,453	-60.3		270	47.8
70	29	18,287	-60.2		271	44.5
60	29	19,248	-59.4		273	39.6
50	28	20,389	-59.4		273	34.2
40	26	21,799	-58.5		272	28.7
30	26	23,612	-57.2		277	28.7
25	26	24,770	-55.8		281	29.1
20	23	26,193	-54.6		281	33.0
15	12	28,005	-53.1			
10						
7						

JOHNSTON IS., PACIFIC AREA
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	25.0	77	77	15.9
1000	31	134	23.7	77	76	17.3
950	31	579	20.0	78	77	19.8
900	31	1,046	16.5	77	82	21.0
850	31	1,531	13.5	72	87	18.6
800	31	2,040	10.9	53	89	17.1
750	31	2,576	9.8		83	17.1
700	31	3,148	8.1		80	15.3
650	31	3,752	5.1		75	15.3
600	31	4,406	1.4		58	11.3
550	31	5,092	- 3.2		45	8.2
500	31	5,848	- 8.1		[illegible]	3.5
450	31	6,655	-13.4		332	7.2
400	31	7,547	-19.0		311	14.2
350	31	8,531	-24.7		298	22.9
300	31	9,638	-31.5		288	30.9
250	31	10,905	-40.7		284	35.2
200	31	12,386	-52.4		280	34.4
175	31	13,236	-59.0		284	32.4
150	31	14,186	-66.1		291	29.7
125	31	15,273	-72.9		288	22.5
100	31	16,559	-79.6		303	13.0
80	31	17,822	-80.0		342	4.1
70	30	18,582	-76.2		19	1.4
60	30	19,484	-70.1		301	1.0
50	30	20,585	-64.8		260	6.0
40	30	21,964	-59.7		276	13.8
30	30	23,785	-54.9		289	16.5
25	29	24,959	-53.0		295	14.0
20	26	26,399	-51.2		281	12.8
15	25	28,285	-47.8		269	11.8
10	21	30,983	-44.1		250	11.5
7	8	33,379	-42.1			

KING SALMON, ALASKA
993 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	15	-10.3	79	40	5.6
1000	31	- 40			357	6.6
950	31	364	- 5.4	67	62	13.4
900	31	783	- 6.4	64	76	10.5
850	31	1,229	- 8.3	62	86	5.4
800	31	1,697	-10.9	60	111	4.5
750	31	2,189	-14.0	57	129	3.7
700	31	2,711	-16.9	56	122	3.3
650	31	3,262	-20.3	55	149	3.3
600	31	3,852	-24.3	54	192	1.7
550	31	4,474	-28.8	51	176	1.9
500	31	5,155	-33.4	48	172	1.6
450	31	5,882	-39.0		244	3.7
400	31	6,685	-44.8		232	6.0
350	31	7,567	-49.8		238	10.1
300	31	8,565	-53.4		237	13.6
250	31	9,737	-53.6		250	18.8
200	31	11,180	-50.6		251	21.4
175	31	12,053	-49.6		255	24.5
150	31	13,062	-49.1		254	26.4
125	31	14,261	-48.3		257	28.0
100	31	15,731	-48.0		256	28.4
80	31	17,203	-47.7		263	31.7
70	31	18,087	-47.4		264	31.9
60	31	19,105	-46.9		266	31.5
50	31	20,315	-46.1		272	31.7
40	31	21,801	-45.1		275	31.1
30	29	23,735	-43.5		281	35.9
25	27	24,976	-42.0		285	36.3
20	24	26,499	-40.9		288	35.4
15	15	28,441	-41.5			

KOROR, CAROLINE IS.
+ 1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	27.5	83	63	8.4
1000	31	103	26.8	82	64	11.1
950	31	552	23.1	82	66	18.3
900	31	1,026	20.1	80	68	20.4
850	31	1,519	17.7	71	69	17.5
800	31	2,036	15.2	61	72	15.0
750	31	2,580	12.9	54	76	14.0
700	31	3,160	10.2	45	79	12.8
650	31	3,770	7.1	39	84	13.8
600	31	4,428	3.5	40	86	16.5
550	31	5,124	- .3	35	87	16.9
500	31	5,887	- 4.4		85	17.7
450	31	6,703	- 9.1		83	19.0
400	31	7,613	-14.9		90	16.9
350	31	8,610	-21.8		89	15.0
300	31	9,726	-30.2		92	11.5
250	31	10,996	-40.6		111	10.7
200	31	12,476	-53.2		121	14.6
175	31	13,322	-60.4		127	17.3
150	31	14,265	-68.1		123	22.5
125	31	15,338	-76.2		113	26.4
100	31	16,603	-81.1		98	23.1
80	31	17,862	-77.9		83	9.9
70	31	18,638	-70.7		304	3.5
60	30	19,566	-64.9		274	11.8
50	30	20,688	-61.3		274	17.1
40	30	22,085	-57.6		266	20.0
30	29	23,916	-54.8		266	25.3
25	28	25,083	-53.2		263	22.0
20	26	26,533	-51.1		260	11.3
15	17	28,420	-48.8		160	2.9

KOTZEBUE, ALASKA
1004 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	-21.2	75	89	6.0
1000	31	34			94	4.3
950	31	417	-16.9	65	98	9.7
900	31	824	-15.8	63	128	6.2
850	31	1,255	-15.5	63	158	3.9
800	31	1,712	-16.9	62	201	5.4
750	31	2,193	-18.6	58	218	8.2
700	31	2,707	-21.4	52	220	8.9
650	31	3,247	-24.5	50	225	10.3
600	31	3,828	-28.3	47	224	11.5
550	31	4,439	-32.4	46	229	12.0
500	31	5,111	-37.1		231	13.4
450	31	5,829	-42.1		231	15.2
400	31	6,620	-47.4		234	19.2
350	31	7,492	-52.9		239	19.2
300	31	8,475	-57.5		242	22.0
250	31	9,620	-59.3		243	24.3
200	31	11,028	-55.9		247	31.1
175	31	11,880	-54.9		247	33.2
150	31	12,866	-54.2		251	38.3
125	31	14,036	-53.8		252	41.8
100	31	15,473	-52.7		255	49.7
80	31	16,918	-51.5		258	55.2
70	31	17,792	-50.9		259	60.0
60	31	18,791	-50.1		260	64.1
50	31	19,984	-49.3		262	68.8
40	31	21,450	-48.4		264	75.8
30	31	23,349	-47.0		266	83.1
25	31	24,559	-46.2		268	86.1
20	28	26,086	-44.1		269	82.9
15	24	28,037	-43.8		275	94.4
10	11	30,772	-44.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

LAKE CHARLES, LA.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	6.8	85	70	1.4
1000	31	164	9.1	68	144	1.6
950	31	590	8.6	63	247	6.0
900	31	1,038	8.1	52	266	9.9
850	31	1,509	6.6	47	263	12.0
800	31	2,005	4.8	43	266	16.7
750	31	2,529	3.4	37	262	22.9
700	31	3,088	.5	37	262	25.8
650	31	3,679	- 2.8		260	29.5
600	31	4,311	- 6.2		257	36.5
550	31	4,985	-10.2		256	39.6
500	31	5,717	-15.0		251	45.6
450	31	6,506	-20.5		250	47.8
400	31	7,369	-26.8		253	55.9
350	31	8,320	-33.2		252	69.0
300	31	9,385	-40.9		252	80.6
250	31	10,602	-49.7		251	90.5
200	31	12,038	-56.0		252	91.1
175	31	12,884	-57.3		254	82.8
150	31	13,854	-59.6		252	74.6
125	31	14,985	-63.3		254	62.4
100	31	16,342	-67.2		253	51.1
80	31	17,688	-67.2		256	40.8
70	31	18,504	-66.3		257	32.8
60	31	19,434	-64.4		261	26.0
50	30	20,555	-62.5		249	15.0
40	28	21,944	-59.3		270	13.6
30	24	23,759	-56.0		278	7.2
25	24	24,924	-53.7		288	6.4
20	23	26,363	-51.8		295	8.5
15	19	28,239	-48.7		295	12.4
10	6	30,930	-45.4			
7						
5						

LANDER, WYO.
825 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,696	- 8.9	59	209	2.5
1000	31	176				
950	31	579				
900	31	1,010				
850	31	1,460				
800	31	1,935	- 4.2	44	241	2.3
750	31	2,440	- 5.4	39	272	8.2
700	31	2,982	- 8.5	39	283	15.3
650	31	3,545	-12.3	39	285	23.3
600	31	4,160	-16.4	39	293	28.7
550	31	4,800	-21.0	39	294	30.7
500	31	5,506	-26.3	39	290	31.9
450	31	6,254	-32.2	37	293	34.2
400	31	7,081	-38.2		297	35.0
350	31	7,987	-44.8		298	40.6
300	31	9,004	-50.9		297	45.1
250	31	10,175	-56.5		292	54.2
200	31	11,587	-56.1		284	53.0
175	31	12,438	-54.6		285	50.9
150	31	13,427	-54.0		284	46.0
125	31	14,592	-56.2		282	41.2
100	31	16,007	-57.5		282	34.4
80	31	17,415	-57.9		282	30.1
70	31	18,259	-58.0		286	24.9
60	31	19,229	-57.1		286	20.2
50	31	20,388	-55.8		302	15.0
40	30	21,811	-54.2		322	8.9
30	28	23,660	-52.7		354	9.7
25	27	24,839	-51.7		357	11.3
20	22	26,299	-51.0		353	11.3
15	11	28,163	-48.9			
10						
7						
5						

LAS VEGAS, NEV.
944 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	1.5	41	271	3.1
1000	31	191				
950	31	608				
900	31	1,049	5.1	35	341	3.9
850	31	1,513	2.8	37	343	5.1
800	31	2,002	.4	39	328	4.7
750	31	2,516	- 1.5	35	313	7.0
700	31	3,065	- 3.9	31	306	10.9
650	31	3,643	- 7.2		308	14.8
600	31	4,265	-10.9	32	304	19.6
550	31	4,922	-15.1	34	306	24.9
500	31	5,642	-20.1		302	28.6
450	31	6,400	-25.9		307	29.9
400	31	7,256	-32.2		293	32.8
350	31	8,184	-39.0		296	35.4
300	31	9,224	-46.8		293	40.8
250	30	10,407	-54.5		294	47.2
200	29	11,824	-58.5		291	49.5
175	29	12,665	-57.7		288	49.1
150	29	13,639	-57.2		289	46.0
125	29	14,786	-59.6		282	37.9
100	28	16,178	-61.6		292	33.4
80	26	17,559	-62.6		287	23.9
70	26	18,383	-61.5		285	18.6
60	26	19,341	-60.4		291	13.4
50	26	20,483	-58.3		308	7.8
40	24	21,895	-56.8		333	4.5
30	23	23,728	-53.6		41	6.4
25	22	24,905	-52.2		55	7.6
20	10	26,342	-50.5			
15						
10						
7						
5						

* LIHUE, HAWAII
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	36	21.9	79	46	9.3
1000	30	162	21.2	77	54	12.2
950	30	601	17.9	79	66	15.3
900	30	1,065	14.6	81	73	15.7
850	30	1,547	11.5	75	76	16.1
800	30	2,053	10.0	56	80	16.1
750	30	2,587	8.4	34	84	14.0
700	30	3,156	6.0	29	90	10.7
650	30	3,758	2.7	30	77	8.2
600	30	4,403	- 1.2	25	65	5.6
550	30	5,084	- 5.9	25	42	5.2
500	30	5,831	-10.6	23	333	5.8
450	30	6,626	-16.3	23	311	7.8
400	30	7,510	-22.6	23	299	13.4
350	30	8,477	-29.3	21	295	22.7
300	30	9,563	-35.9	19	287	36.3
250	30	10,812	-43.0		281	49.9
200	28	12,290	-52.0		278	57.9
175	28	13,144	-57.7		280	57.1
150	27	14,101	-63.4		282	52.3
125	26	15,208	-69.6		281	42.2
100	26	16,520	-74.6		288	30.9
80	26	17,809	-76.6		292	13.6
70	26	18,583	-73.2		306	7.0
60	25	19,493	-69.2		321	3.7
50	24	20,590	-64.9		328	4.1
40	23	21,965	-60.4		331	5.6
30	20	23,775	-55.9		318	4.9
25	20	24,939	-54.1		333	6.0
20	20	26,376	-52.1		19	6.4
15	18	28,255	-49.0		135	4.1
10	14	30,954	-43.9		261	6.4
7	10	33,374	-40.0			
5	5	35,676	-35.9			

LITTLE ROCK, ARK.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	.1	78	256	2.5
1000	31	157	1.7	58	269	2.9
950	31	576	4.3	48	253	12.8
900	31	1,014	3.5	45	267	15.0
850	31	1,476	1.9	41	268	15.3
800	31	1,964	.5	34	267	18.3
750	31	2,479	- 1.8		271	21.8
700	31	3,027	- 4.4		268	24.1
650	31	3,605	- 7.2		266	26.8
600	31	4,228	-10.7		267	31.7
550	31	4,887	-14.8		265	35.4
500	31	5,608	-19.8		261	36.7
450	31	6,372	-25.0		261	38.9
400	31	7,228	-31.3		263	43.3
350	31	8,160	-38.1		259	50.3
300	31	9,205	-45.1		273	49.9
250	31	10,405	-51.4		278	51.7
200	31	11,842	-54.4			
175	31	12,696	-55.1			
150	31	13,675	-57.6			
125	31	14,818	-60.2			
100	31	16,202	-62.7			
80	30	17,576	-63.7			
70	30	18,401	-63.5			
60	30	19,344	-62.6			
50	30	20,475	-60.6			
40	30	21,874	-58.2			
30	30	23,695	-55.7			
25	28	24,857	-54.2			
20	23	26,293	-52.7			
15	17	28,168	-50.9			
10	5	30,827	-48.2			
7						
5						

MCGRATH, ALASKA
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	-26.0	58	124	.4
1000	31	28				
950	31	410	-19.1	63	54	6.0
900	31	813	-11.6	69	62	9.7
850	31	1,253	-10.2	61	63	5.2
800	31	1,719	-12.2	56	73	3.5
750	31	2,207	-14.8	52	93	2.5
700	31	2,729	-18.1	49	150	2.5
650	31	3,276	-21.5	49	180	4.7
600	31	3,866	-25.4	50	195	6.4
550	31	4,484	-29.7	49	203	7.6
500	31	5,165	-34.6	48	208	10.3
450	31	5,883	-40.0		207	9.5
400	31	6,688	-45.8		220	10.7
350	31	7,565	-51.6		235	5.8
300	31	8,554	-56.1		247	10.7
250	31	9,709	-56.7		247	17.5
200	31	11,135	-53.2		253	23.1
175	31	11,997	-52.0		255	25.8
150	31	12,997	-51.0		263	28.6
125	30	14,188	-50.3		258	32.4
100	30	15,645	-49.8		262	38.5
80	30	17,107	-49.0		265	42.2
70	30	17,985	-48.5		268	44.7
60	30	19,000	-47.9		272	48.4
50	30	20,204	-47.2		277	51.9
40	30	21,683	-46.5		280	52.4
30	30	23,597	-45.3		282	59.4
25	29	24,830	-44.2		281	60.0
20	28	26,329	-43.5		283	64.3
15	17	28,262	-43.9		285	70.7
10						
7						
5						

+ MAJURO, MARSHALL IS.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	28.7	72	69	14.2
1000	31	96	27.4	72	65	17.1
950	31	539	23.0	75	65	22.1
900	31	1,018	20.0	73	72	21.6
850	31	1,510	17.4	68	79	17.7
800	31	2,027	15.2	60	78	11.8
750	31	2,567	13.6	40	78	9.7
700	31	3,151	11.4	30	73	8.2
650	31	3,761	8.0		78	7.4
600	31	4,423	4.2		85	9.3
550	31	5,119	.1		88	12.8
500	31	5,885	- 4.1		81	14.4
450	31	6,704	- 8.8		77	20.0
400	31	7,613	-14.0		67	16.5
350	31	8,614	-20.6		62	10.3
300	31	9,736	-28.9		63	5.8
250	31	11,014	-39.2		128	4.5
200	31	12,503	-51.9		143	8.4
175	31	13,354	-59.0		139	9.7
150	31	14,304	-66.7		115	8.4
125	30	15,384	-75.1		75	10.3
100	30	16,654	-81.6		84	19.2
80	30	17,910	-78.6		87	13.2
70	30	18,684	-71.3		243	2.5
60	30	19,608	-65.2		265	17.1
50	30	20,731	-60.9		269	28.6
40	30	22,132	-57.7		270	29.7
30	29	23,964	-54.2		268	29.1
25	29	25,137	-52.8		268	22.9
20	28	26,582	-51.5		274	12.4
15	24	28,460	-48.4		151	2.5
10	14	31,170	-43.7			
7	5	33,576	-39.9			
5						

MARCUS IS., N. PACIFIC
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	21.8	73	46	3.9
1000	31	151	20.7	72	52	4.3
950	31	591	17.2	75	29	3.5
900	31	1,053	14.2	74	302	1.9
850	31	1,533	11.0	72	265	5.8
800	31	2,039	9.9	49	261	9.7
750	31	2,573	9.4	34	261	15.5
700	31	3,144	7.0	27	263	21.0
650	31	3,746	3.9	27	266	25.8
600	31	4,396	.2	23	265	30.7
550	31	5,084	- 4.1	23	268	35.7
500	31	5,833	- 9.1	22	267	40.0
450	31	6,639	-14.4	21	269	45.5
400	31	7,524	-20.2	24	271	52.8
350	31	8,502	-25.9	21	269	60.2
300	31	9,603	-33.0	20	270	63.9
250	31	10,864	-41.4		270	67.8
200	31	12,343	-52.2		269	67.2
175	31	13,195	-58.3		269	65.3
150	30	14,150	-64.9		266	60.4
125	27	15,239	-72.1		264	54.6
100	23	16,536	-76.7		263	40.6
80	18	17,814	-76.0		261	28.0
70	17	18,587	-73.4		259	20.6
60	16	19,498	-68.8		250	12.0
50	16	20,601	-64.6		235	7.8
40	16	21,980	-60.0		231	6.0
30	14	23,798	-54.8		300	2.1
25	14	24,971	-52.4		33	2.1
20	14	26,416	-51.5		327	1.6
15	14	28,292	-49.5		31	4.7
10	12	30,959	-44.8		81	12.2
7	10	33,365	-41.4		110	8.9
5	8	35,655	-39.0			

MEDFORD, OREG.
974 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	401	- .1	99	249	.8
1000	31	184				
950	31	598	1.2	87	269	1.7
900	31	1,033	1.6	77	192	6.0
850	31	1,493	.2	66	218	12.0
800	31	1,977	- 2.2	66	240	18.5
750	31	2,485	- 4.9	65	255	23.3
700	31	3,028	- 7.7	62	264	25.8
650	31	3,598	-10.9	59	272	28.2
600	31	4,213	-14.5	53	278	32.6
550	31	4,862	-18.7	50	280	34.2
500	31	5,572	-23.1	49	286	41.4
450	31	6,330	-28.5	49	286	45.5
400	31	7,171	-34.8	50	289	44.1
350	31	8,090	-41.4		288	45.5
300	31	9,121	-48.6		276	47.4
250	31	10,300	-56.1		282	49.1
200	31	11,701	-59.5		289	46.0
175	31	12,541	-57.3		288	45.6
150	31	13,519	-56.4		291	40.8
125	30	14,676	-57.2		286	33.2
100	30	16,084	-58.3		288	28.7
80	29	17,489	-58.6		286	22.7
70	29	18,330	-58.3		290	15.7
60	29	19,300	-57.9		312	13.0
50	29	20,455	-56.1		333	9.1
40	28	21,884	-54.0		32	6.6
30	27	23,732	-52.2		46	9.7
25	26	24,915	-51.3		49	13.4
20	25	26,371	-50.0		52	18.5
15	21	28,260	-49.0		41	21.8
10	16	30,959	-45.8		43	31.3
7	8	33,352	-43.9			
5						

* MIAMI, FLA.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	17.7	86	79	1.2
1000	31	165	17.8	77	82	2.5
950	31	600	15.3	73	145	3.9
900	31	1,060	12.7	70	228	4.5
850	31	1,539	11.4	62	240	8.5
800	31	2,045	10.0	49	250	12.4
750	31	2,581	8.5	39	250	14.6
700	31	3,149	5.9	34	249	17.9
650	31	3,751	2.8	34	256	21.0
600	31	4,397	- 1.0	32	256	26.6
550	31	5,079	- 5.3	33	257	32.1
500	31	5,829	- 9.8	31	257	35.4
450	31	6,630	-15.1	30	257	42.0
400	31	7,516	-21.3	34	259	47.0
350	31	8,488	-28.2	34	262	53.2
300	31	9,574	-37.0	37	261	59.4
250	31	10,808	-47.3		262	64.1
200	31	12,250	-57.2		260	68.8
175	30	13,086	-61.0		259	69.3
150	30	14,038	-64.3		260	66.8
125	30	15,141	-69.2		259	57.3
100	30	16,460	-73.6		260	40.8
80	30	17,761	-74.0		257	28.9
70	30	18,553	-72.5		259	23.5
60	29	19,457	-70.0		260	16.1
50	29	20,549	-67.1		256	12.8
40	29	21,911	-62.6		268	12.6
30	28	23,713	-57.4		279	7.6
25	28	24,872	-55.2		286	8.0
20	28	26,306	-52.3		280	7.4
15	27	28,187	-48.6		274	13.4
10	24	30,890	-42.8		261	23.1
7	20	33,334	-37.5		253	42.5
5	13	35,655	-34.8		258	49.1

* MIDLAND, TEXAS
916 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	874	- .2	52	266	5.4
1000	31	168				
950	31	582				
900	31	1,020	5.2	36	274	7.0
850	31	1,488	5.2	34	272	14.2
800	31	1,981	3.2	34	274	16.9
750	31	2,503	.5	36	271	19.8
700	31	3,053	- 2.7	38	269	21.6
650	31	3,635	- 6.0	38	268	23.5
600	31	4,260	- 9.6	38	264	28.9
550	31	4,922	-13.9	36	264	33.0
500	31	5,645	-18.9	35	260	35.7
450	31	6,416	-24.6	32	260	39.6
400	31	7,269	-31.1	33	264	41.2
350	31	8,203	-37.7	35	263	47.8
300	31	9,251	-44.3		263	57.7
250	31	10,453	-51.7		259	60.8
200	31	11,884	-55.3		261	61.0
175	31	12,735	-56.1		263	59.8
150	31	13,711	-58.2		259	58.3
125	31	14,850	-61.5		263	53.0
100	31	16,222	-65.4		260	42.9
80	31	17,575	-66.3		261	38.1
70	31	18,394	-64.7		261	33.6
60	30	19,328	-62.9		265	24.5
50	29	20,457	-61.5		264	14.8
40	28	21,851	-58.8		265	11.3
30	27	23,668	-55.9		270	8.9
25	26	24,832	-54.5		281	8.4
20	26	26,267	-52.3		299	7.2
15	23	28,129	-50.6		335	4.7
10	21	30,784	-47.7		300	11.1
7	15	33,150	-44.8		307	15.3
5						

MONTGOMERY, ALA.
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	3.7	82	72	3.3
1000	31	168	6.0	68	1	.8
950	31	585	6.6	60	265	6.4
900	31	1,033	6.1	54	268	10.9
850	31	1,500	4.9	44	271	15.3
800	31	1,994	3.7	40	267	18.8
750	31	2,516	1.9	41	263	26.2
700	31	3,070	- .7	40	262	29.3
650	31	3,653	- 4.4	40	263	34.2
600	31	4,284	- 8.4		259	39.4
550	31	4,949	-12.5		256	44.5
500	31	5,675	-16.9		257	54.2
450	31	6,457	-21.7		254	61.8
400	31	7,317	-27.3		254	69.2
350	31	8,267	-33.9		253	79.6
300	31	9,331	-41.1		253	92.3
250	31	10,548	-49.7		257	105.9
200	30	11,987	-55.7		255	96.0
175	29	12,835	-57.1		253	92.9
150	29	13,804	-60.3		258	83.1
125	29	14,933	-63.5		263	70.5
100	29	16,293	-66.4		264	55.2
80	27	17,643	-67.2		262	40.4
70	27	18,453	-66.2		263	34.0
60	26	19,390	-65.2		266	27.6
50	26	20,507	-62.8		268	19.4
40	25	21,892	-60.0		275	14.4
30	24	23,699	-56.7		285	10.5
25	24	24,860	-54.7		304	9.5
20	23	26,294	-52.4		304	8.9
15	19	28,154	-50.0		291	11.8
10	11	30,810	-45.8			
7						
5						

NANTUCKET, MASS.
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	- .4	76	293	5.1
1000	31	117			281	6.0
950	31	523	- 1.7	69	282	13.8
900	31	956	- 3.1	60	283	18.8
850	31	1,408	- 4.2	51	281	24.3
800	31	1,886	- 5.3	49	277	27.6
750	31	2,389	- 7.1	48	275	32.4
700	31	2,928	- 9.1	47	273	38.7
650	31	3,496	-11.7	46	273	43.1
600	31	4,109	-14.8	42	273	50.5
550	31	4,760	-18.8		273	51.9
500	31	5,467	-23.5	39	277	56.1
450	31	6,223	-28.8		276	62.9
400	31	7,063	-34.3		273	66.0
350	31	7,986	-40.3		276	72.3
300	31	9,023	-46.3		273	78.7
250	31	10,219	-52.0		273	79.8
200	31	11,653	-54.5		271	88.8
175	31	12,509	-54.6		269	79.8
150	29	13,506	-55.8		271	66.2
125	29	14,661	-57.5		272	59.4
100	29	16,063	-59.4		272	52.1
80	27	17,467	-60.6		272	42.5
70	27	18,299	-60.4		268	41.8
60	27	19,258	-60.1		274	37.5
50	27	20,399	-59.2		275	29.7
40	26	21,799	-58.0		283	22.0
30	25	23,611	-56.6		283	24.3
25	23	24,778	-55.7		284	31.1
20	22	26,207	-54.2		283	35.7
15	21	28,057	-52.1		281	44.5
10	20	30,699	-48.6		276	62.4
7	18	33,046	-45.6		272	77.7
5	10	35,204	-45.2			

NASHVILLE, TENN.
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	.1	75	198	2.5
1000	31	150			315	3.1
950	31	563	1.9	55	241	10.7
900	31	999	1.7	48	254	15.3
850	31	1,460	.3	42	258	17.5
800	31	1,944	- 1.2	37	255	19.8
750	31	2,455	- 3.2	35	257	23.1
700	31	3,000	- 5.8		256	26.2
650	31	3,574	- 8.8		260	28.9
600	31	4,195	-12.0		262	35.2
550	31	4,853	-16.2	35	261	38.5
500	31	5,566	-21.0		258	41.8
450	31	6,330	-26.3		256	45.1
400	31	7,178	-32.2		255	46.2
350	31	8,108	-38.7		249	53.4
300	31	9,150	-45.3		244	59.1
250	31	10,349	-51.5		243	70.1
200	31	11,784	-54.5		242	78.7
175	30	12,638	-55.6			
150	30	13,616	-57.4			
125	30	14,761	-60.3			
100	30	16,140	-63.5			
80	28	17,510	-63.1			
70	28	18,336	-62.9			
60	28	19,282	-62.1			
50	27	20,414	-60.5			
40	27	21,809	-59.0		260	26.0
30	27	23,626	-55.7			
25	26	24,790	-54.5			
20	26	26,224	-52.7		273	21.2
15	25	28,085	-50.7		280	22.7
10	24	30,744	-48.1			
7	22	33,110	-44.9			
5	18	35,369	-42.4			

NOME, ALASKA
1001 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	7	-17.3	69	73	7.0
1000	28	13			84	4.3
950	28	407	-13.4	58	111	5.4
900	28	814	-13.2	60	132	4.9
850	28	1,248	-13.9	62	174	3.3
800	28	1,707	-15.2	64	187	5.6
750	28	2,194	-17.6	63	205	8.2
700	28	2,706	-20.6	58	208	9.1
650	28	3,250	-24.0	54	214	8.9
600	28	3,831	-28.1	50	216	9.1
550	28	4,449	-32.0		218	10.1
500	28	5,118	-36.1		219	11.5
450	28	5,842	-40.9		227	14.2
400	28	6,634	-46.4		237	16.1
350	28	7,510	-51.9		231	19.6
300	28	8,497	-56.6		231	20.4
250	28	9,648	-57.5		234	21.6
200	28	11,071	-53.5		241	23.5
175	28	11,932	-52.4		247	28.9
150	28	12,931	-51.7		252	33.8
125	28	14,115	-50.8		254	38.7
100	28	15,571	-50.1		256	45.8
80	27	17,024	-49.4		260	50.1
70	26	17,908	-49.2		262	56.3
60	26	18,910	-48.4		263	59.2
50	26	20,113	-47.4		265	62.5
40	24	21,589	-46.9		267	67.6
30	24	23,498	-45.9		271	76.9
25	24	24,713	-45.2		272	75.8
20	23	26,217	-44.1		275	88.6
15	15	28,106	-43.9		276	94.8
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1964

NORFOLK, VA.
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	3.0	74	237	4.5
1000	31	145	5.0	60	243	5.8
950	31	563	4.9	51	267	12.0
900	31	1,004	3.2	48	267	15.5
850	31	1,467	2.0	42	273	18.6
800	31	1,955	.4	41	270	23.7
750	31	2,468	- 1.8	40	264	27.0
700	31	3,018	- 4.8	38	263	31.9
650	31	3,593	- 7.4	36	263	36.1
600	31	4,218	-10.3		264	41.8
550	31	4,877	-14.9		263	45.8
500	31	5,599	-19.5		264	51.7
450	31	6,369	-24.4		264	59.4
400	31	7,223	-30.5		264	63.7
350	31	8,159	-37.0		264	74.8
300	31	9,209	-43.9		263	85.9
250	31	10,413	-51.4		264	95.2
200	30	11,838	-55.3		271	95.2
175	30	12,688	-55.9		271	92.9
150	30	13,665	-57.6		272	81.8
125	30	14,808	-60.5		268	71.1
100	29	16,187	-63.2		269	57.3
80	29	17,558	-63.7		265	47.8
70	29	18,385	-63.4		265	41.6
60	27	19,337	-62.0		266	34.4
50	27	20,469	-60.6		271	23.0
40	27	21,865	-58.8		286	19.2
30	27	23,682	-56.5		296	13.4
25	26	24,846	-54.7		301	12.4
20	23	26,278	-52.6		297	15.5
15	12	28,122	-50.1			
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NORTH PLATTE, NEBR.
914 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	848	- 7.9	69	308	4.1
1000	31	144				
950	31	549				
900	31	970	- 4.1	63	301	8.2
850	31	1,426	- .8	44	302	18.3
800	31	1,909	- 2.5	40	305	18.6
750	31	2,418	- 5.4	43	306	20.8
700	31	2,956	- 8.5	40	301	23.1
650	31	3,527	-12.2	39	295	25.8
600	31	4,134	-16.1	38	289	26.6
550	31	4,782	-20.4	38	290	28.6
500	31	5,482	-25.4	36	286	29.3
450	31	6,234	-31.0		287	30.3
400	31	7,063	-37.4		285	31.5
350	31	7,971	-44.2		293	31.1
300	31	8,988	-50.8		281	34.6
250	31	10,159	-55.9		280	39.2
200	31	11,578	-55.1		277	41.2
175	31	12,431	-54.5		274	42.9
150	31	13,418	-54.9		274	41.8
125	31	14,581	-55.9		276	38.3
100	31	15,990	-58.7		278	32.6
80	31	17,390	-59.0		286	24.9
70	31	18,236	-58.4		279	21.0
60	31	19,200	-57.8		281	19.4
50	31	20,351	-57.4		289	18.1
40	31	21,765	-56.0		301	11.8
30	31	23,603	-54.5		316	9.9
25	31	24,772	-53.9		321	11.5
20	31	26,211	-52.5		326	13.4
15	29	28,081	-51.0		323	15.9
10	28	30,728	-49.2		315	18.6
7	24	33,088	-47.7		297	26.4
5	19	35,200	-45.6			

* OAKLAND, CALIF.
1022 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	6.5	82	102	1.0
1000	31	184	8.3	67	329	1.4
950	31	606	7.3	58	326	5.8
900	31	1,051	6.1	53	322	8.5
850	31	1,518	4.2	49	309	10.1
800	31	2,009	1.7	44	301	14.2
750	31	2,525	- .9	38	305	15.7
700	31	3,076	- 3.7	33	307	20.2
650	31	3,654	- 7.1	34	304	24.3
600	31	4,278	-11.0	34	300	28.2
550	31	4,938	-15.3	35	298	31.5
500	31	5,655	-20.1	36	300	37.1
450	31	6,420	-25.7	36	297	43.3
400	31	7,272	-31.9	36	297	44.5
350	31	8,202	-39.1	36	297	48.6
300	30	9,245	-47.1		296	50.7
250	30	10,430	-55.6		299	54.0
200	30	11,831	-60.8		294	53.8
175	30	12,664	-59.0		291	49.0
150	30	13,635	-58.2		289	48.4
125	29	14,785	-59.6		290	40.0
100	29	16,175	-61.7		290	32.1
80	28	17,557	-62.2		292	23.3
70	28	18,383	-61.0		298	18.6
60	27	19,344	-60.4		294	12.8
50	24	20,493	-59.5		342	8.4
40	23	21,895	-57.0		27	7.2
30	23	23,728	-54.3		35	8.5
25	22	24,902	-53.3		47	10.7
20	22	26,342	-51.7		45	13.6
15	22	28,219	-49.4		63	16.9
10	19	30,886	-47.3		54	20.0
7	8	33,256	-43.8			
5						

OKLAHOMA CITY, OKLA.
970 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	392	- .2	63	209	2.7
1000	31	144				
950	31	561	3.2	50	224	7.4
900	31	998	4.6	36	253	15.9
850	31	1,463	3.7	31	255	17.3
800	31	1,953	1.5	30	258	18.8
750	31	2,468	- 1.5	31	258	20.0
700	31	3,017	- 4.4		263	21.8
650	31	3,594	- 7.5		265	25.1
600	31	4,216	-11.7		261	27.8
550	31	4,875	-16.0		258	31.1
500	31	5,588	-21.1		255	35.7
450	31	6,252	-26.8		258	38.9
400	31	7,197	-33.0		259	44.3
350	31	8,124	-39.6		258	47.2
300	31	9,163	-46.4		258	59.1
250	31	10,359	-52.3		260	67.8
200	31	11,790	-54.5		260	73.6
175	30	12,646	-54.6		261	70.3
150	30	13,629	-56.4		261	64.9
125	30	14,778	-59.3		262	58.1
100	30	16,169	-61.7		264	48.4
80	29	17,536	-62.9		265	37.3
70	28	18,368	-62.5		263	32.1
60	27	19,315	-61.3		266	24.3
50	26	20,451	-59.6		272	17.9
40	24	21,852	-57.4		274	15.5
30	23	23,681	-55.4		297	10.7
25	18	24,841	-53.9		324	7.4
20	15	26,282	-50.8		351	6.0
15	10	28,155	-50.2			
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OLYMPIA, WASH.
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	58	3.7	94	195	8.2
1000	31	113			199	8.9
950	31	531	2.9	79	207	18.3
900	31	967	.5	76	223	22.1
850	31	1,425	- 1.7	73	241	22.0
800	31	1,905	- 4.3	68	248	22.7
750	31	2,409	- 7.0	65	251	24.1
700	31	2,947	-10.1	59	255	26.0
650	31	3,510	-13.5	57	257	28.7
600	31	4,120	-17.5	54	261	31.9
550	31	4,759	-21.7	51	269	35.2
500	31	5,463	-26.4	50	277	39.4
450	31	6,209	-31.6	46	282	44.7
400	31	7,040	-37.3	46	284	52.1
350	31	7,950	-43.8		296	56.5
300	31	8,970	-50.3		297	61.8
250	31	10,143	-56.1		294	57.9
200	31	11,559	-55.6		292	47.6
175	31	12,414	-53.6		287	42.9
150	31	13,406	-53.4		287	40.8
125	31	14,575	-54.5		289	38.1
100	31	16,001	-55.1		289	32.1
80	31	17,429	-54.5		294	24.7
70	30	18,288	-54.4		296	21.6
60	30	19,275	-54.1		303	16.5
50	29	20,450	-53.3		315	14.0
40	28	21,891	-51.9		329	14.2
30	23	23,774	-50.2		351	11.5
25	21	24,968	-49.7		9	14.6
20	16	26,440	-48.3		10	26.2
15	8	28,363	-46.8			
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OMAHA, NEBR.
966 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	403	- 5.0	71	266	3.7
1000	31	124				
950	31	529	- 2.6	66	285	6.2
900	31	962	.6	45	303	11.8
850	31	1,420	- .9	39	305	14.8
800	31	1,902	- 3.3	39	299	16.7
750	31	2,405	- 5.9	37	289	17.9
700	31	2,948	- 9.0	36	287	21.0
650	31	3,512	-12.2	39	287	23.9
600	31	4,127	-15.8	42	279	28.2
550	31	4,773	-20.1	44	279	30.1
500	31	5,478	-25.0	46	280	32.4
450	31	6,228	-30.5	48	278	34.8
400	31	7,063	-36.8		276	37.7
350	31	7,975	-43.6		277	43.1
300	31	8,997	-49.9		275	51.1
250	31	10,176	-54.5		274	52.8
200	31	11,603	-54.1		269	52.6
175	31	12,461	-53.5		270	51.7
150	31	13,451	-54.1		269	49.1
125	31	14,617	-55.5		272	46.8
100	31	16,033	-57.5		273	39.6
80	30	17,436	-58.2		274	31.3
70	30	18,279	-58.1		275	28.6
60	30	19,250	-57.2		282	26.2
50	29	20,404	-56.6		284	19.8
40	29	21,823	-55.3		295	17.3
30	29	23,662	-54.6		308	16.5
25	27	24,839	-53.3		316	15.5
20	27	26,278	-52.4		315	18.8
15	16	28,138	-51.8		308	23.5
10	8	30,771	-48.8			
7						
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PEORIA, ILL.
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	200	- 4.9	82	232	2.1
1000	30	131				
950	30	539	- 1.3	66	262	13.8
900	30	969	- 1.2	56	273	17.1
850	30	1,424	- 2.2	50	281	18.5
800	30	1,904	- 4.0	46	280	20.6
750	30	2,413	- 6.0	45	277	23.3
700	30	2,950	- 8.5	41	274	25.8
650	30	3,521	-11.6	39	273	28.2
600	30	4,131	-15.1	37	271	32.1
550	30	4,781	-19.5	36	270	34.6
500	30	5,484	-24.4		267	38.3
450	30	6,237	-29.7	37	267	44.3
400	30	7,073	-35.8	36	263	47.2
350	30	7,988	-42.0		263	52.4
300	30	9,016	-49.0		261	56.1
250	30	10,197	-54.2		261	59.2
200	30	11,626	-54.4		263	62.2
175	30	12,482	-53.8		263	60.2
150	29	13,472	-54.3		264	58.7
125	29	14,635	-56.3		265	50.7
100	29	16,046	-58.4		264	43.9
80	28	17,447	-59.6		265	35.9
70	28	18,288	-59.3		269	31.9
60	28	19,251	-58.7		272	27.0
50	28	20,400	-57.6		282	21.6
40	27	21,807	-56.8		290	19.2
30	25	23,630	-55.1		296	20.4
25	25	24,796	-54.2		302	22.9
20	24	26,231	-52.8		297	24.5
15	23	28,098	-50.5		299	27.2
10	23	30,756	-47.7		304	32.6
7	22	33,116	-45.8		298	39.4
5	16	35,384	-41.8		284	44.1

PITTSBURGH, PA.
973 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	353	- 3.1	71	225	4.1
1000	31	142				
950	31	549	- 2.0	66	230	8.5
900	31	978	- 2.9	61	251	15.3
850	31	1,431	- 4.1	54	258	18.8
800	31	1,908	- 5.6	45	260	22.1
750	31	2,409	- 7.3	43	262	26.0
700	31	2,948	- 9.5	40	266	28.9
650	31	3,517	-12.0	40	268	34.0
600	31	4,128	-15.2	39	267	39.0
550	31	4,777	-19.2	37	270	43.5
500	31	5,484	-23.5	36	271	50.1
450	31	6,240	-29.0		268	51.1
400	31	7,080	-34.3		269	55.0
350	31	8,003	-40.5		270	56.9
300	31	9,039	-46.5		262	62.0
250	31	10,232	-52.4		260	69.7
200	31	11,664	-55.2		261	75.6
175	31	12,517	-55.0		263	73.6
150	31	13,500	-55.9		266	69.3
125	30	14,655	-57.7		266	61.4
100	30	16,055	-60.2		267	57.3
80	30	17,449	-59.6		271	39.6
70	30	18,285	-59.7		269	36.7
60	30	19,247	-60.0		268	29.1
50	29	20,394	-59.3		274	30.7
40	28	21,798	-57.6		282	24.1
30	28	23,618	-56.4		286	22.1
25	28	24,778	-55.2		294	26.0
20	28	26,208	-53.7		300	25.1
15	27	28,066	-51.5		290	31.1
10	25	30,704	-49.3		285	40.2
7	22	33,051	-47.1		282	50.9
5	16	35,247	-45.3		274	71.1

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	39	28.6	73	60	9.5
1000	30	86	28.0	73	64	10.9
950	30	530	23.3	80	73	17.7
900	30	1,011	19.5	83	73	22.0
850	30	1,502	17.4	72	80	19.2
800	30	2,020	15.7	60	74	13.4
750	30	2,562	13.3	47	68	8.9
700	30	3,145	10.7	32	77	5.1
650	30	3,754	7.3		91	7.0
600	30	4,414	3.8		92	11.1
550	30	5,113	.4		92	15.2
500	30	5,877	- 3.8		90	16.9
450	30	6,694	- 8.8		91	21.2
400	30	7,607	-14.5		84	19.2
350	30	8,605	-21.5		84	14.8
300	30	9,723	-29.7		83	8.7
250	30	10,996	-40.0		133	6.4
200	30	12,481	-52.3		142	10.7
175	30	13,331	-59.2		140	10.9
150	30	14,279	-67.0		115	10.7
125	30	15,257	-75.5		88	15.9
100	30	16,623	-82.6		89	23.3
80	30	17,877	-78.0		95	14.8
70	30	18,652	-71.5		218	2.7
60	30	19,576	-65.2		264	15.7
50	30	20,698	-61.1		267	23.9
40	30	22,093	-57.9		270	28.0
30	29	23,922	-54.4		272	30.5
25	26	25,094	-52.3		271	22.5
20	25	26,543	-50.8		257	9.3
15	18	28,424	-49.8		151	5.1
10	7	31,090	-44.8			
7						
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PORTLAND, ME.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	20	- 7.0	78	299	4.5
1000	31	108			291	6.8
950	31	511	- 4.7	57	296	10.7
900	31	936	- 6.2	57	308	15.9
850	31	1,383	- 7.3	56	304	18.6
800	31	1,855	- 7.8	48	298	22.0
750	31	2,355	- 9.8	42	291	25.4
700	31	2,886	-11.7	38	282	29.9
650	31	3,449	-14.3	39	279	34.4
600	31	4,055	-17.3		280	40.0
550	31	4,698	-21.2	42	279	43.1
500	31	5,400	-25.7	44	276	47.2
450	31	6,148	-30.8	41	276	55.4
400	31	6,984	-36.6		278	62.4
350	31	7,899	-42.2		276	70.1
300	31	8,928	-48.0		272	73.4
250	31	10,118	-52.2		268	75.8
200	31	11,557	-53.6		270	74.2
175	31	12,417	-53.3		271	67.4
150	31	13,408	-54.3		270	57.9
125	31	14,572	-56.0		268	56.3
100	31	15,985	-57.6		268	50.3
80	31	17,391	-58.5		269	48.0
70	31	18,233	-58.3		271	40.6
60	31	19,201	-58.2		273	39.6
50	30	20,350	-58.1		274	36.9
40	29	21,760	-57.9		279	31.7
30	26	23,564	-57.8		282	32.4
25	25	24,713	-56.3		286	36.9
20	20	26,113	-54.5		288	40.8
15	8	27,951	-53.3			
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RAPID CITY, S. DAK.
900 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	966	- 4.8	65	302	5.1
1000	31	132				
950	31	538				
900	31	969			314	6.6
850	31	1,423	- 1.6	46	312	15.7
800	31	1,904	- 3.9	47	314	21.6
750	31	2,408	- 7.1	49	313	23.7
700	31	2,945	-10.1	47	309	24.3
650	31	3,511	-13.6	44	304	25.4
600	31	4,117	-17.4	41	300	28.4
550	31	4,758	-21.9	41	297	29.9
500	31	5,456	-27.4	41	294	33.8
450	31	6,203	-33.0	38	287	35.9
400	31	7,025	-39.1		287	39.6
350	31	7,927	-45.7		289	45.5
300	30	8,934	-52.0		286	47.4
250	30	10,104	-55.2		282	48.8
200	30	11,527	-54.6		281	45.1
175	30	12,384	-53.4		279	45.8
150	30	13,377	-53.3		276	44.9
125	30	14,550	-54.0		279	41.8
100	30	15,974	-56.7		281	34.0
80	30	17,387	-56.5		280	29.1
70	30	18,238	-56.9		284	24.5
60	30	19,213	-56.0		283	20.6
50	30	20,374	-55.2		288	18.1
40	29	21,799	-54.6		300	16.1
30	27	23,649	-53.1		321	16.1
25	26	24,822	-52.5		326	16.5
20	21	26,270	-52.2		327	19.2
15	10	28,142	-51.7			
10						

ST. CLOUD, MINN.
974 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	316	-10.8	80	252	1.0
1000	31	108				
950	31	507	- 7.6	74	276	4.9
900	31	928	- 6.1	64	300	13.2
850	31	1,376	- 6.1	50	301	17.9
800	31	1,849	- 7.5	45	296	19.2
750	31	2,348	-10.0	43	292	21.8
700	31	2,879	-13.0	40	291	22.9
650	31	3,438	-16.0	38	289	27.2
600	31	4,040	-19.3		286	29.7
550	31	4,677	-23.4		283	31.9
500	31	5,373	-28.2		283	35.7
450	31	6,113	-33.6	39	284	38.7
400	31	6,937	-40.0		282	41.2
350	31	7,837	-46.2		279	43.9
300	31	8,849	-51.8		278	48.0
250	31	10,020	-55.3		276	49.7
200	31	11,446	-53.7		276	50.1
175	31	12,305	-53.4		276	48.8
150	31	13,298	-53.2		276	47.0
125	31	14,470	-54.4		277	44.5
100	31	15,895	-55.7		278	38.9
80	31	17,315	-56.4		283	34.8
70	31	18,162	-56.4		281	31.3
60	30	19,150	-56.3		280	27.0
50	30	20,308	-55.9		292	25.8
40	30	21,730	-55.5		293	26.0
30	30	23,566	-54.9		304	28.9
25	29	24,735	-54.3		307	29.7
20	28	26,166	-53.6		311	30.5
15	20	28,011	-51.4		310	42.0
10	6	30,736	-47.3			

ST. PAUL IS., ALASKA
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	10	- 2.8	88	28	4.9
1000	31	- 55				
950	31	347	- 5.1	84	18	4.1
900	31	773	- 7.8	82	360	1.7
850	31	1,217	- 9.6	74	312	1.0
800	31	1,683	-12.1	66	218	1.0
750	31	2,170	-14.8	57	176	1.7
700	31	2,693	-17.9	55	202	4.5
650	31	3,241	-21.5	53	210	3.9
600	31	3,830	-25.4	51	226	5.2
550	31	4,448	-29.7	52	228	4.7
500	31	5,129	-34.6	54	231	5.1
450	31	5,855	-39.9		198	6.2
400	31	6,652	-45.4		175	11.1
350	31	7,532	-50.7		177	13.2
300	31	8,529	-53.4		197	18.5
250	31	9,701	-53.1		215	19.6
200	31	11,149	-49.9		225	21.8
175	31	12,024	-49.0		231	23.5
150	31	13,037	-48.4		237	24.1
125	31	14,238	-47.7		240	26.0
100	31	15,714	-47.0		240	27.4
80	31	17,194	-46.4		246	29.1
70	31	18,083	-46.0		245	27.2
60	30	19,105	-45.7		247	26.6
50	29	20,319	-45.1		253	25.6
40	28	21,811	-44.1		255	23.7
30	26	23,751	-42.5		264	23.3
25	25	24,984	-42.0		268	23.3
20	24	26,501	-41.4		271	22.3
15	19	28,443	-40.9		267	18.3
10	7	31,134	-42.3			

SALEM, OREG.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	4.6	88	181	9.5
1000	31	147			190	10.9
950	31	563	3.9	75	204	19.8
900	31	1,003	1.6	75	222	22.1
850	31	1,462	- .8	73	235	24.5
800	31	1,944	- 3.3	72	244	25.8
750	31	2,449	- 5.9	68	250	27.6
700	31	2,990	- 8.9	65	255	28.7
650	31	3,555	-12.2	61	258	31.9
600	31	4,169	-15.8	56	262	34.4
550	31	4,813	-20.1	55	264	38.3
500	31	5,520	-24.4	50	270	42.3
450	31	6,273	-29.8	46	277	47.4
400	31	7,110	-36.0	46	282	47.6
350	31	8,024	-42.8		286	53.0
300	31	9,049	-49.6		284	56.7
250	31	10,222	-56.5		287	56.9
200	31	11,630	-57.2		285	52.8
175	31	12,480	-54.7		285	46.2
150	31	13,467	-54.6		282	42.0
125	31	14,630	-55.9		279	36.9
100	31	16,047	-56.5		283	34.2
80	31	17,463	-56.3		289	23.5
70	31	18,314	-55.7		293	19.8
60	30	19,299	-56.0		302	16.3
50	30	20,462	-55.1		314	11.3
40	30	21,894	-52.7		327	10.5
30	28	23,761	-51.4		17	8.9
25	27	24,946	-50.5		27	12.6
20	22	26,404	-49.3		32	16.7
15	9	28,296	-48.7			
10						

SALT LAKE CITY, UTAH
875 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,288	- 7.0	82	159	6.0
1000	31	233				
950	31	639				
900	31	1,066				
850	31	1,515	- 4.3	69	175	7.8
800	31	1,993	- 4.6	61	214	6.8
750	31	2,502	- 6.9	59	258	10.5
700	31	3,035	- 9.6	58	287	15.3
650	31	3,605	-12.9	58	291	19.0
600	31	4,211	-16.8	54	289	21.8
550	31	4,856	-20.6	48	294	27.4
500	31	5,559	-25.2	43	298	32.2
450	31	6,313	-30.4	43	299	35.2
400	31	7,144	-36.5		307	38.3
350	31	8,056	-42.8		314	46.2
300	31	9,082	-49.4		309	46.4
250	31	10,257	-56.4		305	45.6
200	31	11,667	-57.1		296	46.8
175	31	12,516	-55.2		288	44.1
150	31	13,501	-54.9		285	38.7
125	31	14,662	-56.9		285	36.5
100	31	16,066	-58.8		277	31.3
80	31	17,466	-58.7		281	25.1
70	31	18,312	-59.1		287	16.1
60	30	19,269	-58.2		294	14.2
50	30	20,422	-56.6		307	10.7
40	29	21,842	-54.8		331	8.0
30	27	23,691	-52.9		3	10.3
25	25	24,869	-52.1		32	11.5
20	24	26,314	-51.3		29	13.6
15	19	28,188	-49.9		13	16.3
10	6	30,826	-47.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SAN ANTONIO, TEXAS
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	243	6.7	75	340	2.7
1000	31	164				
950	31	588	7.9	60	231	4.7
900	31	1,032	7.2	51	235	10.3
850	31	1,503	6.8	42	239	12.2
800	31	2,000	5.2	31	246	15.2
750	31	2,525	2.8		251	19.0
700	31	3,081	.2		258	22.7
650	31	3,671	- 3.2		257	28.4
600	31	4,300	- 7.3		252	33.2
550	31	4,970	-12.0		253	35.4
500	31	5,697	-16.6		254	42.0
450	31	6,477	-21.9		254	46.8
400	31	7,339	-27.8		253	56.7
350	31	8,286	-34.2		252	68.0
300	31	9,347	-41.9		252	75.6
250	31	10,560	-49.8		250	87.8
200	31	11,997	-55.9		253	77.7
175	31	12,843	-57.7		255	75.0
150	31	13,810	-59.9		255	67.4
125	31	14,940	-63.3		256	59.2
100	30	16,299	-67.3		257	48.6
80	30	17,644	-67.1		254	33.8
70	30	18,458	-66.4		257	28.6
60	29	19,387	-65.0		257	22.0
50	29	20,503	-62.9		256	15.7
40	29	21,890	-59.2		272	9.1
30	27	23,711	-56.5		276	6.6
25	26	24,873	-54.7		282	4.7
20	26	26,308	-52.5		282	4.3
15	18	28,182	-50.4			
10	8	30,822	-47.2			
7						
5						

SAN DIEGO, CALIF.
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	124	7.5	72	63	1.7
1000	31	164	9.8	63	46	1.7
950	31	593	11.0	47	352	1.6
900	31	1,042	9.3	39	323	4.5
850	31	1,514	7.1	34	312	6.8
800	31	2,011	4.7	30	314	8.4
750	31	2,531	2.5	28	311	13.2
700	31	3,090	- .3		308	16.7
650	31	3,672	- 3.9		304	20.6
600	31	4,308	- 8.2		302	23.3
550	31	4,966	-12.6	26	301	25.1
500	31	5,698	-17.6		301	27.4
450	31	6,468	-23.4		298	31.5
400	31	7,329	-30.2		298	34.4
350	31	8,266	-37.3		298	38.7
300	31	9,313	-45.2		295	41.2
250	31	10,510	-52.9		298	42.3
200	31	11,931	-57.8		289	45.8
175	30	12,774	-57.9		281	46.8
150	30	13,745	-58.4		282	43.9
125	30	14,884	-61.1		282	40.6
100	30	16,262	-64.0		281	32.6
80	30	17,624	-64.8		289	26.0
70	30	18,443	-64.0		291	20.4
60	30	19,389	-61.5		294	14.6
50	30	20,522	-59.9		306	8.2
40	29	21,921	-57.3		337	4.1
30	29	23,754	-53.7		14	3.5
25	27	24,929	-52.3		65	4.9
20	26	26,377	-50.9		71	5.1
15	19	28,260	-48.6		33	5.2
10						
7						
5						

* SAN JUAN, P. R.
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	22.3	85	108	2.9
1000	31	154	22.8	73	96	10.3
950	31	594	19.6	72	85	14.0
900	31	1,063	16.4	71	85	14.6
850	31	1,548	13.4	68	83	14.8
800	31	2,057	11.5	52	86	12.4
750	31	2,596	10.0	35	83	11.7
700	31	3,168	9.0	20	80	9.9
650	31	3,778	6.2	18	83	7.0
600	31	4,431	2.6	15	84	6.8
550	31	5,123	- 1.6	15	97	4.3
500	31	5,881	- 6.4	14	67	3.5
450	31	6,692	-12.1	14	30	1.6
400	31	7,587	-18.7	15	310	4.7
350	31	8,568	-26.0	15	307	10.7
300	31	9,664	-34.7	16	312	14.6
250	31	10,911	-44.4		290	20.0
200	31	12,373	-54.0		282	30.5
175	31	13,219	-59.0		283	33.4
150	31	14,172	-65.0		282	29.7
125	31	15,265	-71.5		283	21.4
100	31	16,562	-77.3		289	12.0
80	30	17,838	-76.9		354	5.2
70	30	18,619	-74.2		27	5.8
60	29	19,514	-71.0		26	4.9
50	28	20,607	-65.8		347	3.3
40	28	21,985	-58.6		288	10.5
30	28	23,814	-53.9		268	13.0
25	28	24,991	-51.6		287	12.4
20	28	26,449	-48.5		266	12.4
15	28	28,351	-46.3		248	14.4
10	26	31,064	-42.3		242	15.0
7	21	33,494	-36.4		235	7.8
5	6	35,790	-33.9			

SANTA MONICA, CALIF.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	38	10.7	55	16	4.3
1000	31	161	12.4	47	19	4.1
950	31	587	11.1	43	357	2.3
900	31	1,040	9.2	35	290	2.3
850	31	1,512	6.9	34	313	5.6
800	31	2,008	4.8	30	317	8.9
750	31	2,528	2.2	28	310	13.6
700	31	3,086	- 1.3		300	17.7
650	31	3,665	- 5.0		304	20.6
600	31	4,298	- 9.1		301	24.1
550	31	4,956	-13.5		302	26.2
500	31	5,685	-18.5		298	27.6
450	31	6,452	-24.5		298	32.1
400	31	7,310	-31.1		296	34.0
350	31	8,244	-38.2		300	38.7
300	31	9,288	-46.2		301	41.4
250	31	10,480	-54.0		299	44.3
200	31	11,897	-58.0		295	44.9
175	31	12,736	-58.6		292	46.4
150	31	13,706	-58.5		287	45.3
125	31	14,847	-61.3		285	40.2
100	31	16,224	-63.7		284	33.4
80	30	17,593	-64.7		287	25.4
70	30	18,413	-63.5		290	20.4
60	30	19,361	-61.5		299	11.3
50	30	20,494	-60.2		302	8.7
40	30	21,895	-57.4		325	6.2
30	29	23,725	-54.3		26	5.1
25	29	24,898	-52.7		45	5.8
20	24	26,348	-51.0		53	5.2
15	22	28,226	-49.0		45	1.7
10	8	30,913	-45.3			
7						
5						

SAULT STE. MARIE, MICH.
984 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	221	- 6.9	87	273	1.2
1000	31	89				
950	31	490	- 6.5	83	255	[illegible]
900	31	912	- 7.4	76	267	12.0
850	31	1,356	- 8.6	66	272	14.6
800	31	1,825	- 9.9	60	274	16.5
750	31	2,321	-12.0	54	272	18.1
700	31	2,847	-14.2	53	272	20.6
650	31	3,404	-17.1	55	270	25.6
600	31	4,002	-20.2	51	272	29.1
550	31	4,641	-24.1	48	273	32.2
500	31	5,331	-29.0	49	272	35.2
450	31	6,074	-34.1	47	271	38.3
400	31	6,891	-39.6		272	45.6
350	31	7,792	-45.6		267	51.3
300	31	8,807	-50.9		264	54.2
250	31	9,982	-54.4		264	58.3
200	31	11,408	-54.1		265	55.8
175	31	12,265	-53.5		269	52.4
150	31	13,257	-53.2		272	50.7
125	31	14,428	-54.4		271	46.2
100	31	15,655	-55.3		275	42.2
80	31	17,273	-56.7		275	39.6
70	30	18,123	-56.6		277	38.9
60	30	19,093	-56.9		281	37.3
50	29	20,245	-57.3		281	34.4
40	26	21,646	-57.5		289	37.3
30	26	23,466	-56.8		294	40.2
25	26	24,624	-56.1		294	41.6
20	24	26,038	-55.9		301	45.8
15	23	27,678	-54.1		302	50.7
10	20	30,480	-51.7		303	59.2
7	16	32,787	-50.3		292	65.9
5	14	34,938	-48.2			

SHEMYA, ALASKA
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	38	- 1.2	77	359	3.7
1000	31	- 34				
950	31	373	- 3.6	71	2	3.3
900	31	799	- 7.1	75	2	2.5
850	31	1,242	-10.5	76	316	1.7
800	31	1,706	-13.5	69	279	2.7
750	31	2,192	-16.7	61	268	4.1
700	31	2,709	-19.8	55	270	6.6
650	31	3,253	-23.1	51	274	8.9
600	31	3,838	-27.0	50	256	10.9
550	31	4,456	-31.4	50	254	11.5
500	31	5,128	-36.1	53	257	14.2
450	31	5,850	-40.6		257	18.8
400	31	6,647	-45.8		253	22.5
350	31	7,528	-50.0		245	24.3
300	31	8,530	-52.2		248	24.7
250	31	9,709	-52.0		247	27.8
200	31	11,164	-48.9		244	26.8
175	31	12,042	-48.5		243	27.8
150	31	13,057	-47.9		247	28.6
125	31	14,261	-47.2		246	28.7
100	31	15,741	-46.1		239	29.1
80	31	17,226	-45.8		241	26.6
70	31	18,123	-44.9		240	24.7
60	31	19,146	-45.0		240	22.0
50	31	20,365	-44.5		236	19.2
40	29	21,859	-43.4		232	18.1
30	28	23,796	-41.5		223	13.6
25	28	25,036	-40.5		205	11.3
20	25	26,545	-39.6		181	7.6
15	17	28,434	-41.2		114	4.9
10	8	31,103	-40.7			
7						
5						

* SHREVEPORT, LA.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	79	4.4	74	182	3.1
1000	31	167	5.1	63	178	3.9
950	31	593	6.2	57	229	9.7
900	31	1,031	5.2	54	255	11.8
850	31	1,497	3.8	48	272	13.0
800	31	1,987	2.1	43	273	15.5
750	31	2,504	.0	38	272	17.7
700	31	3,057	- 2.5	35	261	22.3
650	30	3,639	- 5.1	33	259	30.1
600	30	4,269	- 8.9	33	260	35.7
550	30	4,932	-13.0	30	260	39.2
500	30	5,657	-17.8	31	258	46.0
450	30	6,430	-23.2	32	256	50.7
400	30	7,290	-29.4	35	253	57.1
350	30	8,229	-36.4	35	253	67.0
300	30	9,281	-43.9		254	73.4
250	30	10,484	-51.0		251	85.7
200	30	11,917	-55.1		256	86.6
175	30	12,768	-56.0		257	76.7
150	30	13,743	-58.1		256	71.1
125	29	14,878	-62.3		258	58.1
100	29	16,244	-65.6		260	51.9
80	28	17,595	-66.0		260	39.8
70	27	18,418	-65.7		255	34.0
60	27	19,347	-63.7		258	27.0
50	27	20,471	-61.7		254	19.4
40	27	21,858	-59.7		261	15.5
30	26	23,673	-56.6		275	10.1
25	26	24,833	-54.8		294	8.5
20	26	26,266	-53.0		305	7.6
15	24	28,131	-50.3		307	8.7
10	19	30,802	-46.8		285	13.2
7	16	33,191	-44.3		272	22.3
5	10	35,374	-41.7			

SPOKANE, WASH.
930 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	722	- 1.7	88	180	6.2
1000	31	139				
950	31	548				
900	31	983	- 1.1	78	198	12.4
850	31	1,438	- 2.6	71	227	18.5
800	31	1,916	- 5.5	69	242	20.0
750	31	2,418	- 8.5	65	248	21.4
700	31	2,953	-11.1	61	260	23.7
650	31	3,515	-14.4	60	265	26.8
600	31	4,121	-18.3	60	266	31.1
550	31	4,761	-22.3	56	273	34.0
500	31	5,459	-27.1	53	274	38.3
450	31	6,201	-32.4	49	277	43.3
400	31	7,030	-38.7		278	45.8
350	31	7,933	-45.7		281	51.1
300	31	8,946	-51.9		287	55.9
250	31	10,114	-56.3		289	57.9
200	31	11,527	-55.8		289	48.0
175	31	12,381	-54.0		287	43.5
150	31	13,373	-53.0		288	40.2
125	31	14,547	-53.7		288	36.9
100	31	15,979	-54.5		288	29.5
80	30	17,405	-54.7		286	27.2
70	30	18,263	-54.4		287	25.8
60	29	19,256	-53.6		300	21.0
50	29	20,430	-53.0		312	15.2
40	27	21,871	-51.8		310	15.0
30	26	23,742	-50.5		341	14.8
25	26	24,932	-50.0		346	17.7
20	19	26,399	-49.9		349	19.2
15	10	28,291	-48.3			
10						
7						
5						

SWAN ISLAND, W. I.
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	10	24.9	80	78	8.0
1000	29	130	24.2	79	74	11.1
950	29	577	20.9	80	80	13.4
900	29	1,045	17.9	77	93	13.2
850	29	1,533	15.0	75	99	12.4
800	29	2,045	12.0	72	102	11.8
750	29	2,582	10.1	53	97	10.3
700	29	3,157	8.2	41	95	9.7
650	29	3,763	5.9		107	9.5
600	29	4,418	2.7		124	8.2
550	29	5,110	- 1.4		150	5.2
500	29	5,871	- 5.6		189	7.2
450	29	6,682	-11.1		209	9.1
400	29	7,584	-17.8		228	12.4
350	29	8,568	-25.5		242	14.6
300	29	9,666	-34.7		251	17.1
250	29	10,913	-44.9		253	22.0
200	29	12,370	-54.8		249	31.1
175	29	13,214	-59.8		243	35.9
150	29	14,164	-65.4		244	36.3
125	29	15,255	-72.2		246	28.4
100	29	16,547	-77.8		237	15.5
80	27	17,827	-76.9		220	4.3
70	27	18,601	-74.8		200	1.6
60	27	19,501	-71.4		263	2.1
50	26	20,590	-66.2		277	8.7
40	26	21,960	-61.2		284	13.8
30	26	23,772	-55.3		277	18.3
25	25	24,944	-52.8		279	17.1
20	25	26,394	-49.8		273	20.2
15	17	28,264	-46.6			
10						
7						
5						

TAMPA, FLA.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	8	11.6	83	41	4.3
1000	30	174	12.7	76	72	4.3
950	30	600	11.8	69	192	4.9
900	30	1,057	11.6	64	246	9.9
850	30	1,534	10.0	52	248	13.4
800	30	2,038	9.0	42	252	16.5
750	30	2,564	7.3	37	256	18.6
700	30	3,136	4.6	40	255	24.7
650	30	3,731	1.1	40	254	28.0
600	30	4,376	- 2.9	45	253	34.4
550	30	5,050	- 7.1	42	253	40.2
500	30	5,798	-11.6	43	252	44.1
450	30	6,589	-16.5	42	253	53.8
400	30	7,476	-22.2	44	254	59.8
350	30	8,443	-29.4	42	254	63.7
300	30	9,525	-37.8		254	71.9
250	30	10,753	-48.0		258	81.6
200	30	12,190	-57.1		259	81.8
175	30	13,028	-60.3		256	83.1
150	29	13,982	-63.0		259	75.2
125	29	15,092	-67.0		259	65.9
100	28	16,422	-71.0		263	50.3
80	28	17,745	-70.9		264	35.5
70	27	18,548	-69.8		256	30.9
60	26	19,462	-68.0		256	19.8
50	25	20,566	-65.0		259	12.4
40	24	21,943	-60.8		281	10.9
30	22	23,749	-56.4		319	6.6
25	22	24,914	-53.8		307	6.4
20	16	26,566	-51.1		279	12.6
15	7	28,256	-48.1			
10						
7						
5						

* TATOOSH IS., WASH
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	31	6.6	84	207	9.5
1000	31	92			202	10.9
950	31	508	3.0	78	224	16.5
900	31	946	.0	82	230	19.4
850	31	1,402	- 2.9	77	240	20.0
800	31	1,881	- 5.4	71	248	21.8
750	31	2,384	- 8.5	63	244	23.5
700	31	2,917	-11.7	59	247	26.0
650	31	3,478	-15.1	59	252	29.5
600	31	4,083	-18.9	62	255	33.0
550	31	4,723	-23.3	59	257	34.8
500	31	5,417	-28.0	56	260	37.3
450	31	6,160	-33.0	51	264	42.3
400	31	6,986	-38.8	48	268	48.6
350	31	7,890	-45.1		258	54.0
300	31	8,906	-51.3		259	61.2
250	31	10,077	-55.9		268	61.0
200	31	11,493	-55.6		272	52.1
175	31	12,346	-54.3		274	45.3
150	31	13,337	-53.0		270	40.4
125	30	14,519	-53.4		280	39.0
100	30	15,949	-55.3		279	35.2
80	29	17,368	-54.6		281	29.7
70	28	18,228	-54.4		290	22.9
60	28	19,214	-53.8		295	22.7
50	26	20,383	-52.9		302	18.3
40	22	21,825	-51.4		303	20.4
30	22	23,700	-49.9		318	20.6
25	21	24,896	-48.9		325	21.0
20	21	26,361	-48.6		344	18.8
15	15	28,305	-46.3		360	23.9
10	13	31,024	-43.4		5	34.0
7	10	33,458	-42.3			
5						
4						

TOPEKA, KANS.
983 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	269	- 3.0	73	213	2.5
1000	31	136				
950	31	547	.4	56	244	8.9
900	31	978	1.5	46	262	13.6
850	31	1,438	.4	37	274	14.6
800	31	1,922	- 1.6	36	280	16.9
750	31	2,431	- 4.3	35	281	18.3
700	31	2,975	- 7.1	35	283	21.0
650	31	3,545	-10.4	38	276	22.9
600	30	4,159	-14.2	38	273	26.6
550	30	4,807	-18.7	37	271	29.9
500	30	5,518	-23.7	37	269	33.6
450	30	6,273	-29.0	36	267	36.5
400	30	7,113	-35.4	39	269	41.2
350	30	8,030	-41.8		270	45.6
300	30	9,059	-48.5		269	52.3
250	30	10,241	-54.5		270	56.5
200	30	11,664	-55.2		268	57.7
175	30	12,517	-54.6		267	56.3
150	30	13,504	-54.9		269	52.3
125	30	14,664	-56.8		269	49.7
100	30	16,069	-59.1		268	40.6
80	30	17,464	-59.9		271	32.4
70	30	18,303	-59.6		272	26.4
60	30	19,264	-58.7		273	23.1
50	30	20,412	-57.9		283	16.3
40	30	21,824	-56.7		287	13.4
30	30	23,656	-54.7		307	12.6
25	30	24,826	-53.4		315	12.2
20	30	26,265	-52.4		314	15.0
15	26	28,124	-51.1		306	16.3
10	13	30,775	-49.1		299	23.5
7						
5						
4						

TRUK, CAROLINE IS.
+ 1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	2	28.7	72	40	8.4
1000	31	94	27.7	74	51	11.8
950	31	543	23.6	79	73	19.0
900	31	1,020	20.5	78	76	19.0
850	31	1,513	17.8	73	81	17.7
800	31	2,030	15.5	58	84	14.2
750	31	2,579	13.6	40	86	11.5
700	31	3,155	10.9	29	86	8.7
650	31	3,771	7.6		92	7.2
600	31	4,426	3.9		94	11.7
550	31	5,122	.1		90	14.6
500	31	5,887	- 4.2		93	18.6
450	31	6,705	- 8.9		94	19.4
400	31	7,617	-14.3		92	19.4
350	31	8,616	-21.0		87	14.6
300	31	9,737	-29.3		89	11.5
250	31	11,012	-39.5		120	9.1
200	30	12,498	-51.9		140	10.3
175	30	13,350	-59.0		133	12.4
150	30	14,299	-66.8		117	14.6
125	30	15,379	-75.1		102	20.6
100	30	16,649	-81.8		100	24.3
80	29	17,914	-76.5		107	14.8
70	29	18,693	-70.4		198	1.7
60	29	19,624	-64.1		278	13.8
50	29	20,751	-60.2		272	23.4
40	29	22,152	-57.2		277	27.0
30	29	23,987	-53.9		273	28.6
25	29	25,160	-52.4		275	22.9
20	28	26,611	-49.7		258	8.7
15	24	28,497	-48.5		142	5.1
10	12	31,187	-43.8			
7						
5						
4						

TUCSON, ARIZ.
927 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	789	3.0	42	134	6.8
1000	31	167				
950	31	586				
900	31	1,030	7.8	32	139	6.2
850	31	1,500	6.4	32	182	2.1
800	31	1,995	3.9	31	272	4.5
750	31	2,514	1.1	30	292	8.0
700	31	3,069	- 1.6	27	299	12.6
650	31	3,650	- 4.6		293	15.9
600	31	4,281	- 8.7		295	22.1
550	31	4,941	-12.9		292	26.2
500	31	5,670	-18.0		292	29.7
450	31	6,438	-23.8		290	29.3
400	31	7,298	-30.3		293	32.1
350	31	8,234	-37.4		290	36.5
300	31	9,281	-44.9		283	42.0
250	31	10,477	-52.6		284	46.0
200	31	11,705	-55.3		280	50.3
175	31	12,756	-55.9		273	49.0
150	31	13,732	-58.0		272	48.0
125	31	14,872	-61.1		273	44.9
100	31	16,249	-63.9		273	40.0
80	31	17,611	-64.6		276	[illegible]
70	31	18,435	-64.3		274	24.9
60	31	19,374	-62.1		272	19.4
50	30	20,506	-60.1		272	12.8
40	30	21,908	-57.4		264	[illegible]
30	30	23,739	-54.3		301	3.7
25	29	24,908	-52.7		13	1.4
20	27	26,452	-51.0		33	3.5
15	25	28,232	-48.5		55	6.2
10	22	30,924	-44.6		42	12.0
7	10	33,337	-41.5			
5						
4						

* WAKE IS., PACIFIC AREA
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	24.4	74	66	9.1
1000	31	142	23.3	76	70	13.0
950	31	585	19.6	82	79	14.8
900	31	1,053	16.5	78	86	12.6
850	31	1,539	14.0	68	93	10.9
800	31	2,061	14.2	46	93	6.8
750	31	2,591	12.5	27	95	5.8
700	31	3,169	9.4	23	97	4.1
650	31	3,777	6.8	22	138	1.6
600	31	4,434	2.7	11	293	1.4
550	31	5,127	- 1.8	20	301	5.1
500	31	5,883	- 6.8	17	295	9.3
450	31	6,695	-11.9	16	293	14.6
400	31	7,589	-17.8	17	290	19.4
350	31	8,576	-23.8	16	284	25.6
300	31	9,686	-31.2	16	280	29.1
250	31	10,953	-40.8		278	[illegible]
200	31	12,433	-52.5		276	29.1
175	31	13,283	-59.0		281	25.4
150	31	14,234	-66.0		279	[illegible]
125	31	15,319	-73.4		274	21.6
100	31	16,600	-79.6		269	17.7
80	28	17,857	[illegible]		273	11.3
70	28	18,645	-77.3		271	6.4
60	27	19,511	-71.7		[illegible]	3.9
50	26	[illegible]	-65.4		[illegible]	5.6
40	25	21,977	-61.4		259	[illegible]
30	25	23,787	-55.5		307	[illegible]
25	[illegible]	24,959	-52.3		[illegible]	5.4
20	25	26,410	-50.4		315	5.4
15	20	[illegible]	-48.3		[illegible]	4.9
10	16	30,990	-44.5		[illegible]	[illegible]
7	15	33,419	-38.6		[illegible]	3.7
5	14	35,721	-35.4		124	13.6
4	8	37,240	-34.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1964

Standard pressure surface (mb)	WALLOPS IS. VA. NASA 1017 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	20	3	1.6	79	283	3.5
1000	20	142	3.8	56	282	8.4
950	20	563	3.6	52	295	12.2
900	20	997	2.4	50	284	12.0
850	20	1,458	1.1	45	277	15.3
800	20	1,944	- .9	45	268	21.6
750	20	2,457	- 3.3	44	266	25.4
700	20	3,000	- 6.0	38	261	31.1
650	20	3,576	- 8.5	37	263	36.9
600	20	4,196	-11.4	34	269	42.0
550	20	4,855	-15.5	36	266	47.4
500	20	5,571	-20.3	38	269	51.5
450	20	6,339	-25.4	37	270	60.2
400	20	7,189	-31.3	40	269	62.2
350	20	8,122	-37.9		266	75.0
300	20	9,169	-44.9		264	91.3
250	20	10,369	-52.0		269	92.3
200	19	11,818	-54.7		275	95.8
175	18	12,673	-55.5		279	86.1
150	18	13,653	-56.6		281	79.1
125	18	14,803	-59.3		279	53.8
100	16	16,186	-61.1			
80	16	17,565	-62.6		265	43.5
70	16	18,391	-62.4		269	44.9
60	16	19,342	-61.1		268	39.6
50	16	20,480	-58.9		273	36.5
40	16	21,880	-58.9			
30	15	23,711	-56.1		282	35.2
25	15	24,873	-55.0		292	26.6
20	15	26,303	-53.7		281	19.6
15	12	28,174	-50.9		307	17.7
10	11	30,831	-47.4			
7	7	33,199	-44.2			

Standard pressure surface (mb)	WASHINGTON, D. C. 1007 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	84	- 3.2	72	304	3.7
1000	31	139			308	4.3
950	31	554	.4	54	282	12.6
900	31	984	- .8	51	283	17.5
850	31	1,440	- 1.5	44	284	19.0
800	31	1,922	- 2.8	42	276	20.8
750	31	2,435	- 4.5	43	273	26.4
700	31	2,973	- 6.5	35	269	30.1
650	31	3,549	- 9.4	36	266	34.6
600	31	4,164	-13.1		266	40.2
550	31	4,817	-17.1		259	44.1
500	31	5,531	-21.7	37	258	50.3
450	31	6,294	-26.8		259	57.7
400	31	7,139	-32.8		257	63.5
350	31	8,065	-39.4		257	68.2
300	31	9,105	-46.1		256	78.3
250	31	10,300	-52.4		257	88.6
200	31	11,730	-55.2		260	89.2
175	31	12,582	-55.8		263	82.8
150	31	13,558	-57.5		265	76.1
125	30	14,702	-58.8		267	68.4
100	30	16,093	-61.4		267	56.3
80	29	17,472	-62.0		268	45.6
70	29	18,308	-62.1		267	37.1
60	29	19,253	-60.8		269	34.6
50	29	20,388	-60.2		275	27.0
40	29	21,782	-59.3		279	22.0
30	27	23,599	-57.0		292	18.5
25	27	24,758	-55.5		296	17.7
20	27	26,184	-54.4		297	20.0
15	24	28,032	-52.7		295	30.3
10	19	30,655	-50.4		282	43.7
7	5	32,983	-48.5			

Standard pressure surface (mb)	WINNEMUCCA, NEV. 872 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,310	- 4.9	83	169	2.1
1000	31	211				
950	31	622				
900	31	1,054				
850	31	1,508	- 1.3	64	180	4.9
800	31	1,991	- 2.5	57	248	9.9
750	31	2,500	- 4.8	53	267	15.7
700	31	3,041	- 7.3	48	274	19.8
650	31	3,613	-10.3	46	281	22.5
600	31	4,228	-14.1	46	285	23.3
550	31	4,881	-18.2	44	289	30.7
500	31	5,590	-22.6	41	294	29.3
450	31	6,349	-28.3	39	298	33.4
400	31	7,189	-34.6	39	294	36.3
350	31	8,110	-41.1		294	40.0
300	31	9,140	-48.5		302	46.4
250	31	10,321	-55.7		299	47.4
200	31	11,726	-58.3		295	40.8
175	31	12,571	-55.9		285	37.1
150	31	13,553	-55.8		282	37.7
125	31	14,710	-57.2		280	33.8
100	31	16,118	-58.6		285	29.5
80	31	17,517	-59.0		290	22.1
70	30	18,364	-58.4		295	16.9
60	30	19,330	-57.4		300	10.7
50	30	20,484	-56.3		327	8.5
40	29	21,913	-54.5		28	8.2
30	28	23,764	-52.2		52	12.8
25	28	24,946	-51.2		53	14.2
20	23	26,407	-50.1		52	16.7
15	12	28,283	-49.8			

Standard pressure surface (mb)	WINSLOW, ARIZ. 853 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,492	- 6.8	54	208	2.5
1000	31	230				
950	31	636				
900	31	1,072				
850	31	1,521			271	.8
800	31	2,003	- 1.3	38	284	6.6
750	31	2,515	- 2.9	34	285	8.7
700	31	3,059	- 5.4	31	282	15.9
650	31	3,633	- 8.1	32	291	16.3
600	31	4,256	-11.8		293	18.8
550	31	4,914	-16.3		302	26.0
500	31	5,628	-20.8		299	31.3
450	31	6,395	-26.3		299	32.2
400	31	7,240	-32.2		295	38.9
350	31	8,168	-39.0		293	45.6
300	31	9,208	-46.7		297	49.5
250	31	10,395	-54.3		295	52.6
200	31	11,815	-55.9		286	51.9
175	31	12,665	-55.5		278	53.2
150	31	13,645	-56.7		277	46.4
125	31	14,792	-59.5		275	43.1
100	31	16,178	-62.4		278	34.0
80	31	17,552	-62.8		276	28.6
70	31	18,379	-62.5		279	22.1
60	30	19,329	-60.8		281	17.1
50	29	20,469	-59.5		283	11.8
40	28	21,875	-57.0		291	6.6
30	25	23,710	-54.4		325	2.7
25	25	24,882	-53.1		336	3.1
20	23	26,330	-51.3		319	4.7
15	17	28,208	-49.4		9	1.9

Standard pressure surface (mb)	YAKUTAT, ALASKA 998 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	25	12	- 2.7	85	93	5.6
1000	25	- 3				
950	25	406	- 1.8	71	112	12.6
900	25	835	- 4.3	70	132	12.4
850	25	1,283	- 7.2	71	144	13.2
800	25	1,753	-10.3	71	153	12.2
750	25	2,244	-13.5	69	163	10.9
700	25	2,769	-17.1	65	171	9.9
650	25	3,313	-20.6	60	183	8.9
600	25	3,909	-24.5	57	200	9.5
550	25	4,530	-28.9	55	213	11.5
500	25	5,213	-33.8	50	222	13.0
450	25	5,935	-39.3		231	14.6
400	25	6,742	-45.3		233	17.3
350	25	7,622	-50.7		244	19.2
300	25	8,617	-54.2		260	22.3
250	25	9,784	-55.1		263	22.7
200	25	11,218	-52.4		266	26.8
175	25	12,083	-51.5		267	29.5
150	25	13,084	-50.9		271	33.8
125	24	14,275	-50.2		275	33.0
100	24	15,733	-49.9		280	37.3
80	24	17,191	-49.9		278	39.0
70	23	18,060	-49.4		282	39.6
60	23	19,069	-48.7		283	42.0
50	23	20,268	-48.3		288	41.0
40	23	21,739	-47.5		290	42.7
30	23	23,648	-45.3		296	48.2
25	22	24,877	-44.6		300	48.2
20	21	26,372	-43.9		304	53.6
15	17	28,284	-44.6		303	55.8

Standard pressure surface (mb)	YAP, CAROLINE IS. + 1009 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	17	27.1	83	52	11.3
1000	31	101	26.3	83	55	14.2
950	31	548	22.6	82	65	22.0
900	31	1,023	19.6	80	70	23.1
850	31	1,515	17.3	73	75	21.2
800	31	2,032	15.1	64	76	17.3
750	31	2,575	12.7	55	76	16.3
700	31	3,155	10.0	43	74	15.2
650	31	3,767	7.0	37	77	15.3
600	31	4,423	3.7		84	15.7
550	31	5,115	.0		80	16.7
500	31	5,883	- 4.3		83	15.0
450	31	6,699	- 9.2		83	15.0
400	31	7,610	-15.1		88	13.4
350	31	8,606	-22.0		86	10.9
300	31	9,721	-30.4		91	8.2
250	31	10,990	-40.6		118	6.6
200	30	12,470	-52.9		140	10.7
175	30	13,317	-60.1		138	12.6
150	30	14,261	-67.9		135	15.3
125	29	15,333	-75.9		118	20.4
100	29	16,599	-81.3		106	20.6
80	29	17,858	-78.7		87	11.3
70	29	18,627	-74.4		66	1.7
60	29	19,543	-66.4		298	6.6
50	29	20,658	-62.3		278	15.2
40	29	22,047	-58.3		271	18.8
30	29	23,873	-54.7		263	22.1
25	28	25,044	-52.7		264	18.8
20	26	26,487	-51.1		267	12.0
15	23	28,367	-49.0		144	3.7
10	17	31,039	-45.5			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 884 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,196	- 5.3	55	300	2.3
1000	30	213				
950	30	624				
900	30	1,058				
850	30	1,511	1.1	41	350	4.1
800	30	1,997	- .7	38	333	3.3
750	30	2,511	- 2.5	37	308	5.6
700	30	3,056	- 4.8	35	306	12.0
650	30	3,632	- 7.9	36	302	17.1
600	30	4,254	-11.6	33	305	21.8
550	30	4,906	-16.1	32	306	26.6
500	30	5,626	-20.9		307	28.4
450	30	6,386	-26.9		308	29.5
400	30	7,235	-33.3		306	34.4
350	30	8,160	-40.1		307	36.5
300	30	9,195	-47.6		306	42.7
250	30	10,376	-55.5		296	46.4
200	30	11,786	-58.7		289	51.7
175	29	12,634	-58.4		287	45.6
150	29	13,606	-58.0		283	50.5
125	29	14,753	-59.0		284	43.5
100	29	16,145	-61.5		280	33.2
80	29	17,526	-61.7		279	24.7
70	29	18,356	-61.6		289	19.4
60	29	19,311	-59.8		296	13.8
50	29	20,455	-57.8		298	6.2
40	29	21,867	-56.5		322	2.7
30	27	23,699	-53.6		18	4.9
25	26	24,876	-52.5		46	6.6
20	23	26,320	-50.9		58	4.3
15	15	28,190	-49.6		2	5.8

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1964

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Jan.									
1-----	0.91	1.03	1.13	1.27	1.32	----	1.14	1.03	----
2-----	.93	1.03	1.15	1.30	1.32	1.29	1.13	.99	0.84
4-----	.93	1.05	1.16	1.30	1.30	1.27	1.13	.98	.87
5-----	----	----	----	1.26	1.26	----	----	----	.88
6-----	1.00	1.11	1.21	1.35	1.33	1.29	1.11	.98	.88
8-----	----	----	----	----	1.29	----	1.07	.94	.87
9-----	.97	1.08	1.21	1.36	1.35	1.33	1.18	1.07	.94
10----	.99	.88	1.22	1.35	----	1.19	1.18	.83	.73
11----	----	.99	----	1.29	1.33	1.33	----	----	----
12----	1.00	1.11	1.24	1.39	1.38	----	1.21	----	----
13----	.94	1.05	1.19	1.34	1.34	1.30	1.11	.91	.84
14----	1.01	1.10	1.21	----	1.40	1.32	1.09	1.00	.89
15----	----	----	----	1.33	1.34	1.23	1.10	.96	.85
16----	.95	1.05	1.19	1.35	1.33	1.33	1.16	1.05	.89
17----	----	----	----	----	----	1.32	1.20	1.07	----
19----	.95	1.05	1.17	----	----	----	1.09	.94	----
20----	.98	1.05	----	1.29	1.30	1.27	1.10	.97	.85
21----	.91	1.03	1.14	1.30	1.36	1.31	1.16	1.04	.92
22----	.85	.97	1.12	Broken wire		----	----	----	.72
24----	.89	1.00	1.16	1.29	1.37	1.33	1.16	1.01	.90
25----	----	----	----	1.32	1.36	1.31	1.14	1.04	.94
26----	.90	1.01	1.14	1.30	1.34	1.27	1.10	1.00	.91
27----	----	1.00	1.10	1.31	1.34	1.28	1.12	.99	.88
28----	----	----	----	----	----	----	----	.84	----
29----	.78	.91	1.03	1.21	1.29	1.23	1.07	.90	.80
30----	----	----	----	----	----	1.24	----	----	.84
31----	.81	.95	1.08	1.25	1.31	1.27	1.11	.91	.87
Averages	0.93	1.02	1.16	1.31	1.33	1.29	1.13	0.98	0.86
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Jan.									
4-----	----	----	S 1.08	----	S 1.18	----	S 1.09	S 0.97	S 0.88
13----	S 0.88	S 0.96	S 1.12	----	S 1.21	----	S 1.12	----	----
15----	----	----	----	----	S 1.07	----	S 1.01	S .92	S .75
20----	----	----	S 1.12	----	S 1.24	----	S 1.12	S 1.01	S .88
21----	S .75	S .87	S 1.02	----	----	----	----	----	----
26----	S .86	S .96	S 1.08	----	S 1.22	----	S 1.06	S .96	----
28----	----	S .90	S 1.03	----	S 1.19	----	----	----	----
29----	----	----	----	----	M 1.08	----	M .91	M .78	M .67
Averages	0.83	0.92	1.08	----	1.17	----	1.05	0.93	0.80
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Jan.									
1-29--					Inoperative				
30----	----	----	----	----	HS1.22	HS1.24	----	----	----
31----	----	----	----	----	HS1.24	HS1.26	HS1.09	HM0.86	----
Averages	----	----	----	----	1.23	1.25	1.09	0.86	----

Date	Sun's zenith distance								
	A. M.				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Jan.									
1-----	0.91	0.98	0.14	----	----	----	----	0.02	0.87
2-----	----	----	----	----	----	----	----	----	.94
3-----	.71	----	----	----	----	----	----	----	----
5-----	.84	.93	1.08	----	----	----	1.10	.96	.84
8-----	.95	----	1.16	----	----	----	----	----	----
10----	.99	1.10	----	----	----	----	----	----	----
12----	----	----	----	----	----	----	----	1.01	----
13----	.85	.96	1.10	----	----	----	----	.97	.84
14----	.90	----	----	----	----	----	----	----	----
16----	.85	----	----	----	----	----	----	----	.84
20----	1.04	----	----	----	----	----	----	----	----
24----	.93	1.03	----	----	----	----	----	1.03	.92
25----	.96	1.04	----	----	----	----	----	----	.92
26----	.98	1.08	1.18	----	----	----	----	----	----
28----	.82	----	----	----	----	----	----	----	----
29----	.70	.81	.97	----	----	----	.95	.83	.71
30----	.81	.91	1.05	----	----	----	----	----	----
31----	.88	.91	1.04	----	----	----	----	----	----
Averages	0.88	0.97	0.96	----	----	----	1.02	0.80	0.86
	MAUNA LOA OBS., HAWAII								
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Jan.									
3-----	----	----	1.38	1.48	----	----	----	----	----
4-----	1.17	1.28	1.38	1.50	----	----	----	----	----
5-----	1.07	1.18	1.27	1.43	----	----	----	----	----
7-----	----	----	1.37	1.49	1.58	----	----	----	----
8-----	----	----	----	----	----	----	1.29	1.18	----
9-----	1.10	1.20	1.31	1.44	----	----	----	----	----
10----	1.15	1.25	1.35	1.48	1.58	1.50	1.36	1.26	1.18
11----	H 1.06	H 1.19	H 1.30	H 1.45	H 1.56	H 1.48	H 1.35	H 1.25	H 1.15
12----	1.19	1.30	1.39	1.53	1.64	1.53	1.39	1.29	1.19
13----	1.27	1.36	1.45	1.55	1.64	1.54	1.38	1.28	1.18
14----	1.26	1.34	1.41	1.54	1.63	1.46	1.39	1.29	1.20
15----	1.22	1.32	1.42	1.53	1.63	1.52	1.41	1.31	1.23
16----	1.19	1.28	1.37	1.50	1.60	1.49	1.36	1.25	1.16
17----	1.19	1.28	1.38	1.51	1.61	1.53	1.40	1.31	1.23
18----	----	----	----	1.53	1.64	1.53	1.41	1.31	1.22
19----	1.21	1.31	1.41	1.54	----	----	----	----	----
20----	1.21	1.29	1.41	1.54	1.64	1.54	1.41	----	----
24----	HS1.06	HS1.15	HS1.26	HS1.40	HS1.53	HS1.39	HS1.26	----	----
26----	1.12	1.20	1.30	1.43	----	----	----	----	----
27----	1.16	1.26	1.37	1.52	1.62	1.52	1.38	1.28	1.18
28----	1.21	1.30	1.40	1.52	1.63	1.52	1.41	1.30	1.21
29----	1.19	1.29	1.40	1.52	1.63	1.44	1.34	1.24	1.15
30----	1.15	1.26	1.39	1.45	1.61	1.50	1.37	1.26	1.17
31----	1.17	1.27	1.38	1.51	1.62	----	1.39	1.28	1.19
Averages	1.17	1.27	1.37	1.50	1.61	1.50	1.37	1.27	1.19
	GUAM, M. I.								
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
					No observation due to cloudiness				

HS Slight haze
HM Moderate haze
H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
* Values corresponding to true solar noon.

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	320	328	200	---	203	341	181	319	351	346	345	356	359	363	364	353	347	227	310	353	363	323	150	389	371	378	383	259	384	368	397	324
AMES IOWA	191	173	203	199	102	146	122	43	238	156	96	172	257	178	231	159	180	220	56	234	223	92	62	118	262	174	267	258	252	247	262	180
ANNETTE ALASKA	---	---	24	13	23	61	18	9	22	53	9	6	41	8	24	26	46	81	25	22	67	98	25	36	62	43	73	9	30	41	51	36
APALACHICOLA FLORIDA	366	383	358	209	283	133	158	85	68	183	49	252	157	402	387	120	186	287	269	406	220	204	100	124	288	361	71	421	442	356	59	238
ARGONNE NAT. LAB.	184	158	126	215	159	61	187	81	32	236	154	69	199	129	236	221	118	222	37	242	234	212	87	78	141	269	255	278	203	262	31	165
ASTORIA OREGON	31	99	41	133	5	35	102	75	74	74	51	49	30	118	17	82	81	47	21	83	58	133	158	8	123	36	66	80	179	21	155	73
ATLANTA GEORGIA	64	349	308	142	317	46	117	25	106	335	240	50	177	357	291	111	51	263	214	346	341	322	327	24	206	375	144	398	347	309	54	218
BETHEL ALASKA	10	17	16	55	38	26	46	37	70	6	8	40	19	16	16	25	21	67	58	48	31	21	28	40	30	76	40	38	47	32	51	35
BISMARCK N.DAK.	159	107	151	129	122	156*	113	171	166	59	203	207	124	198	164	141	134	115	214	178	190	191	50	188	---	248	254	197	239	140	248	165*
BLUE HILL MASS.	50	129	205	205	233	134	69	233	34	193	247	187	24	243	259	244	246	149	241	75	32	263	232	194	19	254	262	21	301	218	280	177
BOISE IDAHO	154	179	194	198	139	42	234	215	76	137	224	241	262	222	227	84	60	89	73	78	169	117	226	94	76	157	194	232	130	165	238	159
BOSTON MASSACHUSETTS	49	132	187	214	226	116	66	222	25	205	244	187	21	239	248	235	212	126	224	49	33	263	240	185	18	258	271	14	304	220	253	171
BROWNSVILLE TEXAS	399	398	142	368	332	73	222	312	200	208	395	428	375	112	79	404	440	412	239	336	287	240	113	114	315	211	426	302	150	86	244	270
BURLINGTON VERMONT	81	40	104	92	211	63	87	209	26	30	193	223	46	229	174	102	199	164	216	106	37	158	143	50	13	89	131	162	260	121	204	128
CANTON ISLAND P.I.	505	403	390	534	507	347	417	328*	302	346	223	598	118	436	169	245	175	479	210	579	362	346	427	465	386	548	---	662	607	676	681	416*
CAPE HATTERAS N.C.	247	294	303	260	246	286	54	42	36	322	289	24	120	326	328	324	37	217	244	127	349	332	323	254	32	---	272	335	337	360	146	229
CARIBOU MAINE	157	80	138	77	123	129	98	200	113	49	190	188	167*	138	146	116	197	89	169	71	42	83	110	186	26	157	194	231	249	166	200	138*
CHARLESTON S.C.	118	339	329	143	260	231	93	38	25	309	141	97	134	369	371	191	17	189	239	299	379	370	272	132	65	391	232	383	410	376	96	227
CLEVELAND OHIO	32	165	166	34	190	84	100	177	12	123	162	38	64	188	---	138	176	206	68	17	253	177	50	78	84	139	247	148	251	246	29	128
COLUMBIA MISSOURI	151	218	214	247	178	250	184	41	268	245	69	131	281	281	263	71	170	272	169	285	255	256	113	14	299	255	269	345	190	69	77	198
DAVIS CALIFORNIA	77	245	241	277	243	69	181	278	168	274	175	256	202	301	251	159	86	197	78	74	118	185	164	185	146	322	198	81	76	267	252	188
DODGE CITY KANSAS	253	255	240	271	95	280	231	130	282	184	234	241	308	293	287	282	211	220	190	294	296	300	251	287	308	288	313	302	328	149	320	256
E. LANSING MICHIGAN	120	122	98	132	165	90	209	164	23	144	109	71	130	157	198	87	149	219	73	68	227	190	49	66	109	203	203	317	210	287	38	143
EL CENTRO CALIF. NPF	285	280	296	296	300	284	261	300	301	246	292	297	306	114	306	304	254	218	301	300	217	193	323	332	337	---	399	434	248	334	347	290
EL PASO TEXAS	366	372	344	341	277	391	327	390	391	392*	407	408	400	409	400	412	333	269	260	410	420	422	390	446	436	440	430	424	225	445	408	380*
ELY NEVADA	271	203	283	274	275	136	---	305	243	---	310	226	317	277	300	225	137	141	---	305	172*	172	230	344	287	276	313	350	344	---	366	262*
FAIRBANKS ALASKA	4	4	3	2	3	19	18	8	20	9	8	16	29	30	7	18	6	12	33	26	45	40	53	50	53	40	17	23	24	14	17	21
FLAMING GORGE UTAH	266	131	264	---	---	192	149	221	241	167	110	292	285	298	262	229	241	96	238	173	285	176	156	281	253	---	---	320	340	242	---	227
FORT WORTH TEXAS	305	327	317	266	310	305	330	283	359*	354	268	322	373*	326	60*	160	---	383	321	349	205*	331	254	337	385	380	359*	385*	40	36	94	284*
FRESNO CALIFORNIA	159	37	112	45	50	233	68	150	268	222	230	267	245	70	264	253	232	203	260	151	191	173	271	309	249	161	269	269	39	90	98	182
GAINESVILLE FLORIDA	241	321	328	325	306	315	111	31	67	336	45	267	412	427	437	122	130	244	284	404	431	368	79	252	256	322	133	439	465	340	200	272
GLASGOW MONTANA	95	140	145	100	160	107	129	152	106	98	113	156	172	157	170	74	179	150	166	82	52	186	77	219	124	207	148	169	173	219	231	144
GRAND JUNCTION COLO.	277	162	298	160	298	182	203	326	268	197	275	331	315	295	301	284	225	120	305	269	184	197	332	334	269	197	361	361	355	206	364	266
GREAT FALLS MONTANA	132	116	46	31	96	94	75	158*	95	32	152	167*	145	104	78	118	85	163	80	87	101	111	198*	114	154	194	112	200	165	197	142	121*
GREENSBORO N.C.	74	300	290	251	302	139	84	66	63	326	332	21	190	320	304	285	229	311	153	126	337	324	289	55	153	362	228	377	364	345	131	230
GRIFFIN EXP.STA.GA.	77	413	393	139	346	59	142	33	123	393	245	64	223	440	383	120	40	313	280	430	442	388	382	38	285	461	121	487	438	379	78	263
ITHACA NEW YORK	13	22	162	66	36	39	98	198	44	117	84	9	29	91	229	113	206	204	176	40	234	243	167	83	61	67	229	93	238	70	129	116
LAKE CHARLES LA.	345	338	168	49	62	85	157	119	298	297	105	381	383	387	190	9	359	292	205	379	119	134	76	65	153	330	---	230	188	81	315	210
LAKELAND FLORIDA	262	426	388	327	271	322	192	260	291	119	154	111	176	375	388	106	72	344	249	222	297	297	177	302	229	305	181	300*	370	279	223	259*
LANDER WYOMING	207	74	237	195	233	226	110	246	185	141	240	263	241	245	248	238	248	162	242	199	162	174	163	246	255	175	257	286	272	264	293	217
LARAMIE WYOMING	204	87	229	184	220	165	129	188	172	94	121	250	252	252	262	175	225	123	234	250	262	237	172	273	147	83	281	283	292	155	189	200
LAS VEGAS NEVADA	297	276	309	253	310	285	298	318	310	309	315	313	326	275	322	---	327	245	293	350	152	268	321	352	256	357	345	364	360	355	380	308
LITTLE ROCK ARKANSAS	256	273	---	286	241	235	452	---	175	192	14	88	206	214	204	129	205	173	166	234	222	131	78	193	278	284	266	322	295	154	95	209
LOS ANGELES CALIF.WB	310	284	301	311	320	298	256	290	315	---	---	318*	321*	317	324*	306*	---	138	307	87	297	321	342	333	340	108	333	309	252	246	375	288*
LOS ANGELES CALIF. U	301	247	294	295	308	249	255	291	304	266	286	313	307	310	---	---	---	---	---	---	---	---	320	348	344	106	340	329	277	283	379	293
MANHATTAN KANSAS	238	268	268	287	134	300	194	180	302	183	198	186	---	342	279	281	196	246	111	284	272	287	192	283	299	300	254	312	310	79	319	246
MATANUSKA ALASKA	---	---	---	---	---	---	---	---	---	---	---	---	33	14	9	21	15	---	---	70	58	---	74	62	20	26	31	63	87	48	21	---
MAUNA LOA OB.HAWAII	555	419	378	316	394	307	538	306	351	546	554	563	564	---	593	578	586	577	580	595	439	523	319	569	309	514	615	621	611	615	620	502
MEDFORD OREGON	53	196	47	37	48	18	---	121	77	137	78	156	41	78	130	163	24	74	96	61	58	114	126	86	67	95	133	96	86	128	48	89
MIAMI FLORIDA	314	385	225	191	162	280	303	342	393	276	207	171	305	294	383	366	153	256	224	226	353	289	242	423	325	283	375	354	382	140	363	290
MIDLAND TEXAS	311	319	306	278	236	---	---	---	---	---	---	---	---	---	---	---	---	359	326	343	346	333	334	378	373	369	371	370	32	283	382	---
NASHVILLE TENNESSEE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NEW YORK N.Y. U	21	176	154	213	204	161	110	211	11	208	239	69	35	265	241	226	184	193	202	26	208	237	201	133	18	260	239	85	289	172	251	169
NORTH OMAHA NEBRASKA	238	238	247	245	97	247	153	54	271	156	72	225	272	281	276	245	244	259	62	286	277	264	152	285	285	135	311	305	311	299	319	229

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JANUARY 1964

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
OAK RIDGE TENNESSEE	80	260	154	235	259	35	245	91	106	274	272	46	128	283	270	143	288	239	105	151	304	272	220	32	214	294	200	317	309	265	62	199
OKLAHOMA CITY OKLA.	232	276	276	290	230	293	255	222	306	297	283	206	326	325	261	317	289	261	277	305	265	317	193	316	329	326	327	331	48	40	181	265
PHOENIX ARIZONA	299	298	308	305	324	318	291	339	321	294	340	309	333	328	332	341	310	314	271	334	343	185	351	365	373	366	244	218	366	368	375	318
PORTLAND MAINE	80	143	162	198	210	112	87	206	44	230	223	214	51	185	92	204	202	121	234	30	33	243	215	192	14	214	206	41	279	212	265	159
RAPID CITY S.DAK.	167	87	180	99	152	140	109	188	189	100	125	245	180	227	197	98	204	193	222	201	189	181	116	242	133	201	67	239	241	121	248	170
RIVERSIDE CALIFORNIA	346	317	358	351	360	320	303	359	361	297	363	369	368	287	375	362	345	116	192	331	159	262	352	385	381	266	391	394	382	363	421	330
SAINT CLOUD MINN.	169	81	64	163	120	120	152	56	200	181	183	229	206	191	166	203	179	87	102	205	204	96	103	24	225	245	248	204	172	228	264	163
SALT LAKE CITY UTAH	114	103	276	182	243	74	153	279	213	115	183	306	304	252	277	163	135	104	179	178	110	90	235	284	249	244	346	309	258	149	223	204
SAN ANTONIO TEXAS	379	378	353	347	333	303	369	353	403	404	316	410	385	388	48	328	431	411	391	351	134	166	117	312	229	204	292	260	29	93	298	297
SANTA MARIA CALIF.	312	306	307	271	313	286	300	304	300	302	252	305	287	321	321	291	225	253	225	250	---	269	333	341	---	291	348	356	330	373	371	301
SAULT STE MARIE MICH	102	128	66	91	152	112	104	97	31	123	211	219	248	221	161	173	65	77	117	114	221	93	187	21	80	124	209	284	91	226	97	137
SEATTLE TACOMA WASH.	14	80	37	127	20	32	67	41	32	25	114	134	25	91	27	116	64	51	33	94	67	25	111	21	48	69	73	118	111	59	102	65
SHREVEPORT LOUISIANA	310	303	210	285	179	204	300	23	261	349*	60	337	380	357	195	41	354	339	292	373	288	139	88	274	346	375	329	394	330	72	201	258*
SPOKANE WASHINGTON	47	184	97	158	58	77	180	97	95	111	65	128	81	84	74	133	68	130	60	137	156	174	205	72	74	215	107	219	124	207	74	119
STATE COLLEGE PENN.	32	142	212	86	220	32	217	263	18	164	237	51	56	271	284	262	254	264	187	28	279	232	253	131	150	204	310	217	368	242	118	187
STERLING VIRGINA	31	221	217	227	227	127	161	146	19	242	236	35	124	268	276	---	256	261	215	55	265	241	238	139	100	273	159	272	277	245	79	188
STILLWATER OKLAHOMA	244	287	269	302	232	311	237	219	306	303	282	174	322	322	305	310	248	280	255	316	281	329	170	296	339	339	340	343	179	34	191	270
SWAN ISLAND W.I.	358	131	357	80	402	435	454	513	488	436	494	509	364	196	457	525	---	388	389	511	460	541	502	506	524	267	461	501	540	485	557	428
TAMPA FLORIDA	250	381	380	331	227	301	---	---	---	142	154	182	117	330	---	119	---	---	211	247	291	286	144	344	90	---	156	315	413	330	272	251
TUCSON ARIZONA	324	328	312	329	329	338	328	353	347	322	349	363	354	353	345	350	221	352	322	356	269	216	323	378	380	372	267	338	365	376	391	334

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

JANUARY 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .					Equipment malfunction - all data doubtful																											

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

These data are of an experimental nature and are published as received from the Huntley Exp. Station. **The instrument with which they were measured has not been checked by the Weather Bureau.**

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
Albuquerque, N. Mex.	00311	00301	05299	00290	02318	00321	06536	00388	00323	00329	00341	00309	00337	00328	00381	00327	00291	05300	02326	00298	00288	00323	00356	00349	00327	00312	00299	06286	00328	00307	00301	321
Bedford, Mass.	-----	00344	00304	-----	-----	05325	35349	00336	05332	00325	-----	-----	-----	-----	00341	00352	00367	-----	-----	35360	-----	00328	00320	00349	-----	-----	00382	-----	00362	00386	00329	344
Bismarck, N. Dak.	00302	36313	00371	34355	35373	20390	35388	00440	36404	35354	00420	00363	33361	00349	00376	35333	38405	35372	00421	00348	00330	00380	35435	00400	00447	00342	00364	05342	00333	34321	00355	371
Caribou, Maine	34339	35363	35353	36352	36372	33378	37376	00392	02371	-----	00366	00417	00396	34414	35441	35396	00342	-----	00351	06357	-----	06361	06343	00374	-----	00394	05461	00495	00376	06445	00347	384
Green Bay, Wis.	00317	34321	00339	00349	33369	35383	00390	34402	36416	00365	34402	-----	00394	33384	00364	05409	05379	03402	34368	00418	00323	00329	03367	-----	-----	00392	00438	00370	06343	02344	02343	372
Nashville, Tenn.	-----	00338	00308	00301	00313	05359	00306	04264	00260	00299	00325	-----	-----	00361	00362	04359	00330	00303	04333	00349	00303	00293	00305	-----	00381	00321	00310	00334	00308	00302	07369	322
Sterling, Va.	06396	00375	00283	00311	00318	03313	00313	33286	06294	00304	00297	06369	06413	00342	00364	35384	00350	00335	00327	37370	00335	00299	00314	04331	00335	00401	00322	00348	00329	00321	34296	335

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g . 350 milli-atmo-cm ozone implies an ozone layer 0. 350 centimeter thick. The code λ s designates the type of measurement made

DESCRIPTION of CHARTS

CHART I., A. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum which in turn are computed from the daily maximum and minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1931-60) for the first-order Weather Bureau stations.

CHART II. TOTAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. -In this chart the anomaly in the month's precipitation is shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1931-60) for about 270 first-order Weather Bureau stations.

CHART IV. TOTAL SNOWFALL. CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND.-Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and cooperative stations as of 7:00 a. m. Eastern Standard Time on the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

> Isolines for Charts I, II, III, IV, and V, are drawn through points of approximately equal value. Caution should be used in interpolating on these charts, particularly in mountainous areas.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION, LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. -Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm. $^{-2}$) for all Weather Bureau stations which record this element. Chart VII-B shows the percentages of the mean based on at least 5 years of record during the period 1950-1960.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a. m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

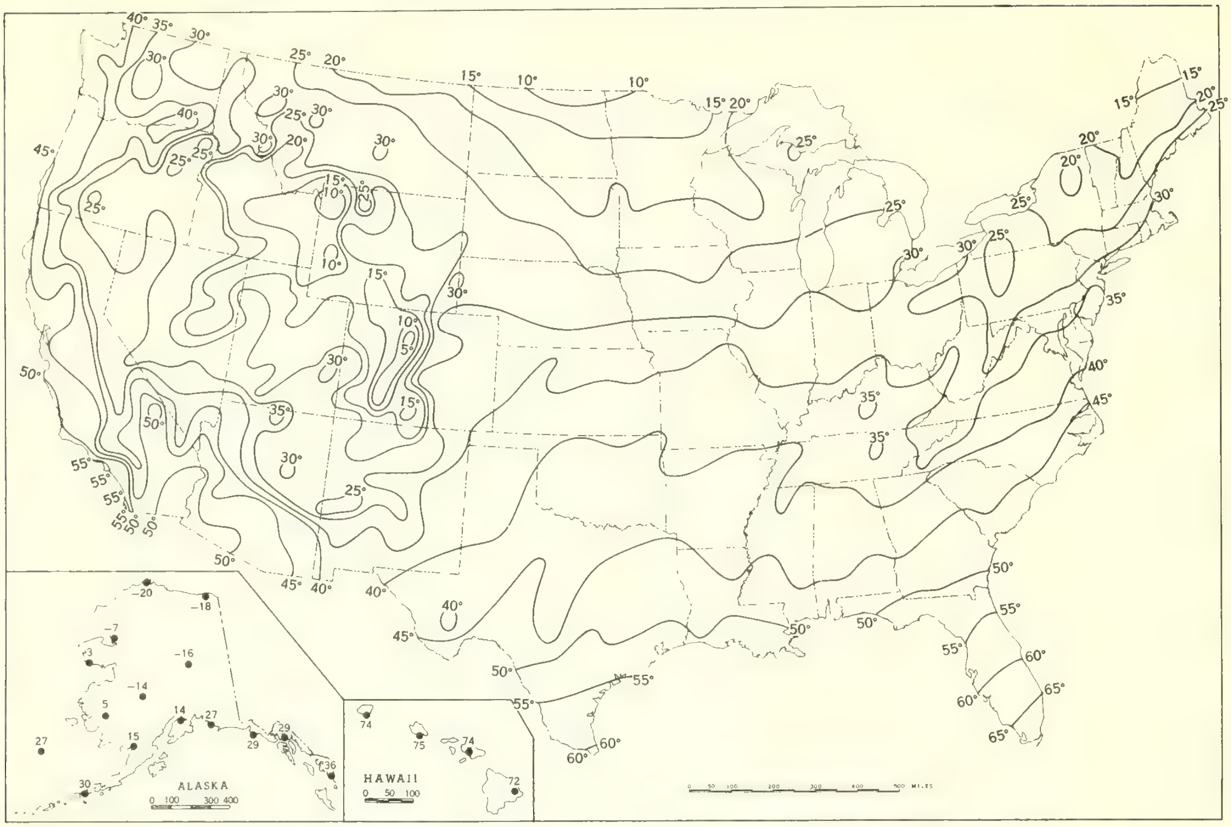
CHART X. AVERAGE SEA LEVEL PRESSURE(mb.) AND SURFACE WINDROSES. -The average monthly sea level pressure is obtained from the averages of the 7:00 a. m. and 7:00 p. m. EST pressures reported at Weather Bureau Stations. Resultant surface wind directions (to 36 points of the compass) for the month are shown by arrows. Resultant speeds are indicated by the length of arrow shafts. Constancy ratios (resultant surface wind divided by average surface wind for month) are shown to two decimal places. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record; and for each 10° intersection in a diamond grid over the oceans, from interpolated values read from the Historical Weather Maps for the 20 years of best coverage prior to 1940.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

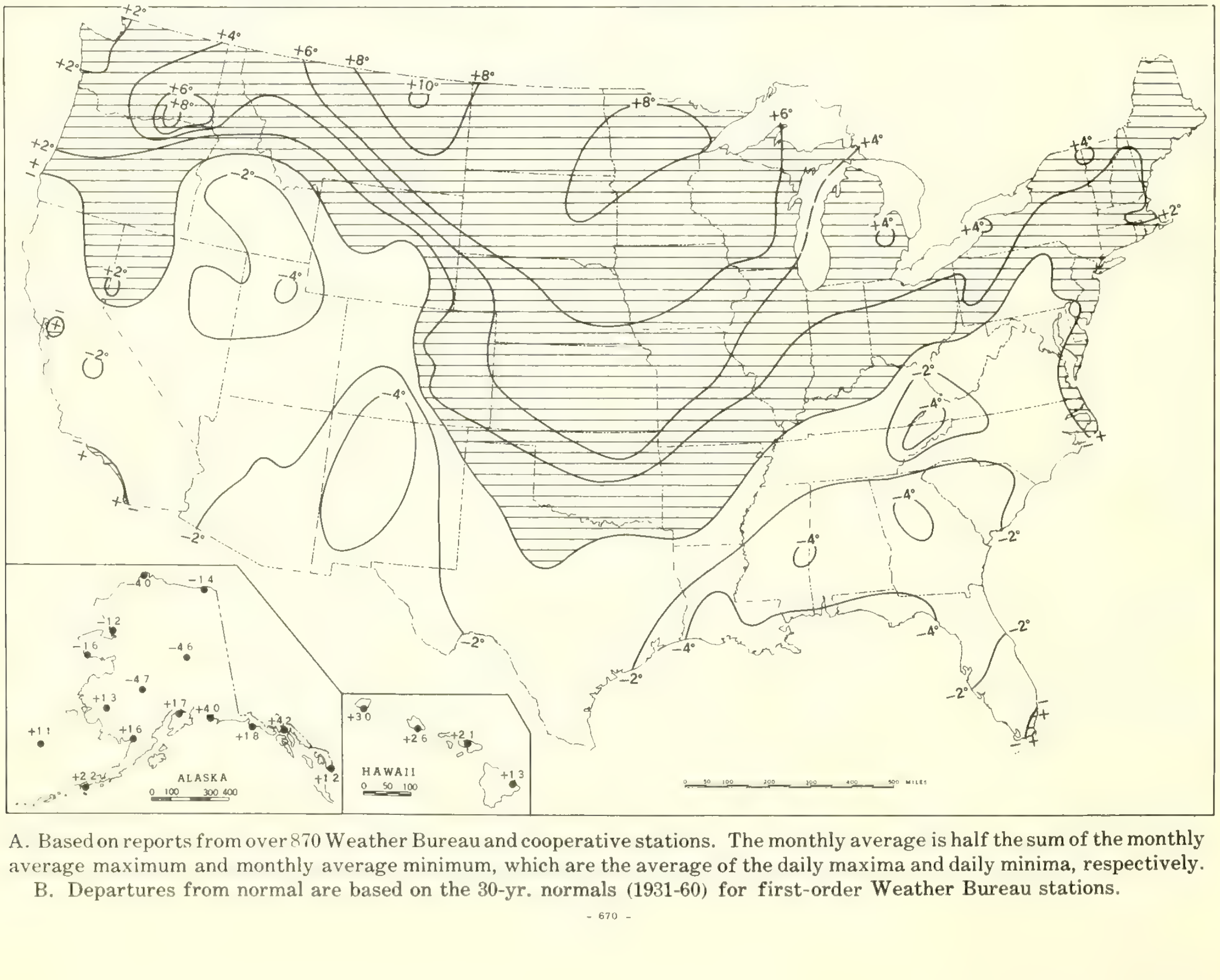
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages for surface elements are presented in the CDNS Annual Issue each year.

Chart I. A. Average Temperature (°F.) at Surface, January 1964.



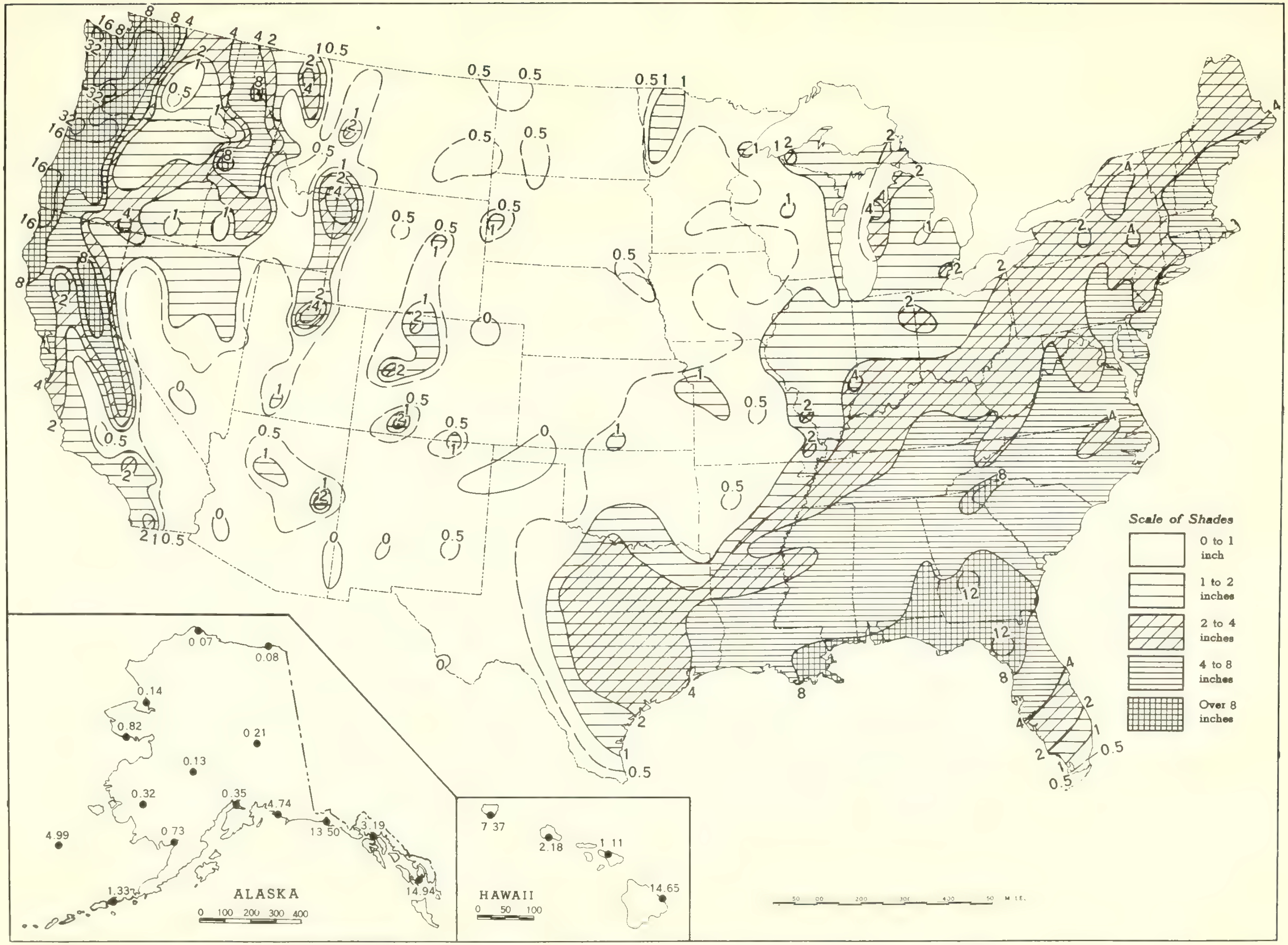
B. Departure of Average Temperature from Normal (°F.), January 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

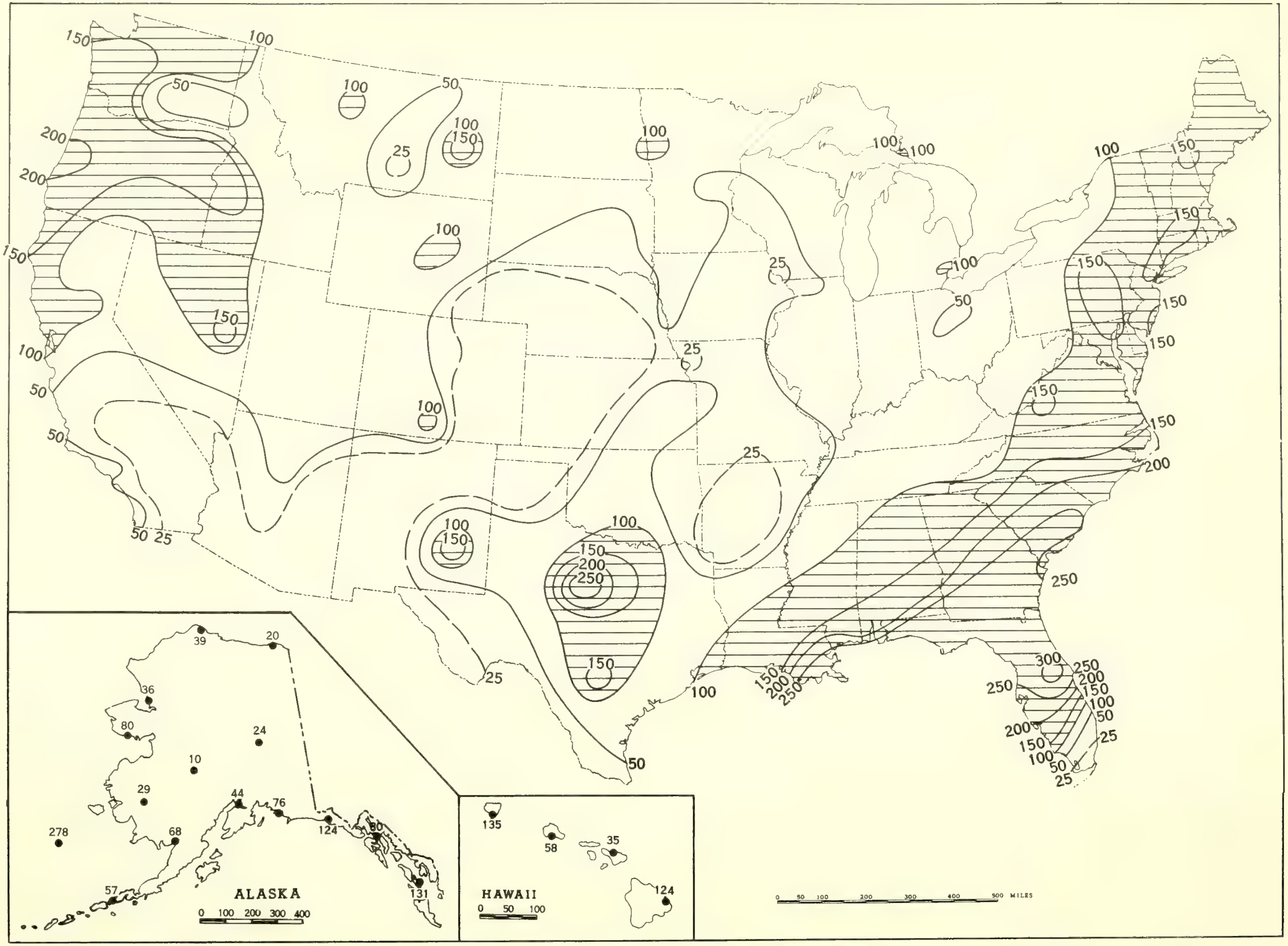
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), January 1964.



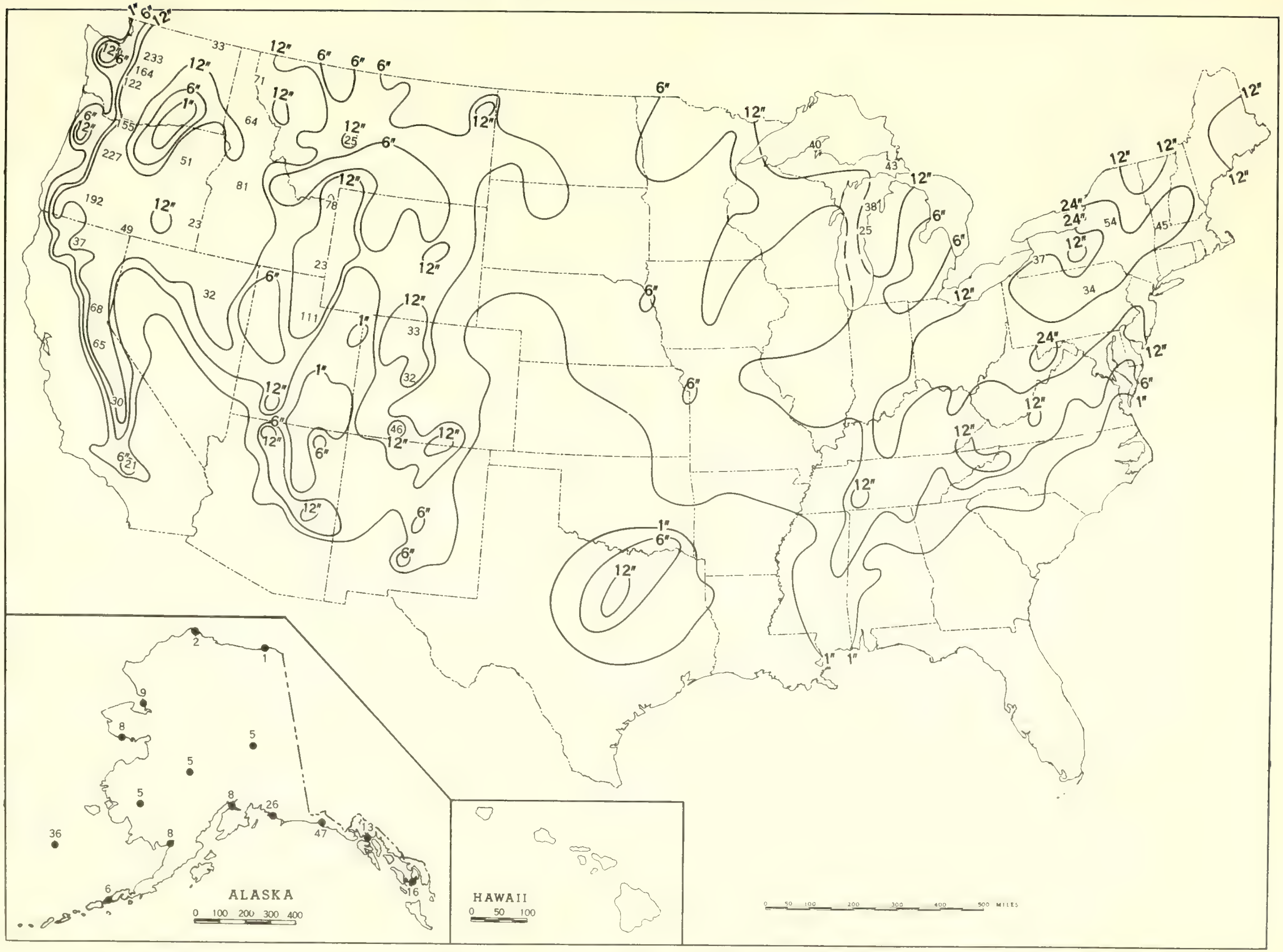
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, January 1964.



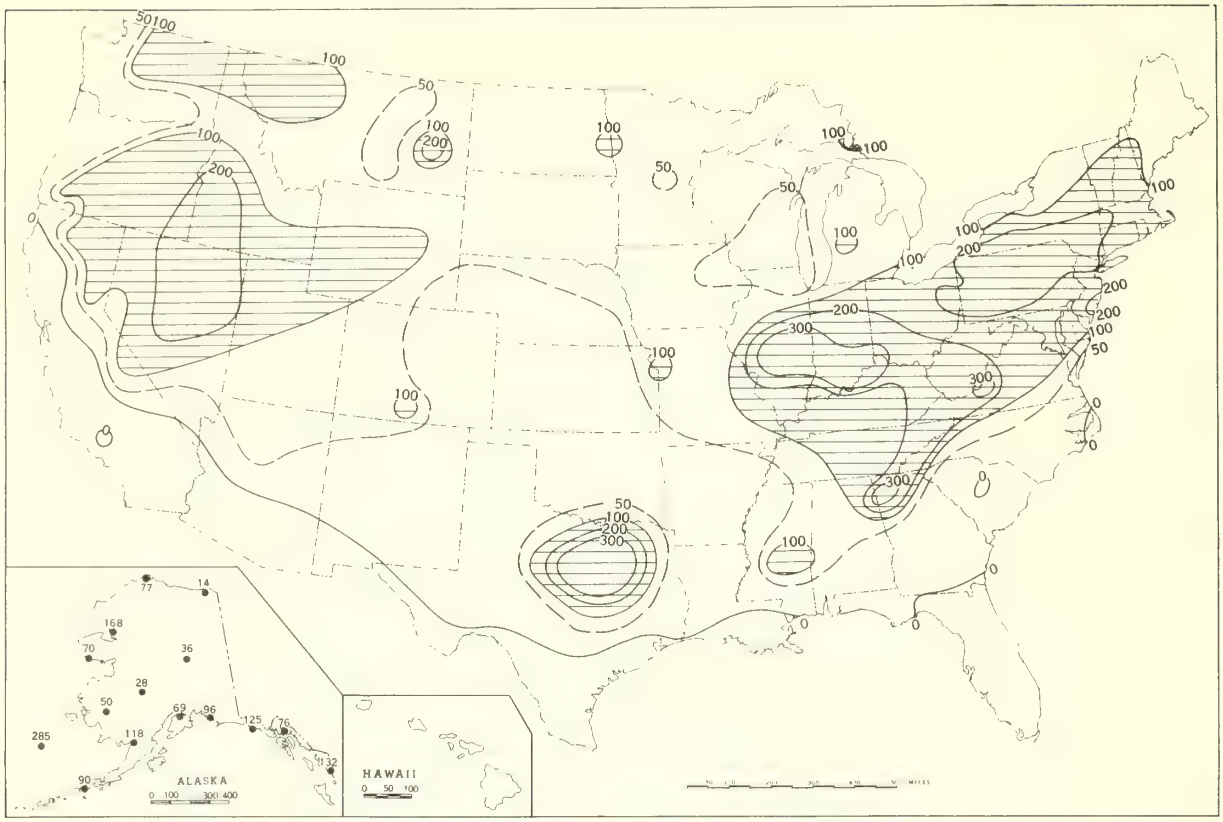
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), January 1964.

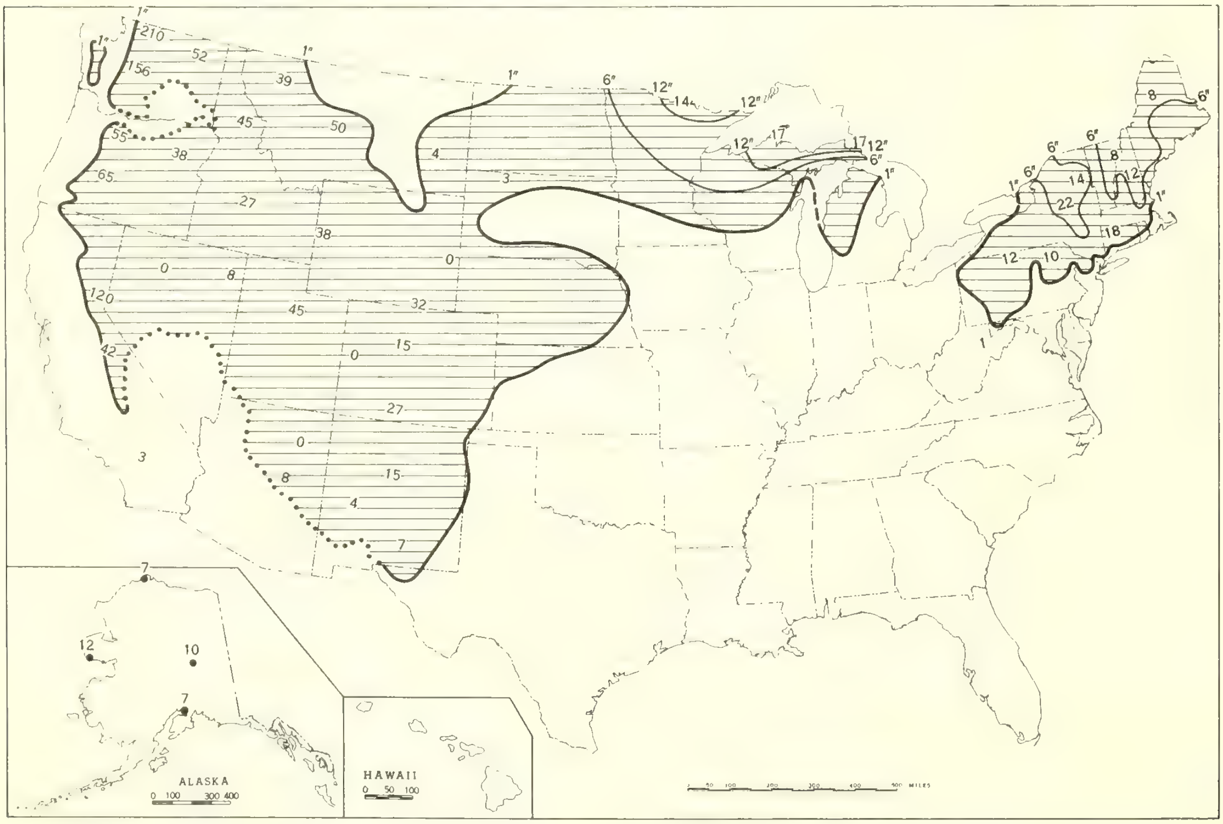


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, January 1964.

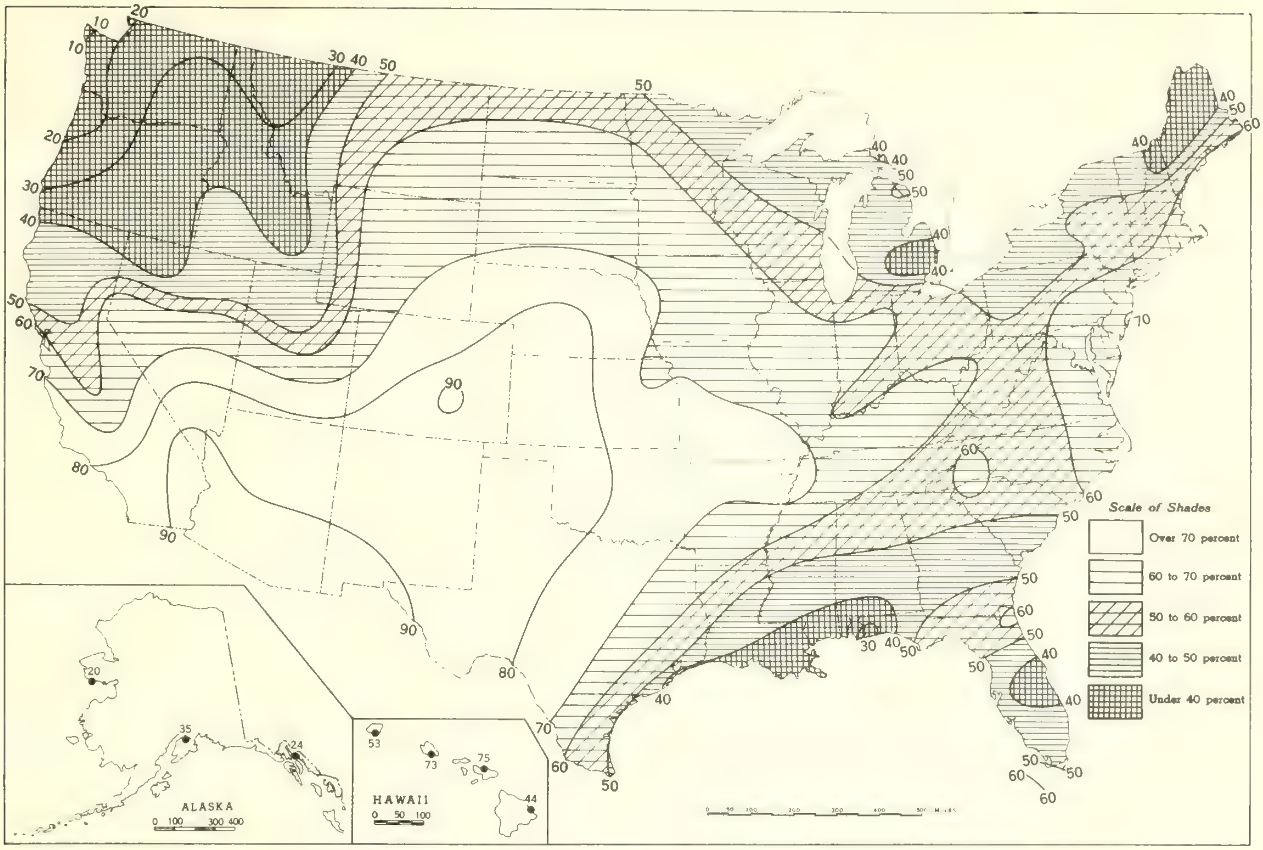


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., February 3, 1964.

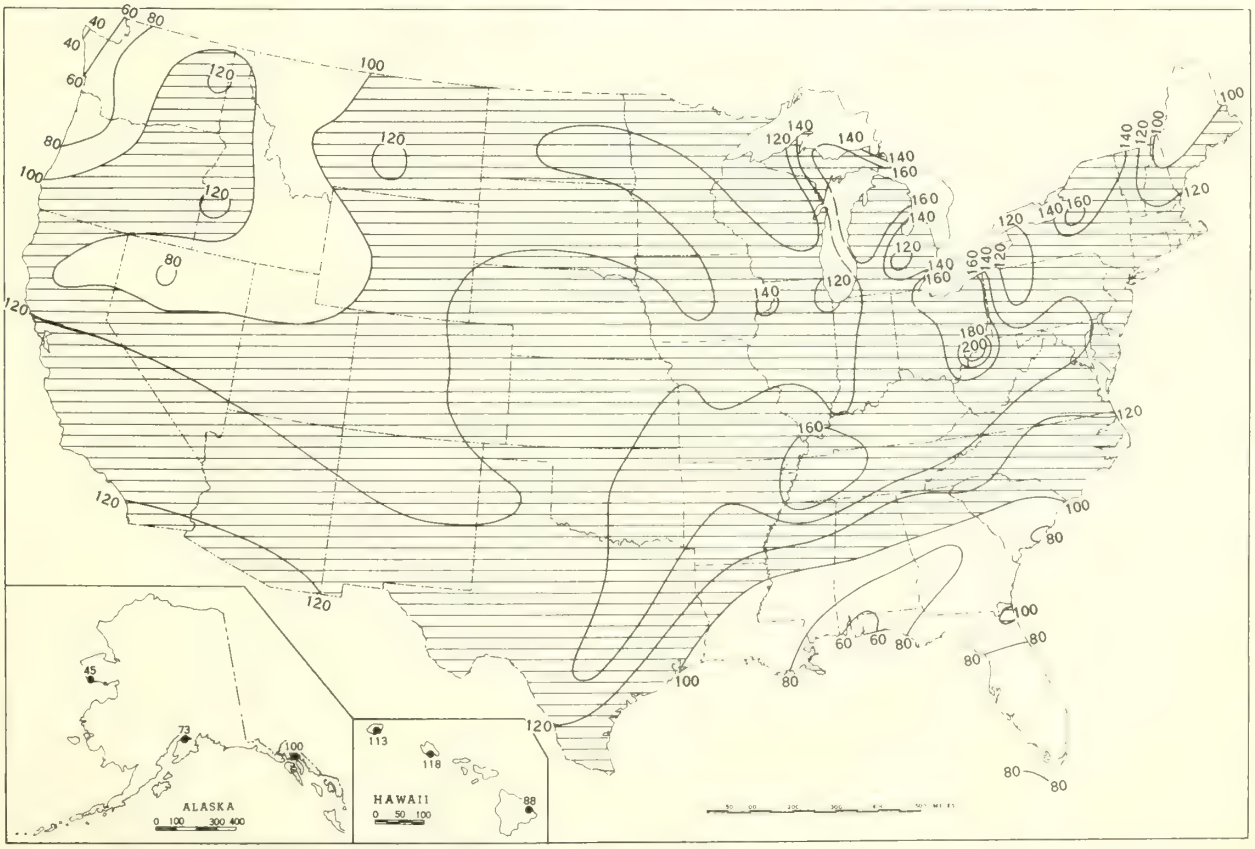


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, January 1964.

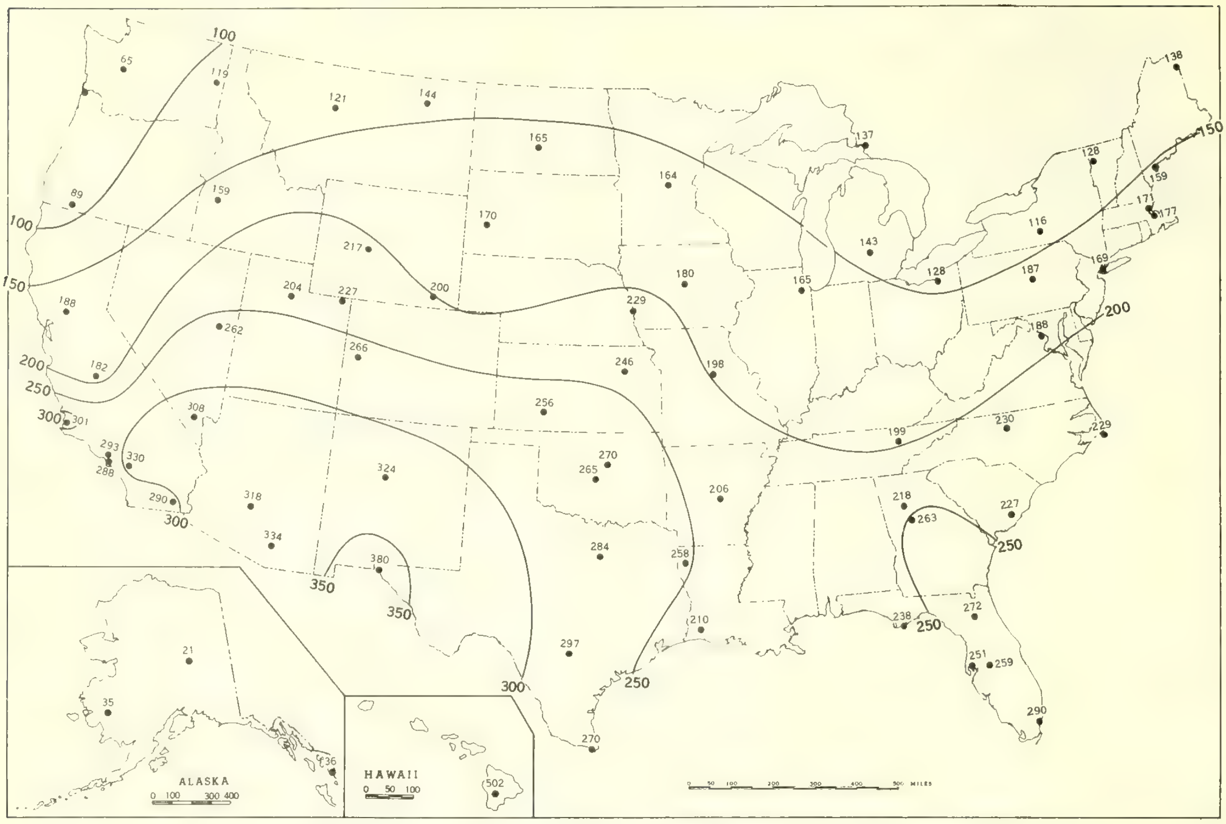


B. Percentage of Mean Monthly Sunshine, January 1964.

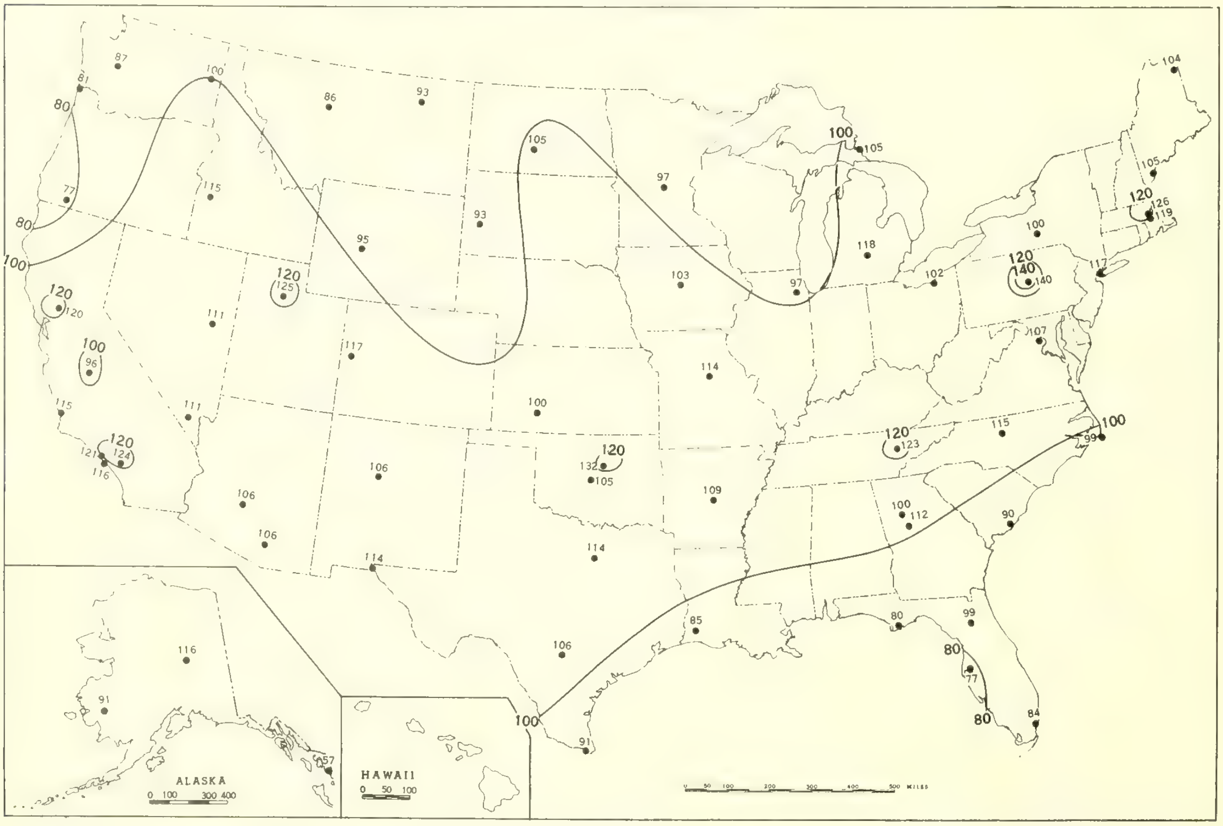


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, January 1964.

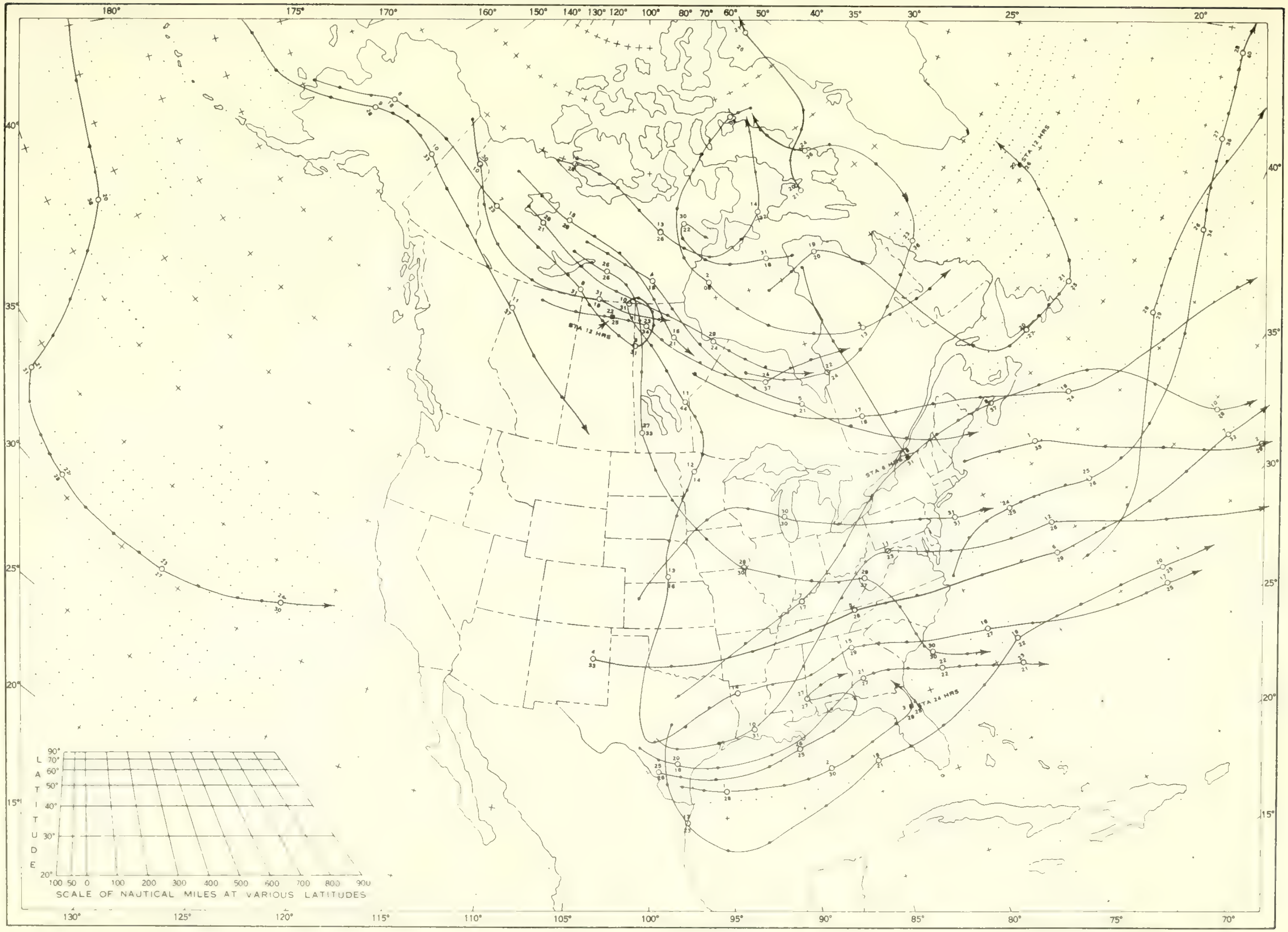


B. Percentage of Mean Daily Solar Radiation, January 1964.



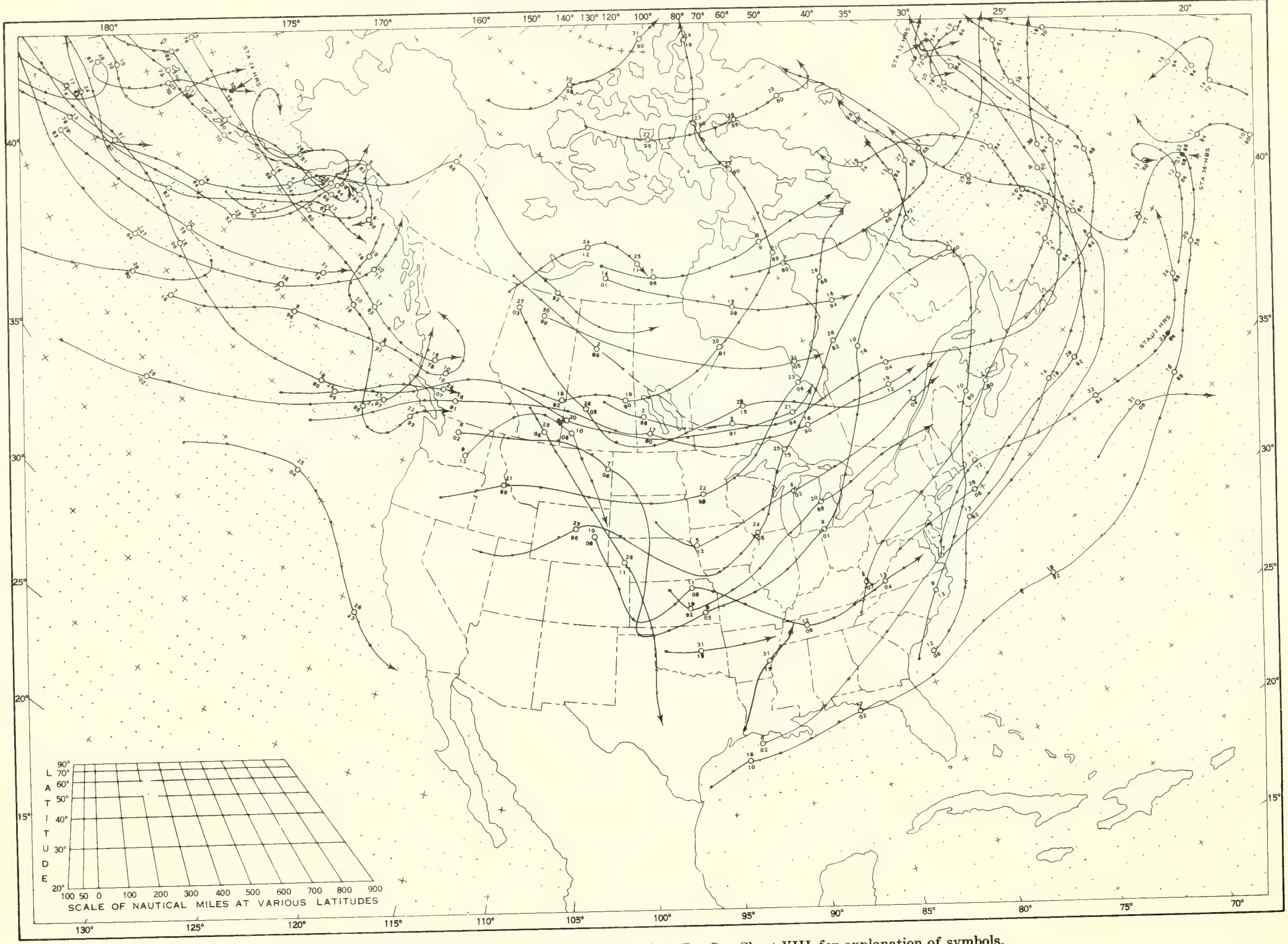
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on **at least 5 years of** record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, January 1964.



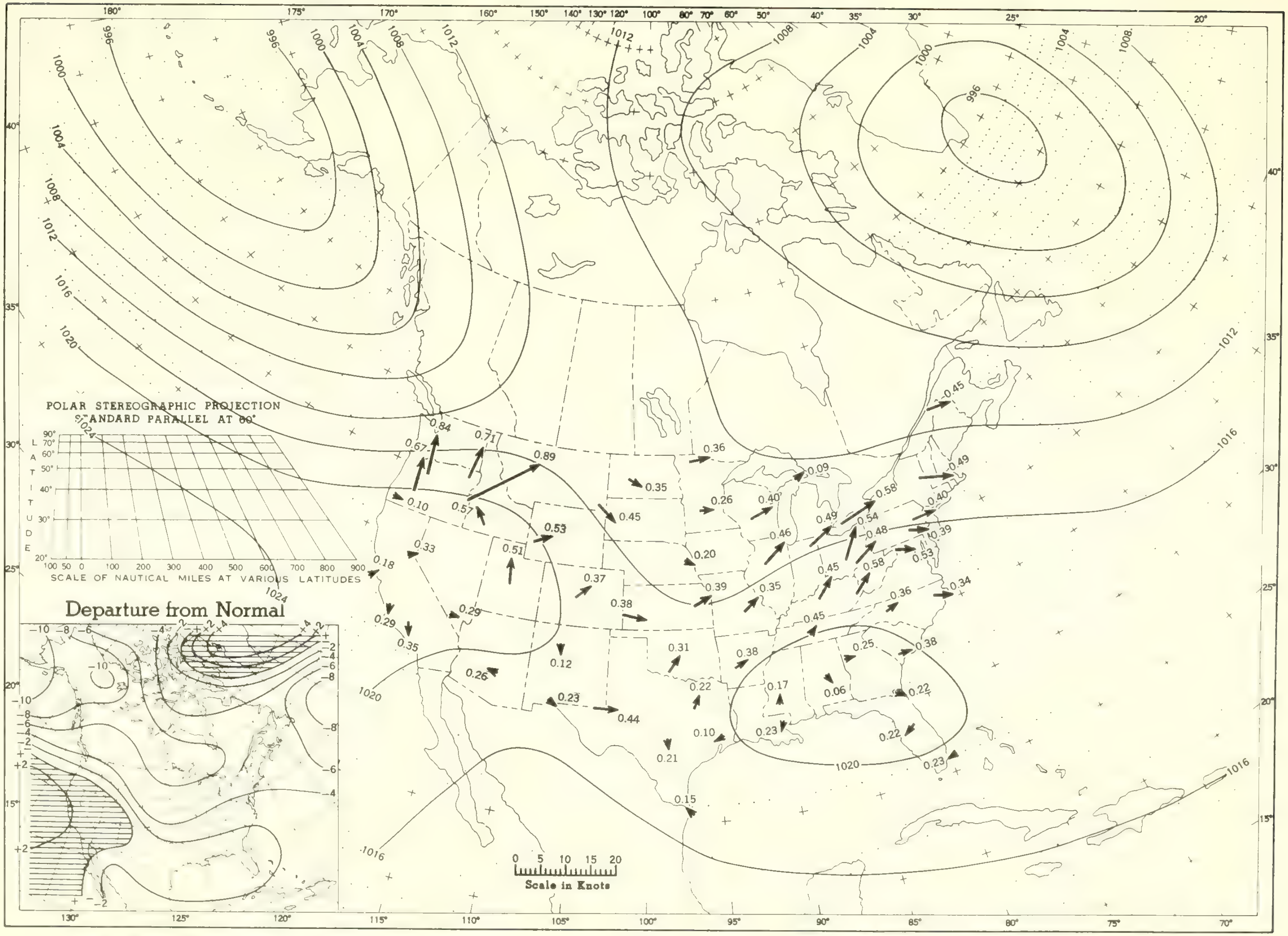
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, January 1964.



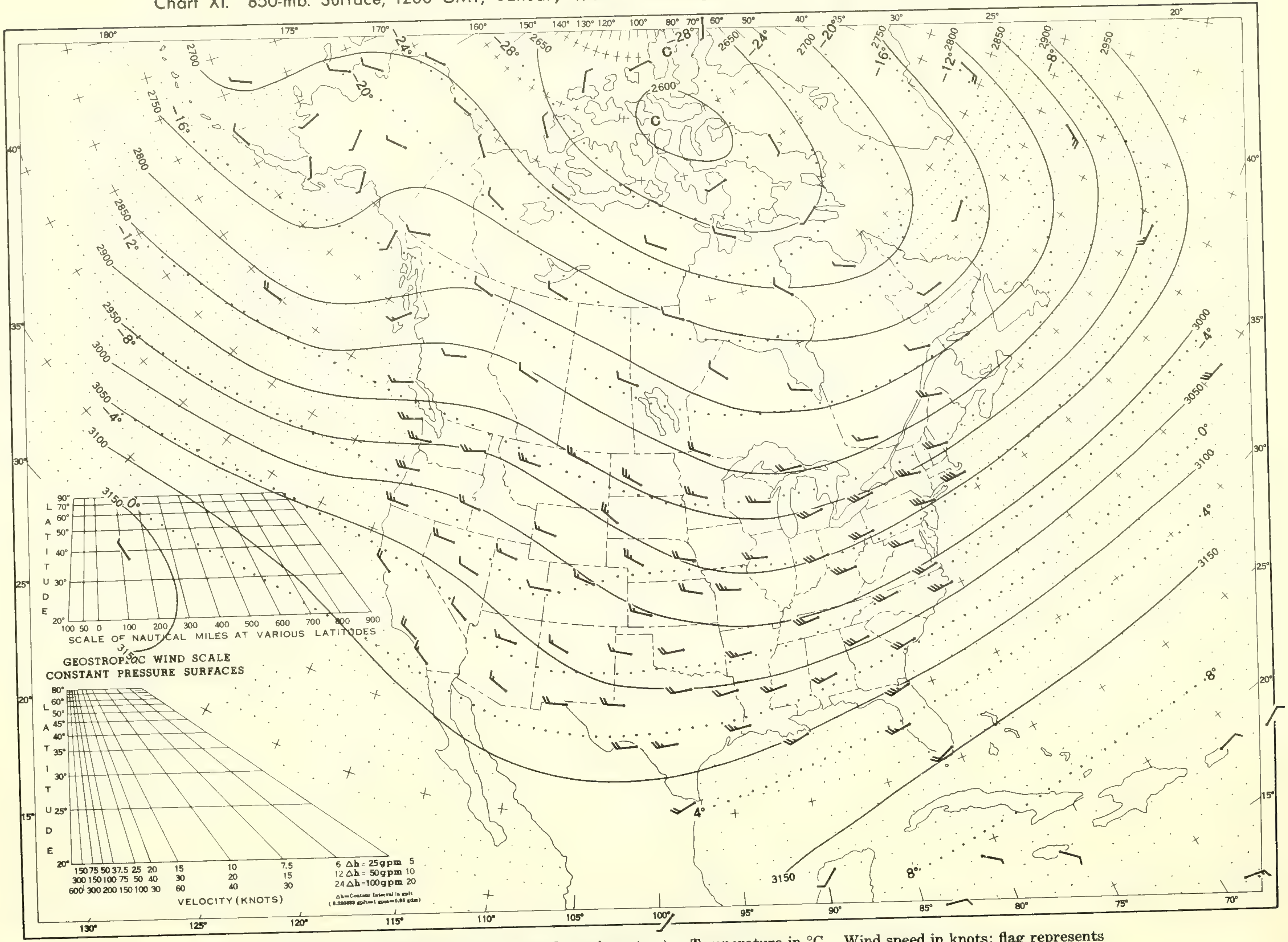
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, January 1964. Inset: Departure of Average Pressure (mb.) from Normal, January 1964.



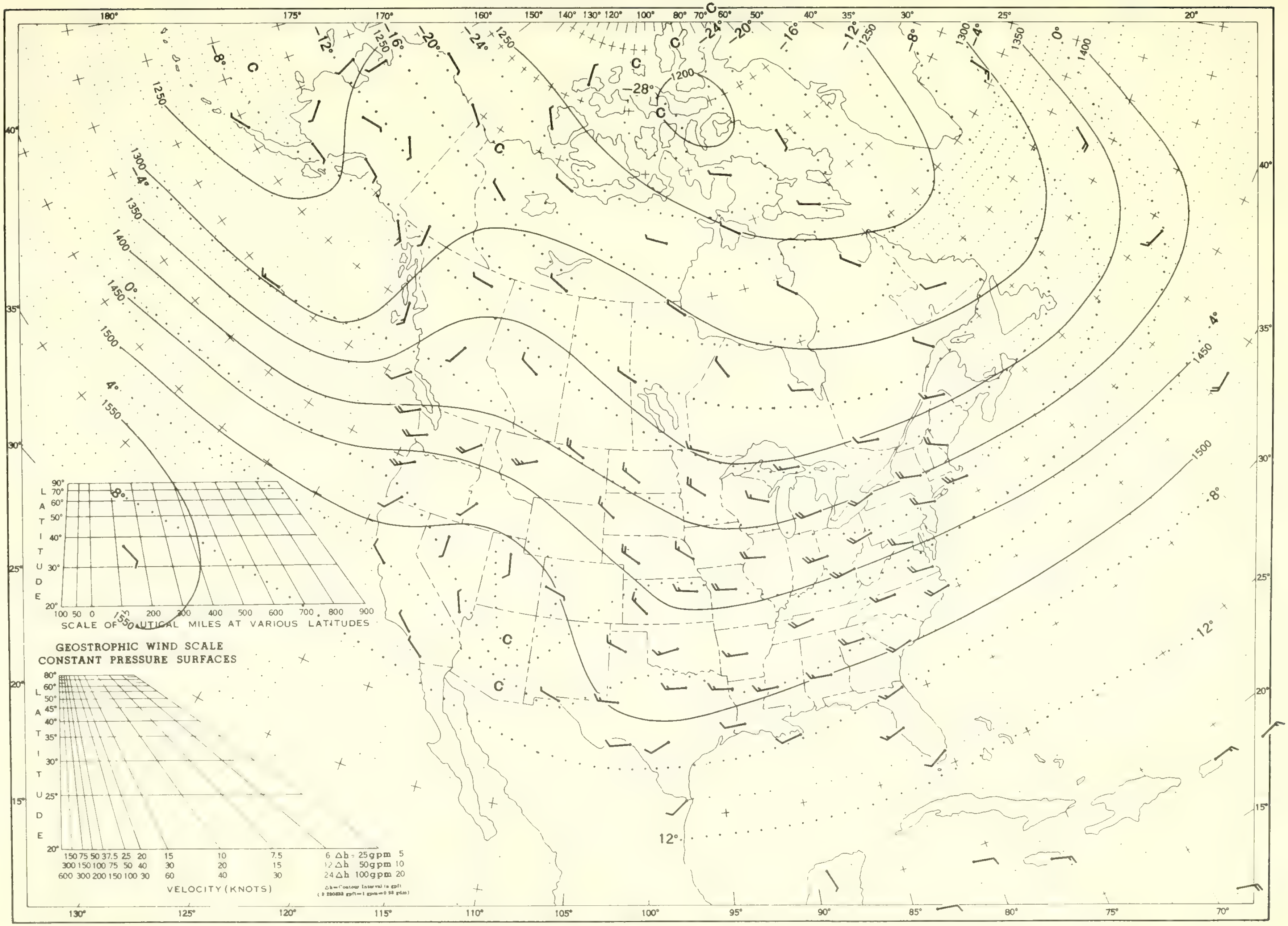
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



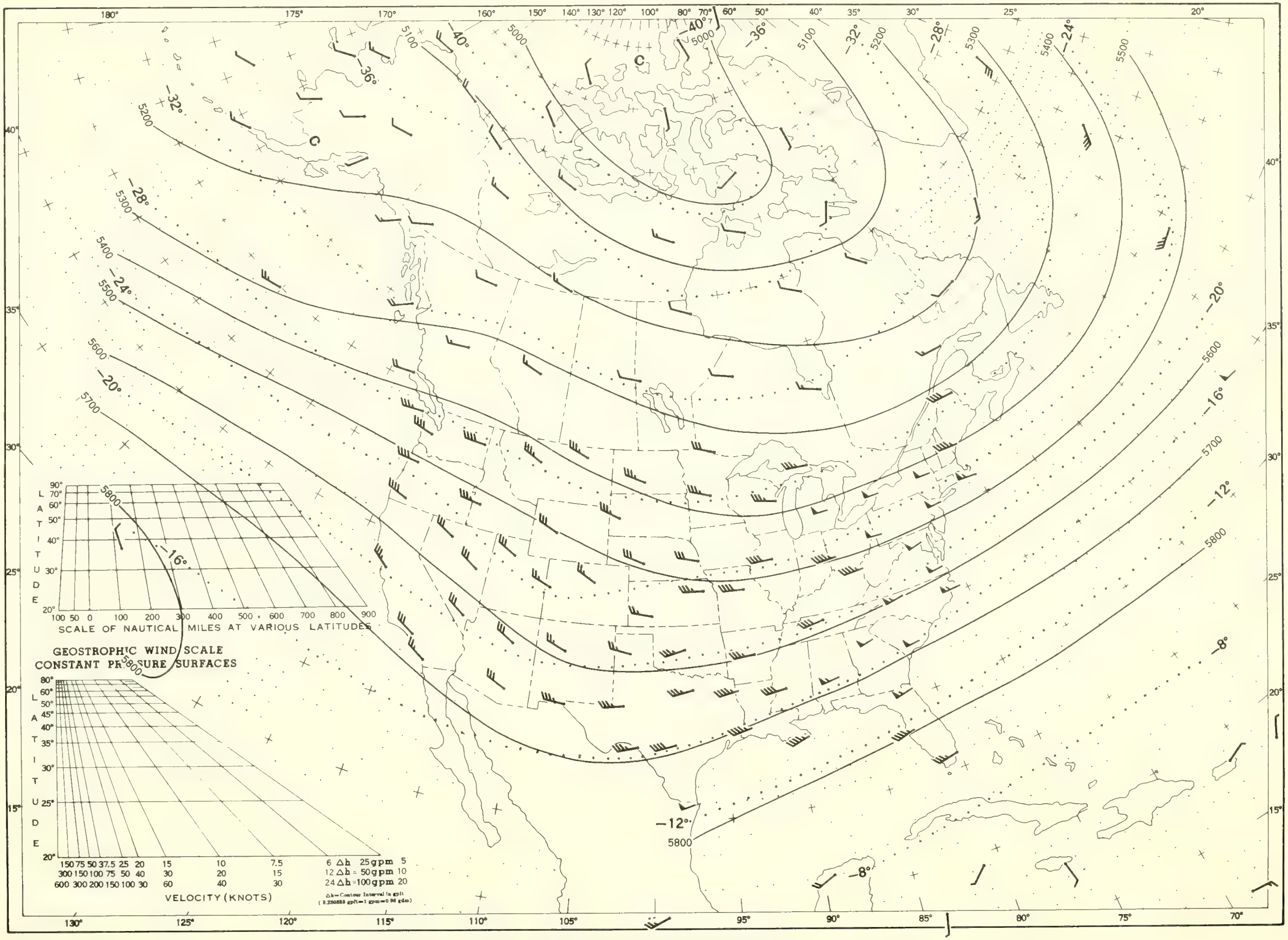
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



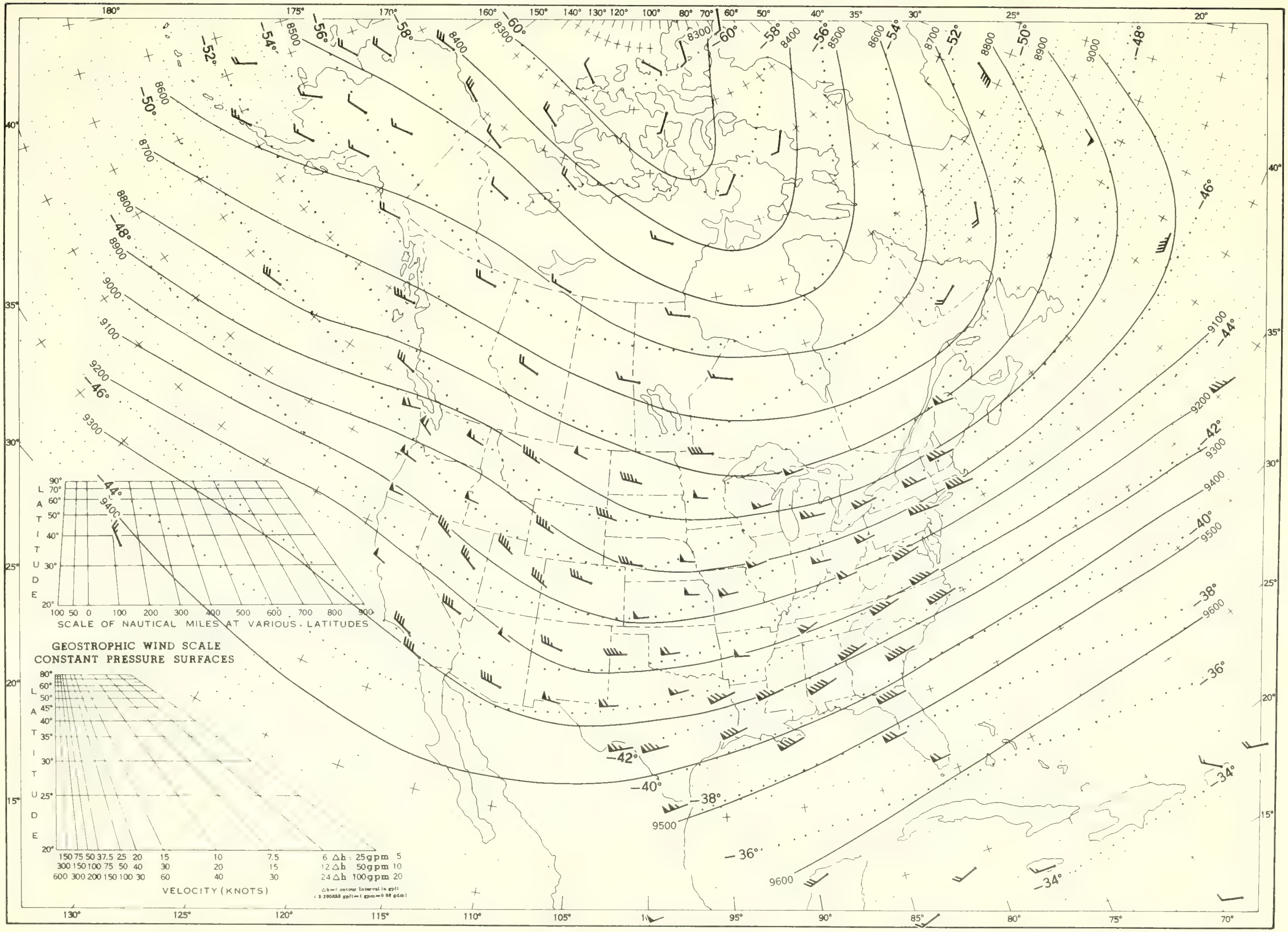
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



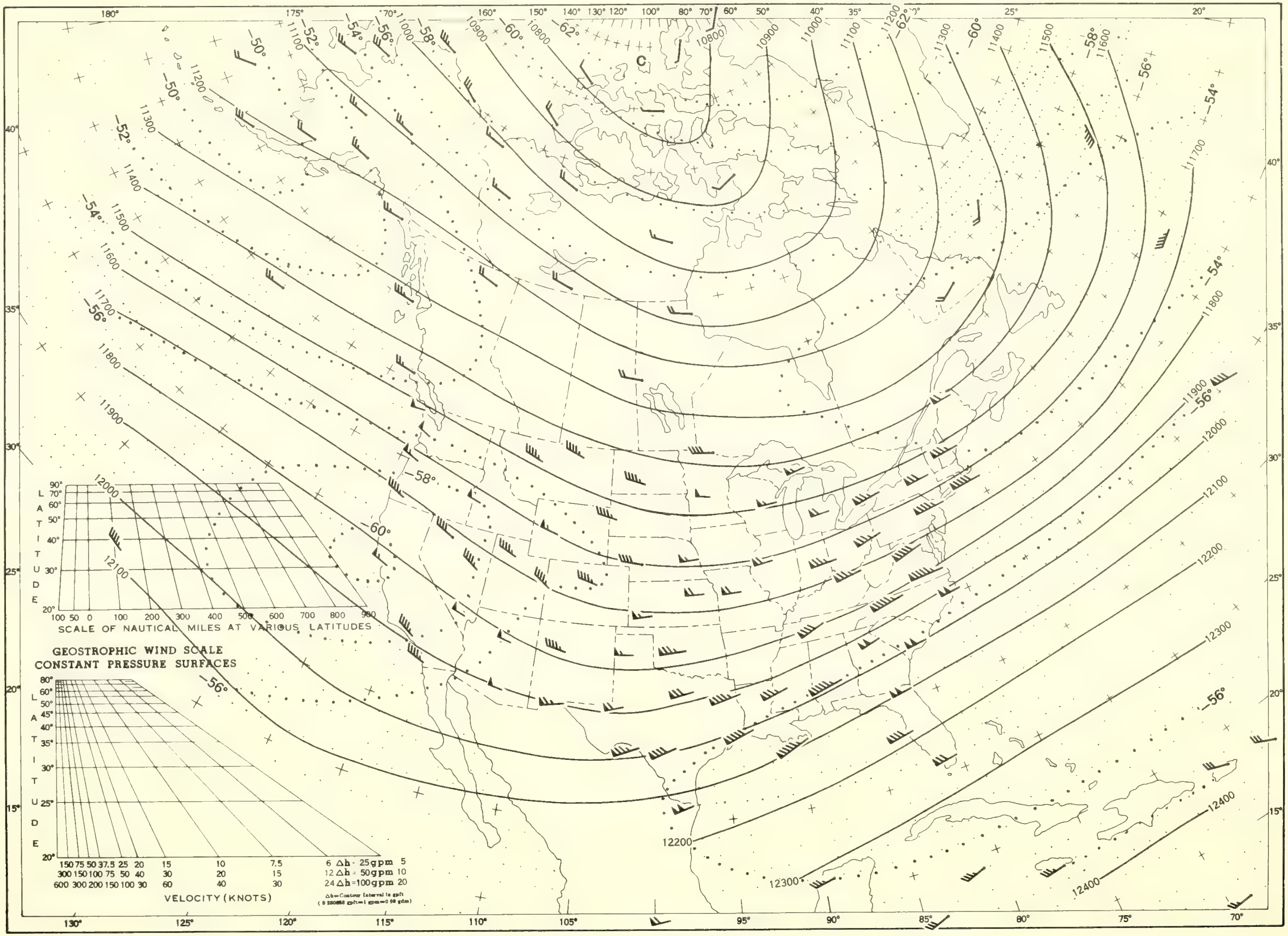
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



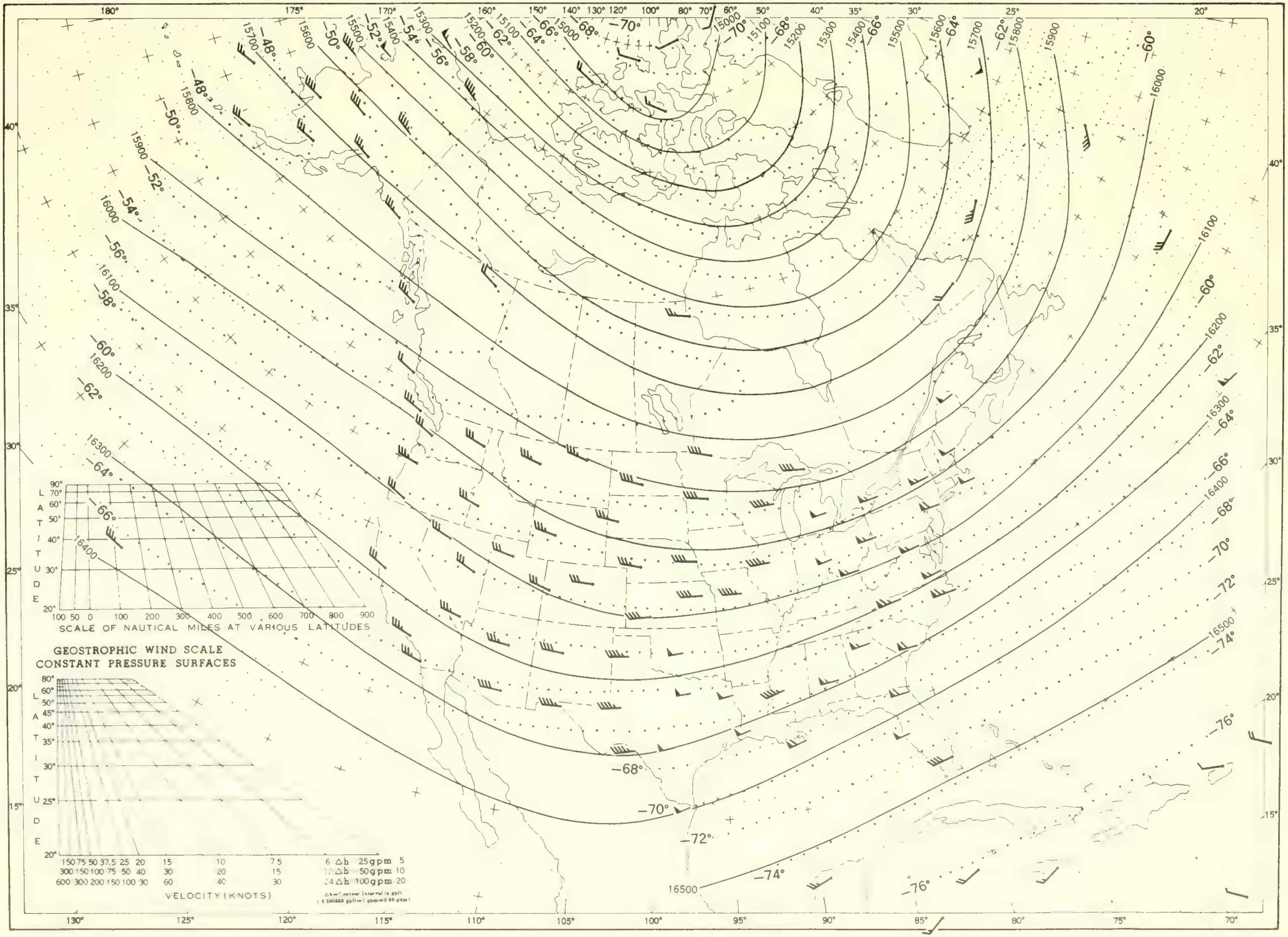
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.



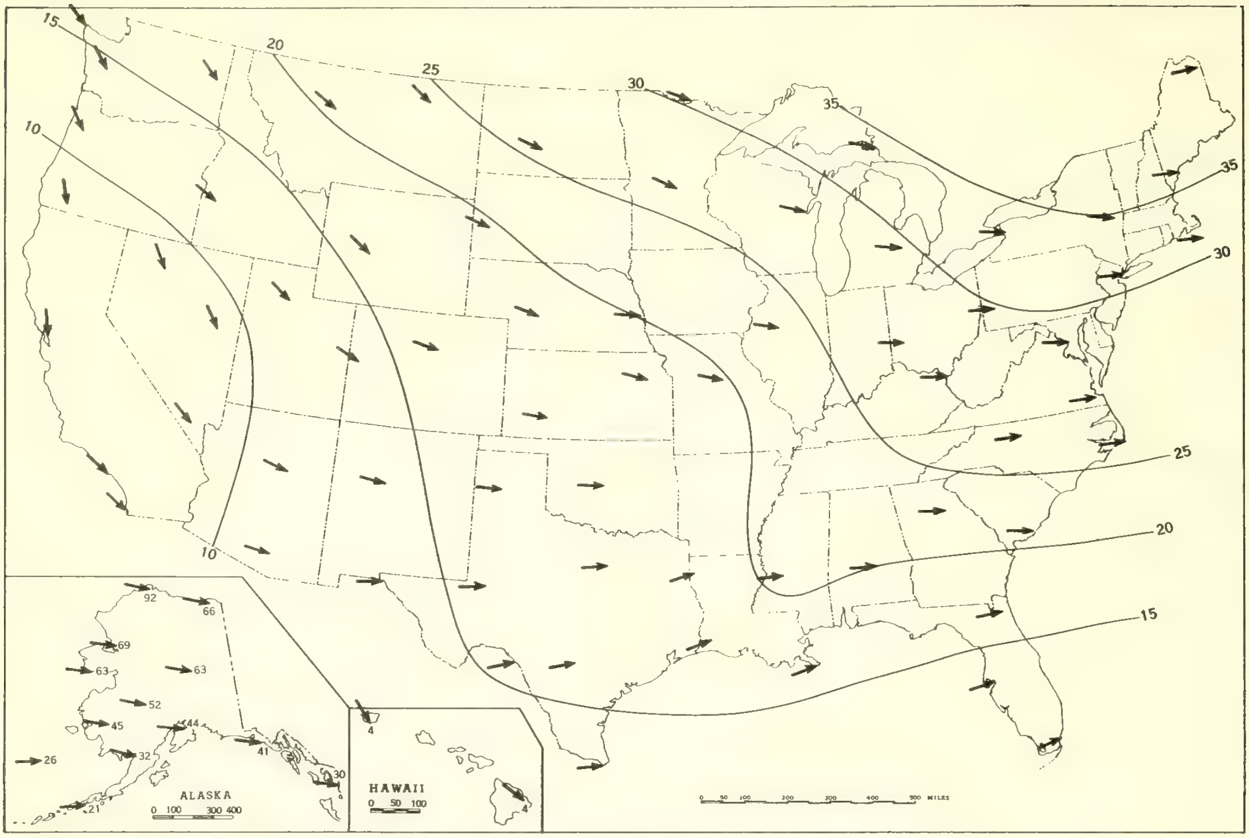
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, January 1964. Average Height and Temperature, and Resultant Winds.

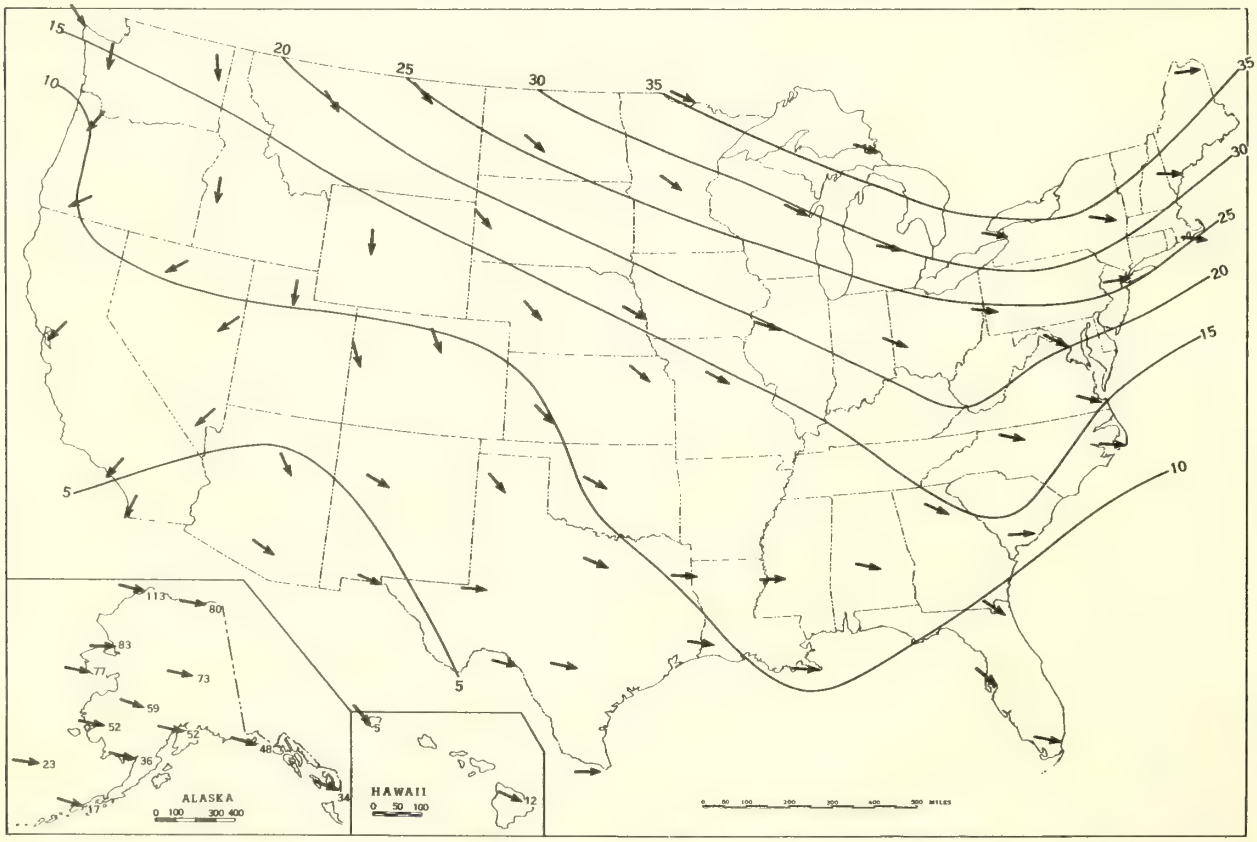


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, January 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, January 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville, N. C. -5/7/64-1850

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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Volume 15 No. 2

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 2 **FEBRUARY 1964**

GENERAL SUMMARY OF WEATHER CONDITIONS

During the first week of February, an intense, slow moving Low brought a foot or more of snow over a wide area extending from New Mexico to south-central Nebraska. The snow reached depths of 18 inches from Hereford, Tex., northeastward to the Oklahoma Panhandle and from 22 to 25 inches in the Borger, Tex., vicinity. Strong winds piled the snow in drifts up to 20 feet deep, isolating some Texas towns and ranches. Near the weekend, a storm moved from Canada into the northern Great Plains. Winds increased to 50 m.p.h., in gusts, and the temperature at Bemidji, Minn., plunged to 30° below zero.

During the second week, a storm brought generous rains to the western edge of Oregon and Washington and, as the storm moved inland, snow flurries fell in the higher elevations of those States and eastward to the Rocky Mountains.

A storm centered over the northern portion of the Gulf of Mexico produced rains along the Gulf during the third week of February. The storm intensified and moved up the Atlantic seaboard, bringing rain to the Southeast and snow to the Northeast. A storm developed over the Rocky Mountains. As it spread southward through the northern and central Rockies and adjacent Great Plains, the winds gusted to 60 m.p.h. A storm over southeastern New Mexico moved eastward, bringing snow flurries to that State and to nearby parts of Texas. Drenching rains fell over parts of south Texas and 2 to 8 inches of snow over other parts. Flurries fell at Houston and Galveston.

In the final week of February, a storm intensified over southern Saskatchewan, Canada. It brought subzero temperatures to the northern Great Plains. Northerly winds reached 60 m.p.h. at some locations in the northern Rocky Mountains and the northern Great Plains. As the arctic front continued southward and eastward, subzero temperatures occurred over the northern Appalachians and subfreezing weather reached the Gulf of Mexico. Light snow slicked the highways of the central Great Plains and snow and rain fell over the highlands of the Middle Atlantic States. A disturbance centered over the Gulf of Mexico produced generous rains along the coast. As the storm moved up the Atlantic coast, it produced several inches of snow over the southern Appalachians.

Tatoosh Island, Wash., received 6.80 inches of rain during February. This is slightly less than normal. In other parts of Washington, February 1964 was among the driest Februarys of record. It was the driest February at Olympia and the third driest at Walla Walla. It was the third February of record at Olympia in which no snow fell. Oregon received little rain during the month. It was the driest February in 28 years at Pendleton, and the driest since 1932 at Roseburg. At Salem, it was the second driest February of record and the coldest since 1956.

Idaho was cold and dry. At Boise, February 1964 was the coldest February since 1933 and the first February of record in which the temperature did not rise to 45°. At Pocatello, it was the coldest February of record and the driest since 1956. Temperatures at Idaho Falls averaged 11.5° below normal, making it the coldest February since 1950. Boise, where the sunshine in February averages 48 percent, recorded 86 percent of sunshine in February 1964.

California stations recorded dry, sunny weather in February 1964. At Blue Canyon, the precipitation was the least of record, 0.82 inch. Rainfall at Red Bluff totaled only 0.02 inch, the least amount in 68 years. The sun shone 94 percent of the time it was above the horizon, setting a new record for Red Bluff. At Fresno, it was the third February of record (1878) without measurable rain. That station received a light sprinkle. Long Beach received no rain in February. It was the first time in 21 years there was neither rain nor heavy fog in February. Frequent Santa Ana winds were noted at Burbank, the relative humidity continued low, and, with only a trace of rain, the record set in 1933 was equaled.

At Los Angeles, there were 24 clear days; twice the average number for February. Similarly, Sacramento, San Diego, San Francisco, Santa Maria, and Santa Catalina experienced mostly sunny skies with low relative humidity and little rain.

Nevada and Arizona were cool and dry in February. At Elko, Nev., temperatures averaged below normal on every day except the 1st. At Ely, sunshine averaged 85 percent, setting a new record; and the rainfall, 0.07 inch, also set a new record. Reno was cool and dry. The lack of snow caused the ski slopes to become icy and in generally poor condition by the end of the month.

The drought continued at Prescott, Ariz., where the rainfall totaled only 0.07 inch. Flagstaff reported dry (0.14 inch) and windy weather. Phoenix received only 0.01 inch of rain. It was the coldest February since 1939 at Phoenix and the third coldest of record. Similarly, at Tucson, it was the coldest February since 1939.

New Mexico continued cold. At Albuquerque, it was the coldest February since records began in 1893. The snowfall, 8.2 inches, exceeded all previous February records. At Roswell, it was the coldest February since 1905, and at Raton, it was the next to the coldest of record. Colorado Springs, and Pueblo, Colo., were cool and dry. Denver was cooler but somewhat wetter than normal.

Wyoming was cold, windy, and dry. In contrast, Montana experienced warmer than normal temperatures. Temperatures at Glasgow averaged more than 14° above normal. At Havre, it was the warmest February since 1954, the driest since 1934, and the windiest since records began in 1879.

February was dry over the northern Great Plains. Huron and Sioux Falls, S. Dak., reported the warmest in 10 years and the driest in 15 years. Many stations remarked about the absence of severe storms. Temperatures averaged 0.4° above normal at Kansas City, Mo. In Kansas, the dry pattern continued.

Abilene, Tex., reported February as cool and wet. That station received 4.0 inches of snow on the 20th. At Dallas and Ft. Worth, February was cool and dry, but neither the coolest nor the driest of record. It was the coldest of record at Corpus Christi.

Cool weather predominated over the lower Mississippi River Valley. The highest temperature at Memphis, Tenn., was 62° on February 2. Memphis usually records 70° on one or more days in February.

Cool weather persisted over the upper Ohio River Valley. Monthly minimums were not extremely low, but temperatures averaged much lower than usual. Akron, Ohio, recorded no zero temperatures during the month, but the monthly average was several degrees below normal.

Buffalo, N. Y., noted that the minor light snows benefited winter sports but Albany remarked that 21.4 inches of snow was rather heavy for February. Snowfall was heavy in Pennsylvania. The heavy snow at Allentown on the 19th caused many schools to close. Harrisburg received 30.2 inches, more than 4 times the normal fall during February. Nantucket, Mass., received unusually heavy snow from several storms. Worcester, Mass., experienced a normal February, except for the unusually heavy snow.

Virginia, West Virginia, and North Carolina also received heavy snow. Beckley, W. Va., recorded 30.8 inches, or 4 times the normal amount. Both Elkins and Charleston set new snowfall records for the month. Asheville, N. C., set a new February record with 13.9 inches of snow.

Southeastern stations called February cold, cloudy, windy, wet, and generally unpleasant. At Athens, Ga., temperatures averaged colder than in any February since 1921 and Atlanta, Ga., complained that there was about twice the usual number of rainy days.

Florida was cool. Temperatures at Jacksonville averaged several degrees below normal and at Key West February 1964 was the coolest in several years.

In summary, temperatures averaged above normal over Washington and northern Oregon, most of the Missouri and upper Mississippi River Basins, and over Maine. Temperatures over north-central Montana and northwestern North Dakota averaged more than 10° above normal. Temperatures averaged below normal over most of the rest of the United States. In central New Mexico, temperature departures exceeded -10°.

Most of the area west of the Rocky Mountain States received less than 0.50 inch of rain during February. The main exceptions included the western half of Washington, the coastal portion of Oregon, and the extreme northwestern part of California. Most of the area southeast of a line from northern Oklahoma to southern Maine received more than 2 inches. The main exception was the State of Texas, where the rainfall was generally less than 2 inches. Precipitation exceeded 4 inches over most of Mississippi, Alabama, and the Southern and Middle Atlantic Coastal States.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Citronelle	75	13	Valley Head	9	23	Headland	7.43	Albertville 2SE	1.69
Alaska	2 Stations	55	24+	Allakaket	-60	18	Little Port Walter	37.67	Big Delta FAA	.10
Arizona	Yuma WBAP	82	10	Maverick	-20	13	Alpine	1.12	55 Stations	.00
Arkansas	4 Stations	68	10+	Gilbert	7	22	Mount Magazine	4.46	Rogers	.67
California	Indio US Date Garden	86	20	White Mountain 2	-10	25+	Crescent City 7ENE	3.95	58 Stations	.00
Colorado	Holly	67	2	Taylor Park	-38	15	La Veta	3.21	2 Stations	.00
Connecticut	Westbrook	52	5	Coventry	-11	23	Norfolk 2SW	4.36	Coventry	1.50
Delaware	Lewes 1SW	59	5	Bridgeville 1NW	10	13	Dover	5.35	Newark University Farm	2.48
Florida	6 Stations	87	29+	DeFuniak Springs	18	10	Tallahassee WBAP	11.50	Marathon Shores	1.15
Georgia	Folkston 9SW	79	15	Blairsville Exp Sta	7	23	Nashville 5SSE	9.13	Cartersville	4.02
Hawaii	2 Stations	87	17+	Mauna Loa Slope Obs.	21	26	Mountain View 91	31.67	7 Stations	.00
Idaho	Slate Creek RS	57	10	Island Park Dam	-30	27	Avery Ranger Station	3.77	2 Stations	.00
Illinois	3 Stations	62	2	Freeport	-8	27	Virden	3.67	Princeville 1N	.26
Indiana	W Baden Springs Col	63	26	Wheatfield 2NNW	-9	27	Frankfort Disposal Pl	3.42	Albion 5E	.09
Iowa	3 Stations	59	29	Elkader	-9	27	Fort Madison	D 1.29	4 Stations	T
Kansas	2 Stations	67	1	Kirwin	-5	16	Plains	2.31	Havensville 2E	.05
Kentucky	Hickman 1E	64	3	Blaine 1W	-6	13+	Cumberland	5.68	Paducah	1.47
Louisiana	Buras	77	13	Ashland 2S	14	22	Buras	10.16	Sterlington Dam	1.68
Maine	5 Stations	45	26+	Haynesville	-30	10	Jonesboro	4.59	Bingham Wyman Dam	.26
Maryland	La Plata 1W	65	5	Oakland 1SE	-17	12	Snow Hill	7.23	Crisfield Somers Cove	D .77
Massachusetts	2 Stations	50	27+	Birch Hill Dam	-17	28	Spot Pond	5.67	Adams	1.44
Michigan	Stephenson	55	29	2 Stations	-28	24	Benton Harbor Airport	2.94	Saginaw Consumer P Co	.05
Minnesota	Preston	58	29	Bigfork	-37	8	Walker AH Gwah Ching	.75	2 Stations	.00
Mississippi	Hattiesburg	75	5	4 Stations	13	23	Eupora	7.49	Oakley Exp Station	2.22
Missouri	Alton	69	29	Edgerton	-7	26	Fisk	5.25	Maryville 2E	.22
Montana	Telegraph Creek	66	4	3 Stations	-29	27+	White Sulphur Springs	D 3.70	Biddle	.00
Nebraska	Cambridge	66	1	Broken Bow 2W	-12	16	Loup City 7NNE	2.17	Gavins Point Dam	.06
Nevada	Sunrise Manor Las Vegas	75	10	Charleston	-28	26	Austin	.73	11 Stations	.00
New Hampshire	Epping	49	26	Fabyan	-30	10	Dublin	3.92	Woodstock	.73
New Jersey	2 Stations	57	26+	Layton 2	-5	23	Bass River St Forest	5.27	Sussex	1.57
New Mexico	Jal	74	10	Eagle Nest	-41	15	Lake Maloya	6.56	6 Stations	.00
New York	2 Stations	54	5	Paul Smiths	-29	10	Pulaski	D 5.08	Chazy 3E	.43
North Carolina	Tryon	69	2	Banner Elk	-2	23	Shallotte 4WNW	8.16	Wilbar 2NW	2.15
North Dakota	2 Stations	54	28	Willow City	-35	26	Hannah 2N	.79	4 Stations	T
Ohio	Fernbank-Cincinnati	61	16	Millport 2NW	-12	24	Racine Dam 23	3.08	2 Stations	.48
Oklahoma	Clayton	70	1	Boise City 2E	-3	7	Altus	4.04	Fort Supply Dam	.32
Oregon	Brookings	76	20	Seneca	-19	5	Tidewater	5.56	00 Ranch	.00
Pennsylvania	Farrell Sharon	58	5	DuBois 7E	-18	23	Milroy	5.43	Covington 2WSW	1.08
Puerto Rico	Juana Diaz Camp	101	28	Junco 1E	51	27	Rio Blanco Upper	4.59	Caonillas Utuado	.00
Rhode Island	3 Stations	47	5	Kingston	0	23	Block Island WBAP	3.54	Providence WBAP	3.15
South Carolina	Beaufort 7SW	71	18	Chester 2WSW	12	12	McClellanville	8.90	Fort Mill 4NW	3.15
South Dakota	2 Stations	61	29+	Camp Crook	-24	23	Lead 1SE	4.32	8 Stations	T
Tennessee	5 Stations	64	4+	Mountain City 2	-4	23+	Crossville Exp Sta	6.30	Portland Sewage Plant	1.96
Texas	Alice	87	13	Panhandle	0	7	Freeport 5NW	6.22	13 Stations	.00
Utah	2 Stations	67	28+	Woodruff	-24	26	Silver Lake Brighton	1.53	15 Stations	.00
Vermont	Bellows Falls	45	6	2 Stations	-25	28+	Mays Mill	3.28	Cornwall	.48
Virginia	Hopewell	68	5	Burkes Garden	-10	12	Montebello 3NE	6.62	Hog Isl Ltl Machipongo	1.79
Washington	Dallesport FAA AP	68	23	2 Stations	-1	23+	Sappho 8E	12.34	3 Stations	.00
West Virginia	Charleston 1	64	6	Canaan Valley	-19	12	Pickens 1	7.60	Wheeling Warwood Dam 12	1.77
Wisconsin	Hancock Exp Farm	60	29	3 Stations	-29	24	Gurney	2.12	8 Stations	T
Wyoming	Cody 18SW	63	4	Bondurant 3NW	-33	3	Burgess Junction	3.41	La Barge 4WNW	T

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	990.5	1016.5	52	34	42.7	- 6.0	63	10	21	23	0	14	31	65	4.11	- 1.17	0.96	12	0	T	T	8.7	11	38	W	10	8	4	17	6.8	53
HUNTSVILLE	605	992.5	1016.4	50	31	40.8	- 4.3	63	3	17	23	0	16	28	64	4.00	- 1.22	1.56	9	0	1.0	1	8.9	32	36*	13	15	8	4	17	6.6	
MOBILE	211	1013.9	1016.4	58	39	48.1	- 7.1	73	13	26	23	0	6	37	68	2.73	- 1.86	0.77	11	2	0.0	0	12.3	9	35*	31	15	10	6	13	6.1	
MONTGOMERY	195	1008.1	1016.6	55	36	45.3	- 5.0	67	10	24	23	0	12	33	67	4.49	0.13	1.60	11	0	T	0	8.7	30	31	W	19	6	9	14	6.8	53
ALASKA												B																				
ANCHORAGE	90	996.1	1001.1	28	13	20.1	2.1	44	6	-22	16	0	28	13	76	1.15	0.44	0.35	12	0	17.9	9	8.6	18	30*	19	7	5	3	21	7.8	32
ANNETTE	110	1012.6	1016.7	44	34	38.7	3.6	48	2	28	22	0	10	34	84	13.22	4.68	2.56	25	0	1.4	1	12.9	16	37*	18	11	0	4	25	9.0	
BARROW	22	1015.9	1016.6	-23	-34	-28.6	-10.3	6	25+	-54	19	0	29	-36	64	0.38	0.21	0.09	11	0	5.3	12						11	5	13	5.9	
BARTER ISLAND	39	1012.9	1014.8	-20	-29	-24.5	- 4.9	6	25	-48	19	0	29	-31	67	0.14	- 0.21	0.05	8	0	1.4	13	10.9	26	25*	8	20*	6	3	20	7.2	
BETHEL	125	999.8	1001.2	7	- 9	- 1.2	- 9.4	42	26	-35	14+	0	29	- 8	69	0.36	- 0.76	0.12	11	0	4.2	7	15.3	3	40*	3	11	8	0	21	7.0	
COLD BAY	94	993.3	997.3	31	21	26.2	- 1.8	44	4	6	18	0	24	21	80	1.75	- 1.42	0.65	17	0	8.3	5	18.5	3	52*	17	20	0	5	24	8.7	
CORDOVA	40	1000.7	1002.6	35	22	28.5	2.3	40	29+	- 2	10	0	22	26	90	18.97	14.33	3.81	24	0	80.2	28	9.6	12	31*	13	7	1	4	24	8.9	
FAIRBANKS	436	988.1	1006.1	11	-10	0.7	3.6	37	7	-39	17	0	29	- 6	70	0.46	- 0.06	0.20	6	0	9.9	15	4.7	36	21*	25	7	2	11	16	7.5	
JUNEAU	17	1010.2	1010.8	39	32	35.9	9.1	46	20	27	16	0	16	33	88	8.48	5.42	1.33	27	0	19.4	5	15.2	11	40*	12	6	0	1	28	9.8	12
KING SALMON	43	999.4	999.4	23	6	14.4	- 3.0	43	23+	-26	17	0	26	7	73	1.92	0.97	0.55	20	0	10.9	7	14.2	36	46*	14	4	4	6	19	7.7	
KOTZEBUE	10	1007.8	1008.3	-13	-29	-21.2	-17.2	29	24	-52	19+	0	29	-28	71	0.48	0.18	0.14	9	0	13.8	25	8.7	6	35*	18	24	13	0	16	5.7	
MC GRATH	334	990.7	1003.9	11	-12	- 0.6	- 0.7	37	24+	-46	10	0	29	- 9	63	1.11	- 0.03	0.24	14	0	21.3	19	5.4	2	26*	20	24+	10	0	19	6.6	
NOME	13	1003.9	1004.6	2	-18	- 8.1	-13.6	32	24	-37	14+	0	29	-14	73	0.90	- 0.04	0.32	11	0	9.1	22	10.3	36	44*	8	23	11	2	16	6.0	41
ST. PAUL ISLAND	22	997.7	998.9	22	9	15.5	- 7.8	35	23+	-10	20	0	29	14	92	5.69	4.46	1.36	26	0	55.8	33	25.0	3	69*	3	4	0	5	24	9.0	
SHEMYA	122	985.5	1000.8	30	25	27.5	- 3.3	38	13	18	2+	0	28	21	76	1.88	- 0.40	0.28	21	0	19.9	6	24.8	6	61*	12	13	1	4	24	8.5	
YAKUTAT	28	1006.8	1007.8	37	29	32.7	4.1	42	19	17	28	0	20	31	91	32.13	23.93	4.99	27	1	83.6	22	9.3	9	39*	13	1	1	0	28	9.3	
ARIZONA																																
FLAGSTAFF	6993	786.9	1017.2	42	11	26.6	- 3.0	58	10	1	15	0	29	8	49	0.14	- 1.64	0.14	2	0	1.4	2	8.4	36	25*	4	4	24	2	3	2.0	
PHOENIX	1117	976.3	1016.3	65	33	49.3	- 4.2	74	1	26	15+	0	15	18	31	0.01	- 0.84	0.01	1	1	0.0	0	7.0	11	28Y	ENE	2	21	5	3	2.0	94
PRESCOTT	5014	845.9	1017.7	52	21	36.6	- 3.0	66	10	11	15	0	29	8	36	0.07	- 1.01	0.07	1	0	1.0	T	9.8	33	35	N	2	23	3	3	1.8	93
TUCSON	2584	925.8	1015.4	63	33	47.7	- 5.2	76	10	24	15+	0	14	11	26	0.13	- 0.71	0.13	1	0	0.0	0	9.4	12	29	NW	2	19	4	6	2.7	88
WINSLOW	4880	850.7	1019.5	50	15	32.3	- 5.2	62	10	6	15	0	29	5	37	0.14	- 0.34	0.07	3	0	1.4	T	9.4	34	33*	34	19	21	3	5	2.4	
YUMA	199	1011.9	1017.3	71	42	56.2	- 2.9	82	10	32	15	0	1	15	25	0.14	- 0.22	0.11	2	0	0.0	0	8.2	36	50	W	20	21	5	3	2.3	94
ARKANSAS																																
FORT SMITH	449	999.4	1016.9	52	29	40.5	- 3.2	66	2	15	22	0	22	28	64	3.21	- 0.22	2.01	5	0	0.0	0	8.8	27	30	W	25	10	11	8	5.0	65
LITTLE ROCK	257	1003.3	1016.9	53	30	41.6	- 2.8	64	2	21	23	0	19	28	62	2.87	- 1.46	1.35	6	0	0.0	0	8.9	25	30	SW	15	13	7	9	5.0	62
TEXARKANA	361	1003.2	1016.9	55	35	45.0	- 3.5	65	2	22	22	0	11	32	67	2.74	- 1.28	1.58	7	1	0.0	0	7.0	25								
CALIFORNIA																																
BAKERSFIELD	494	1002.4	1020.7	65	37	51.0	- 1.0	75	20	30	13	0	2	31	51	0.41	- 0.73	0.37	3	0	0.0	0	6.0	10	25*	13	20	21	5	3	2.0	
BISHOP	4108	877.0		60	25	42.4	1.2	68	24+	17	28+	0	28			T	- 0.98	T	0	0	T	0						27	2	0		
BLUE CANYON	5280	840.9		49	31	40.1	3.0	62	9	22	29+	0	15			0.82	- 9.37	0.42	4	0	5.9	39	8.4		40*	5	19	23	2	4	2.0	
BURBANK	699	991.3	1017.7	69	40	54.6	- 0.6	80	19+	34	15	0	0	24	35	T	- 3.22	T	0	0	0.0	0	7.3	36	26*	35	11+	25	3	1	1.1	
EUREKA U	43	1022.0		54	40	47.0	- 1.2	72	20	33	16	0	0			1.20	- 4.33	0.81	7	1	0.0	0	6.9	N#	34	W	14	20	4	5	3.0	87
FRESNO	326	1008.2	1020.5	62	33	47.4	- 3.1	70	24+	28	14	0	16	34	65	T	- 2.19	T	0	0	0.0	0	5.3	8	26	NW	28	23	4	2	1.6	90
LONG BEACH	34	1016.8	1018.5	70	42	55.7	1.3	81	19+	36	17	0	0	33	51	0.00	- 2.31	0.00	0	0	0.0	0	6.3	30	28*	7	20	22	5	2	1.8	
LOS ANGELES	97	1014.4	1018.4	67	45	56.0	0.8	79	9	38	26	0	0	34	49	T	- 2.88	T	0	0	0.0	0	9.2	8	26Y	36	16	24	5	0	1.4	
LOS ANGELES U	312			69	49	59.0	1.9	79	19+	45	14+	0	0			T	- 3.33	T	0	0	0.0	0	7.0	W	36	NW	11	25	3	1	1.5	96
MT SHASTA R	3544	898.2		49	26	37.3	0.3	58	27+	18	14	0	28			0.36	- 5.55	0.25	6	0	6.5	4						22	5	2	2.1	
OAKLAND	3	1021.0	1021.5	60	45	52.3	1.6	72	19	41	26+	0	0	39	63	0.23	- 2.98	0.21	2	0	0.0	0	8.2	29	35*	4	20	22	5	2	1.8	
POINT ARGUELLO R	367	1005.4		63	38	50.3	- 0.7	77	9	31	27+	0	3			0.13	- 2.09	0.08	3	0	0.0	0	7.1		23*	32	29	23	4	2	2.0	
RED BLUFF	341	1009.1	1022.3	65	38	51.8	2.1	75	18	32	28+	0	2	26	44	0.02	- 3.29	0.02	1	0	0.0	0	10.9	35	37	SE	14	20	7	2	2.2	94
SACRAMENTO	17	1020.0	1021.6	63	36	49.4	0.2	76	19	31	26+	0	5	36	67	0.15	- 2.84	0.14	2	0	0.0	0	7.7	34	34	NW	11	24	4	1	1.7	95
SACRAMENTO U	23			64	39	51.5	1.0	77	19	34	17	0	0			0.19	- 3.28	0.18	2		0.0	0										
SANDBERG R	4517	863.9		49	33	41.0	- 0.4	62	10	24	29	0	16			0.21	- 2.37	0.14	2	0	0.0	0	15.7		43*	35	16+	22	5	2	1.8	
SAN DIEGO	13	1014.6	1017.9	68	45	56.7	0.5	79	20	41	15	0	0	35	50	0.37	- 1.78	0.34	3	0	0.0	0	6.3	7	24	NW	29	19	7	3	2.8	89
SAN FRANCISCO	8	1020.9	1021.8	62	40	50.8	- 0.1	72	19	36	24	0	0	37	62	0.27	- 3.21	0.23	2	0	0.0	0	9.4	29	47	WNW	10	24	3	2	1.3	
SAN FRANCISCO U	52			62	48	55.0	2.0	75	19	44	29	0	0			0.19	- 3.47	0.14	2	0	0.0	0	7.0	W	25	NE	25					95
SANTA CATALINA	1568	961.7		62	50	56.2	2.2	74	10+	44	29+	0	0			0.02	- 3.14	0.01	2	0	0.0	0						21	5	3	2.4	
SANTA MARIA	238	1011.1	1020.2	67	23	49.6	- 2.2	78	19+	26	14	0	17	33	62	0.05	- 2.45	0.05	1	0	0.0	0	8.2	30	26*	30	13	26	1	2	1.2	
STOCKTON	28	1019.8	1021.5	62	33	47.3	- 1.7	73	19	26	26	0	10	34	66	0.05	- 2.41	0.05	1	0	0.0	0	6.8	31	38*	31	11	24	4	1	1.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	766.2		33	- 1	16.0	- 7.5	49	10	-18	8+	0	29			0.27	0.10	0.12	5	0	6.3	3						15	7	7	4.1	
COLORADO SPRINGS	6173	806.3	1017.3	39	13	26.1	- 5.4	58	1	- 5	26	0	29	7	50	0.22	- 0.11	0.12	4	0	2.7	2	12.6	36	39*	34	14	10	6	13	5.7	
DENVER	5283	1003.7	1016.4	40	15	27.4	- 4.1	64	1	- 3	26+	0	27	11	53	1.04	0.35	0.33	8	0	12.7	5	10.2	18	30	N	19+	8	9	12	5.9	61
GRAND JUNCTION	4849	859.6	1019.8	42	17	29.5	- 3.1	52	10	10	26+	0	29	8	44	0.02	- 0.67	0.02	1	0	0.4	T	6.2	13	26	E	25	13	8	8	4.2	83
PUEBLO	4639	853.8	1017.3	44	12	27.7	- 6.2	64	1	- 7	26	0	29	10	52	0.20	- 0.28	0.08	5	0	4.0	2	11.8	36	51	NW	16	13	5	11	5.1	66
CONNECTICUT																																
BRIDGEPORT	7	1004.0	1010.7	37	23	29.9	- 0.6	50	5	13	23	0	27	19	66	2.24	- 0.72	0.58	11	0	10.8	6	16.0	31	44*	32	5	10	8	11	5.4	
HARTFORD	169	1002.8	1009.0	35	17	25.9	- 1.2	46	26	- 1	23	0	28	15	63	3.43	0.49	1.34	11	0	22.0	14	9.4	31	33	NW	5	7	11	11	5.9	64
NEW HAVEN	6	1008.4		38	21	29.3	- 0.3	50	5	13	28	0	27			2.66	- 0.53	0.77	12	0	15.0	9	10.2		33	W	5	9	8	12	5.6	66
DELAWARE																																
WILMINGTON	78	1008.6	1011.9	39	24	31.6	- 2.2	55	5	11	23	0	26	21	65	3.37	0.42	1.01	10	1	14.9	6	12.1	31	31*	28	8	10	8	11	5.6	
DIST.OF COLUMBIA																																
WASHINGTON U	72			42	29	35.6		61	5	19	23	0	24			3.36	0.72	0.93	10		0.0	0										
WASH NATL AP	14	1007.8	1012.3	45	29	36.9	- 0.9	64	5	19	23	0	23	22	58	3.38	0.91	0.91	10	0	11.7	8	11.1	34	36	NW	16	10	8	11	5.5	61
FLORIDA																																
APALACHICOLA U	13	1014.4		58	44	51.0	- 5.8	65	6+	35	23+	0	0			6.47	2.56	2.85	14	3	0.0	0	8.9					10	9	10	5.4	
DAYTONA BEACH	31	1014.8	1016.6	65	48	56.4	- 4.2	80	15	35	24	0	0	47	73	2.65	- 0.10	0.73	14	3	0.0	0	10.6	30	40*	26	18	7	8	14	6.5	
FORT MYERS	13	1015.9		72	52	62.0	- 3.2	83	27+	38	24	0	0			3.30	1.09	2.23	9	0	0.0	0	11.6		37*	29	8	11	9	9	5.1	
JACKSONVILLE	24	1014.7	1016.0	62	43	52.4	- 5.1	77	15	29	24	0	1	41	69	6.55	3.64	3.84	13	1	0.0	0	10.6	27	41	W	6	9	10	10	6.0	67
KEY WEST	5	1015.0	1016.2	73	62	67.7	- 2.7	81	18+	54	12	0	0	59	75	1.38	- 0.60	0.85	5	0	0.0	0	12.8	36	34	NW	8	12	8	9	4.8	67
LAKELAND U	214			67	48	57.4	- 5.7	80	15	37	12	0	0			4.17	1.66	0.96	13	3	0.0	0	9.0					9	9	11	5.9	55
MIAMI BEACH	9			73	59	66.1	- 3.5	86	16	46	21+	0	0			2.29	0.64	1.33	7		0.0	0	14.2	S				10	12	7	4.8	62
MIAMI	7	1014.9	1016.2	75	57	65.7	- 2.2	87	28	43	9	0	0	57	74	2.21	0.34	0.93	7	0	0.0	0	9.0	32	38*	30	8	8	11	10	5.6	
ORLANDO	106	1011.9	1016.5	68	49	58.3	- 3.6	81	15	39	24+	0	0	47	72	3.42	1.00	0.88	10	1	0.0	0	11.2	31	40*	30	18	7	10	12	6.0	
PENSACOLA	13			57	39	48.0	- 8.1	68	13	27	23	0	5			6.78	2.34	1.85	13	2	0.0	0	9.1	35	35	W	19					45
TALLAHASSEE	58	1014.0	1016.8	60	38	49.0	- 6.6	68	25+	24	24	0	10	39	72	11.50	7.32	5.60	16	2	T	0	10.3	36	37*	28	19	7	12	10	5.9	
TAMPA	19	1015.2	1016.9	67	47	57.1	- 5.6	77	15	33	12	0	0	47	72	5.37	2.53	1.55	13	2	0.0	0	13.1	32	40*	32	8+	7	8	14	6.3	55
WEST PALM BEACH	15	1015.7	1016.8	73	52	62.8	- 4.8	87	28	38	24	0	0	54	76	4.36	2.01	2.77	8	0	0.0	0	10.7	32	32*	24	28	9	12	8	5.3	
GEORGIA																																
ATHENS	803	985.6	1015.2	51	31	41.1	- 5.0	63	10	19	12	0	19	29	65	5.18	0.48	1.32	9	1	T	0	9.3	29	24*	30	28+	8	9	12	5.9	
ATLANTA	1005	972.5	1015.7	49	32	40.3	- 6.2	60	10	21	23	0	17	28	67	4.17	- 0.34	1.18	12	0	0.3	T	9.1	29	31	W	19+	7	5	17	6.6	56
AUGUSTA	143	1008.5	1015.4	55	33	43.6	- 5.7	66	10	21	24	0	14	31	65	4.84	1.32	1.77	12	0	0.0	0	9.0	24	37*	27	28	7	11	11	5.9	
COLUMBUS	385	1001.5		54	34	44.1	- 5.6	65	10	23	24+	0	11			5.37	0.74	1.49	12	1	0.0	0	10.7		29*	31	28+	8	6	15	6.7	
MACON	356	1002.2	1016.1	55	36	45.2	- 5.9	65	10	24	23	0	9	32	64	5.71	1.45	1.74	12	0	T	T	10.0	30	35	W	19	10	5	14	6.1	53
ROME	637	992.3		49	28	38.4	- 6.0	61	10	16	12	0	21			4.98	- 0.32	1.46	7	0	0.3	0						8	9	12	6.0	
SAVANNAH	48	1013.2	1015.7	59	37	47.8	- 5.3	72	18	27	12	0	6	38	71	7.92	4.24	3.46	15	1	0.0	0	12.2	27	38	NW	28	7	10	12	6.2	60
THOMASVILLE U	283			58	40	48.6	- 6.7	70	15	29	23	0	6			7.86	3.87	3.20	13	1	T	T										
HAWAII																																
HILO	31	1016.3	1018.2	78	63	70.2	- 0.4	80	3+	60	28+	0	0	62	79	18.22	5.28	3.75	27	5	0.0	0	9.1	27	26*	6	27	3	10	16	7.2	49
HONOLULU	7	1017.7	1018.1	82	68	74.7	2.3	84	23+	64	19+	0	0	59	60	0.52	- 2.78	0.21	8	0	0.0	0	11.1	6	32	NE	14	12	14	3	4.2	81
KAHULUI	44	1014.3	1017.4	81	66	73.3	1.6	85	1	59	17	0	0	61	68	0.35	- 2.19	0.10	8	0	0.0	0	13.3	7	32	NE	29	15	12	2	3.7	78
LIHUE	115	1013.5	1019.3	79	67	72.9	2.2	81	22+	62	5	0	0	62	70	1.73	- 3.59	0.74	16	0	0.0	0	13.7	5	27	NE	13	13	10	6	4.8	68
IDAHO																																
BOISE	2838	926.4	1026.2	34	18	26.3	- 8.2	44	18	10	6	0	29	21	81	0.19	- 1.14	0.08	5	0	2.1	2	7.5	14	25	NW	24+	10	11	8	4.9	86
IDAHO FALLS 42NW R	4790			24	- 9	7.4	-11.5	35	11+	-27	26	0	29			0.09	- 0.40	0.05	3		0.0	0										
IDAHO FALLS 46W R	4933	850.8		26	- 7	9.9	-10.5	37	11	-18	28	0	29			0.22	- 0.55	0.07	4	0	2.6	8	3.1		23A	N	19					
LEWISTON	1413	970.8		46	27	36.8	0.9	53	17	19	25	0	22			0.21	- 0.76	0.11	6	0	2.1	1						7	7	15	6.4	
POCATELLO	4444	866.6	1026.6	29	5	16.9	-10.3	40	10	- 9	15	0	29	12	79	0.34	- 0.58	0.14	5	0	5.0	8	8.6	24	35	SW	19	6	10	13	6.7	48
ILLINOIS																																
CAIRO U	314	1002.5		47	30	38.6	- 2.1	60	2	20	22	0	21			2.41	- 1.26	1.00	8	0	0.2	T	8.6	N	28	SW	29	11	7	11	5.3	63
CHICAGO O HARE	658	989.1	1014.5	36	17	26.6	0.4	55	5	2	22	0	29	18	70	0.52	- 0.99	0.22	7	0	5.9	3	11.0	21	35*	22	29	13	3	13	5.7	
CHICAGO MIDWAY	610	991.4	1015.0	37	21	28.8	1.1	55	5	9	24	0	29	19	67	0.57	- 1.03	0.25	8	0	6.4	3	11.1	20	32	SW	29	13	2	14	5.6	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	°F.	°F.	°F.	F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
MOLINE	582	992.7	1015.6	36	18	27.0	1.3	53	5	2	27	0	29	19	74	0.73	- 0.62	0.34	5	0	5.5	3	9.9	31	30	SW	29	12	5	12	5.4	57
PEORIA	652	993.4	1016.5	37	19	28.1	- 0.3	52	29+	6	26	0	29	21	74	0.54	- 1.17	0.34	9	0	6.2	4	8.8	18	26	S	29	12	1	16	5.7	59
ROCKFORD	728	986.1	1014.3	36	16	25.7	1.3	53	5	- 1	27	0	29	18	71	0.50	- 0.94	0.35	4	0	6.5	5	10.2	21	28*	23	29	14	3	12	5.1	
SPRINGFIELD	588	991.7	1015.8	38	20	29.1	- 2.5	54	5	2	26	0	29	23	76	1.27	- 0.55	0.44	9	0	13.6	6	11.4	30	36	S	29	12	4	13	5.3	62
INDIANA																																
EVANSVILLE	381	999.7	1016.0	45	23	33.8	- 3.8	59	25+	12	11	0	27	23	68	1.57	- 1.61	0.64	8	0	3.2	3	6.8	30	25	NW	28+	10	5	14	5.8	52
FORT WAYNE	791	982.4	1014.7	35	17	25.7	- 2.6	52	5	- 5	27	0	26	19	74	1.12	- 1.12	0.31	12	0	11.6	5	9.7	26	28	W	23	8	7	14	6.1	65
INDIANAPOLIS	793	984.1	1015.0	38	20	29.0	- 2.1	53	5	7	24	0	28	21	74	2.01	- 0.27	0.74	15	0	12.7	6	9.2	30	26	W	7	7	11	11	5.8	65
SOUTH BEND	768	985.3	1014.2	35	20	27.3	0.5	52	5	5	27	0	28	19	70	1.03	- 0.85	0.29	16	0	14.4	4	10.1	21	23*	24	26+	8	3	18	6.5	
IOWA																																
BURLINGTON	694	989.8	1016.3	38	19	28.5	0.7	53	5	5	26	0	29	20	73	1.06	- 0.33	0.33	8	0	11.9	6	11.5	21	32	NW	6	12	3	14	5.7	62
DES MOINES	948	983.8	1016.0	36	16	26.3	1.9	55	29	4	24+	0	29	18	74	0.28	- 0.82	0.11	6	0	4.1	1	11.2	33	44	S	29	11	7	11	5.6	64
DUBUQUE	1065	988.7		35	16	25.7	3.7	52	5	1	24	0	29			0.28	- 1.12	0.20	4	0	3.8	3			37*	22	29	12	5	12	5.6	
SIOUX CITY	1095	973.1	1015.9	39	17	27.9	5.7	54	29+	3	23	0	29	18	69	0.30	- 0.59	0.09	7	0	3.2	1	10.8	33	42	NW	6	10	7	12	5.9	66
WATERLOO	868	981.4	1014.5	38	12	25.0	3.6	57	29	- 6	27	0	29	15	70	0.21	- 0.71	0.12	4	0	0.8	T	10.4	32	35*	21	29	12	8	9	5.2	
KANSAS																																
CONCORDIA	1470	964.6	1016.0	44	20	31.8	0.2	60	1	7	26	0	27	20	65	0.44	- 0.47	0.19	6	0	2.3	2	14.0	18	43	S	29	13	4	12	5.1	69
DODGE CITY	2594	925.8	1016.6	42	21	31.8	- 3.2	63	1	10	7	0	29	21	68	0.57	- 0.13	0.40	6	0	3.3	2	13.4	35	42	S	11	8	8	13	6.0	65
GOODLAND	3645	885.5	1016.4	40	16	28.0	- 2.9	64	1	4	26	0	29	18	72	0.75	0.24	0.31	7	0	10.3	5	15.5	35	45*	34	8	10	5	14	5.8	
TOPEKA	877	979.4	1016.3	46	22	34.3	1.2	61	2+	10	27+	0	26	21	62	0.29	- 0.76	0.17	3	0	2.0	1	13.6	32	45	NW	6	12	7	10	5.1	65
WICHITA	1321	965.9	1016.0	47	25	36.1	- 0.2	60	1	14	26+	0	24	23	63	0.53	- 0.39	0.29	3	0	1.5	T	13.5	36	49	S	29	10	10	9	5.1	65
KENTUCKY																																
COVINGTON	869	981.7	1014.4	40	20	30.2	- 2.9	54	25+	7	24	0	28	22	73	1.98	- 0.93	0.79	13	0	6.7	1	8.7	29	23*	34	16	8	6	15	6.4	
LEXINGTON	979	977.9	1015.1	41	23	32.0	- 3.8	57	5	2	12	0	27	23	71	2.52	- 0.90	0.77	14	0	12.0	6	9.3	30	24*	24	6	10	5	14	5.9	
LOUISVILLE	474	997.1	1015.2	43	23	33.4	- 2.4	60	5	10	12	0	28	24	70	2.45	- 0.84	0.89	13	0	7.7	4	8.5	27	28	NW	28+	8	9	12	6.1	54
LOUISIANA																																
ALEXANDRIA	92	1012.8	1017.6	58	34	45.7	- 7.1	71	10	19	22	0	15	34	67	2.48	- 2.49	1.05	7	0	T	0	6.7	31	24*	25	5	11	7	11	5.7	
BATON ROUGE	64	1013.9	1017.0	60	40	49.5	- 5.9	69	10	25	23	0	4	36	63	5.21	0.79	2.06	8	3	0.0	0	9.9	9	29*	31	15	9	9	11	5.8	
LAKE CHARLES	14	1015.8	1017.4	57	39	48.1	- 8.2	68	10	28	22+	0	5	38	70	3.05	- 1.46	1.00	10	0	T	0	9.8	36	25*	33	15	9	6	14	6.2	
NEW ORLEANS	3	1014.7	1017.0	59	40	49.8	- 7.3	75	13	26	23	0	4	42	76	5.35	1.36	1.85	11	1	0.0	0	9.4	7	30*	24	5	9	6	14	6.1	
NEW ORLEANS AUDUBON	6	1009.7		59	43	51.2	- 6.5	72	15+	31	23	0	1			5.34	0.99	1.84	13	1	0.0	0	6.4	NE	18	SW	5	11	7	11	5.6	57
SHREVEPORT	252	1008.0	1017.6	55	36	45.6	- 4.7	68	10	24	22	0	8	33	66	2.74	- 1.35	1.33	9	0	T	0	11.5	30	32*	28	15	9	10	10	5.6	62
MAINE																																
CARIBOU	624	981.1	1004.9	25	7	15.9	3.4	37	20	-10	11+	0	29	9	70	0.56	- 1.46	0.23	8	0	10.1	10	12.4	31				9	5	15	6.2	
PORTLAND	61	1003.0	1007.1	34	12	23.0	0.2	45	5	- 6	11+	0	29	15	69	2.66	- 1.14	1.08	9	0	17.8	11	10.8	32	43	NW	3	9	8	12	5.9	66
MARYLAND																																
BALTIMORE	146	1007.5	1012.2	42	25	33.2	- 2.5	59	26+	14	23	0	25	18	57	4.36	1.47	1.27	9	0	18.2	7	10.3	28	44	S	6	13	5	11	5.4	61
BALTIMORE U	14			42	29	35.7	- 2.1	59	5	19	23	0	23			4.51	1.53	1.25	11		0.0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	982.4		34	18	26.3	- 1.1	45	26	7	25	0	29			5.33	1.60	1.62	11		32.2	16	17.8	NW	64	NW	3					61
BOSTON	15	1003.1	1008.0	36	22	29.1	- 1.2	47	26+	13	25+	0	26	17	62	4.67	1.35	1.42	11	2	23.2	13	15.1	31	40	34	16	10	7	12	5.4	68
NANTUCKET	43	1006.9	1007.5	37	25	30.6	- 0.8	47	5	15	18+	0	26	21	69	5.60	1.84	2.06	13	0	24.9	12	16.6	30	66	NW	16	8	7	14	6.6	53
PITTSFIELD	1170			31	9	20.3	- 2.0	40	26	-10	28	0	29			1.64	- 0.87	0.58	12		31.8	25										
WORCESTER	986	969.4	1007.4	32	16	23.9	- 1.0	44	26	3	25	0	29	12	62	3.54	0.62	1.25	10	0	27.3	22	13.6	28	35*	30	2	9	8	12	5.7	
MICHIGAN																																
ALPENA	689	988.9		32	11	21.9	3.3	51	29	- 7	24	0	29			0.36	- 1.25	0.24	8	0	5.7	2	8.1	SW#	33	SW	29	10	6	13	6.1	68
DETROIT	619	985.9	1013.5	36	22	28.9	1.7	49	5	10	27	0	26	19	67	0.52	- 1.56	0.14	9	0	5.1	1	11.6	22	32	W	26	11	3	15	6.1	57
DETROIT M WAYNE CO	633	989.1	1013.9	34	18	25.9	- 1.2	48	5	2	22	0	28	17	69	0.68	- 1.27	0.16	11	0	7.7	2	7.4	20				8	6	15	6.2	
DETROIT WILLOW RUN	711	984.3	1013.6	35	19	27.0	- 0.4	48	5	9	27	0	28	21	76	0.61	- 1.34	0.28	8	0	6.4	2	11.1	21	32*	25	23	8	5	16	6.3	
FLINT	766	985.2	1014.0	35	17	25.8	3.6	50	29	4	22	0	29	17	67	0.55	- 1.21	0.23	11	0	7.2	3	10.7	21	30*	27	7	8	6	15	6.5	
GRAND RAPIDS	689	987.1	1013.6	33	17	25.0	0.5	48	5	1	27	0	29	19	77	0.73	- 1.02	0.35	9	0	11.6	6	10.6	20	30	SW	26	7	4	18	7.0	50

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	F.	F.	F.		F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	852	980.3	1013.4	35	17	25.8	1.6	49	29+	2	22	0	29	20	75	0.47	- 1.48	0.20	10	0	5.4	3	7.4	22	34	SW	29	8	5	16	6.4	52
MARQUETTE U	677	983.7		31	16	23.5	3.8	53	29	- 1	27	0	29			1.42	- 0.23	0.61	13	0	21.7	24	10.0	W#	34	SW	11	4	7	18	7.4	52
MUSKEGON	627	990.3	1014.1	35	21	28.2	2.5	49	5	6	11+	0	29	23	77	0.83	- 0.97	0.25	9	0	20.4	5	13.2	22	29*	21	29	6	3	20	7.6	
SAULT STE MARIE	721	987.8	1011.5	27	7	17.1	1.4	42	29	-15	24	0	29	12	79	0.94	- 0.56	0.22	14	0	19.0	25	10.4	36	28*	22	29	6	5	18	7.2	58
MINNESOTA																																
DULUTH	1426	970.4	1013.3	27	6	16.4	5.6	44	29	-13	10	0	29	9	69	0.57	- 0.39	0.20	12	0	6.8	13	10.6	34	38	W	6	8	9	12	6.2	62
INTERNATIONAL FALLS	1179	969.7	1012.8	25	- 2	11.5	4.4	40	29+	-26	26	0	29	5	72	0.63	- 0.08	0.32	6	0	6.8	15	10.9	36	29*	27	4	10	7	12	5.5	
MINNEAPOLIS	822	979.7	1014.5	34	14	23.9	8.2	54	29	1	27+	0	29	12	63	0.06	- 0.72	0.02	3	0	1.0	T	9.7	34	32	SW	11	12	7	10	5.0	73
ROCHESTER	1297	976.2	1014.5	35	13	24.1	7.9	56	29	- 2	27	0	29	13	66	0.04	- 0.76	0.02	3	0	0.8	T	13.9	32	39*	21	29	9	11	9	5.6	
ST CLOUD	1034	975.2		31	9	20.1	6.7	48	29	- 5	23+	0	29			0.04	- 0.76	0.03	2	0	0.5	1						11	9	9	5.0	
MISSISSIPPI																																
JACKSON	305	1004.2	1016.6	55	33	44.4		66	10	17	23	0	12	33	67	2.32		0.90	9	0	T	0	9.6	12	23*	14	5	9	7	13	5.8	
MERIDIAN	292	1002.9	1017.3	55	31	42.9	- 7.7	69	10	16	23	0	19	33	71	4.08	- 1.01	1.27	9	0	0.0	0	7.4	18	23*	28	15	7	7	15	6.4	
VICKSBURG U	234	1006.9		55	38	46.2	- 5.6	67	10	26	22	0	5			3.27	- 2.04	0.90	8	1	T	0	9.1		27	W	5	8	7	14	5.9	53
MISSOURI																																
COLUMBIA	778	985.9	1015.2	43	24	33.2	- 0.6	57	2	4	11	0	27	22	67	1.64	- 0.17	0.58	6	0	13.5	6	11.1	32	31	NW	6	11	6	12	5.3	55
KANSAS CITY	742	979.6	1015.5	45	28	36.2	0.4	60	2	15	26	0	22	23	62	1.50	0.26	0.62	8	0	8.5	4	9.9	20	31	SW	29	11	7	11	5.3	65
ST JOSEPH	809	980.2		43	21	32.1	1.0	56	1	5	26	0	26			0.61	- 0.48	0.31	7	0	5.4	2	10.1	32	29*	19	29	11	7	11	5.2	
ST LOUIS	535	994.6	1016.0	43	26	34.3	- 0.4	57	25	13	11	0	27	21	61	2.30	0.26	0.68	9	0	9.1	6	9.6	30	31	SW	29	12	3	14	5.5	55
ST LOUIS RFC	465			43	28	35.7	- 0.7	57	25	20	22	0	23			2.46	0.25	0.88	10		6.5	4										
SPRINGFIELD	1265	966.9	1015.8	47	25	35.9	- 1.2	62	2	12	24+	0	25	23	63	1.67	- 0.45	0.96	8	0	2.3	1	11.2	16	27	SE	3	10	9	10	5.4	67
MONTANA																																
BILLINGS	3567	889.7	1016.8	41	22	31.4	5.7	57	10	3	25	0	29	15	54	0.35	- 0.25	0.24	5	0	5.1	3	15.6	24	43	NW	5	1	11	17	7.6	57
GLASGOW	2277	938.0		39	17	27.7	14.1	51	28	2	23	0	29			0.19	- 0.22	0.08	5	0	1.9	1						2	7	20	7.8	
GREAT FALLS	3662	887.4	1018.6	42	24	33.0	9.2	58	4	5	24	0	26	16	54	0.52	- 0.22	0.17	8	0	5.7	2	18.5	23	39	W	9	5	5	19	7.6	50
HAVRE	2582	924.6		42	21	31.8	15.5	56	4	10	24+	0	28			0.11	- 0.32	0.11	1	0	1.4	1	13.3	SW#	49	W	5	6	4	19	7.0	50
HELENA	3893	874.0	1021.2	36	18	27.2	4.0	46	4	- 1	25+	0	28	17	64	0.27	- 0.16	0.09	7	0	6.3	3	10.1	27	37	W	4	5	5	19	7.4	51
KALISPELL	2965	914.3		37	11	23.9	- 0.6	46	4	- 5	25	0	29			0.50	- 0.50	0.20	10	0	6.7	14	5.4					2	11	16	7.3	
MILES CITY	2629		1016.2	38	17	27.5	7.2	51	28	3	23	0	29	20	73	0.57	0.20	0.30	7	0	5.5	4	13.7	30	40*	28	5					
MISSOULA	3190	905.4	1024.3	33	12	22.6	- 2.4	44	4	-10	25	0	29	17	77	0.51	- 0.36	0.23	7	0	8.9	9	5.7	34	45	W	4	3	6	20	7.8	52
NEBRASKA																																
GRAND ISLAND	1841	947.9	1016.5	38	17	27.3	1.2	60	1	2	16	0	29	18	71	0.92	0.18	0.43	7	0	8.5	4	12.4	18	35*	35	6	7	10	12	5.8	
LINCOLN U	1150			41	22	31.3	2.6	57	29+	8	26	0	27			0.76	- 0.33	0.55	8	0	2.2	1	10.9	NW#	48	S	29	9	9	11	5.5	63
NORFOLK	1544	958.1		34	15	24.6	1.7	53	1	- 4	16	0	29			0.73	- 0.05	0.34	8	0	9.3	4						10	5	14	5.7	
NORTH PLATTE	2779	913.2	1015.9	38	12	24.9	- 3.0	54	29	- 7	26	0	29	16	69	0.62	0.10	0.36	6	0	8.6	5	11.7	31	50	N	6	8	8	13	5.8	62
OMAHA	978	974.6	1015.8	42	19	30.5	4.0	58	29	4	26	0	28	18	62	0.36	- 0.59	0.11	9	0	3.5	1	10.4	33	37	N	6	7	10	12	5.9	66
OMAHA N OMAHA AP	1323	965.8		39	19	29.2	4.4	58	29	4	26	0	29			0.34	- 0.66	0.07	10	0	2.4	1						8	8	13	5.8	
SCOTTSBLUFF	3950	876.6	1017.3	39	13	26.2	- 2.8	51	1	- 3	26	0	29	15	65	0.25	- 0.15	0.12	6	0	4.1	2	15.6	30	46*	35	19	7	8	14	6.6	
VALENTINE	2587	919.9		39	15	27.2	4.2	55	29	- 2	23	0	29			0.23	- 0.33	0.17	4		3.0	2	12.2	N#				6	11	12	6.4	66
NEVADA																																
ELKO	5075	848.7	1026.6	35	5	20.1	- 7.9	43	1	- 8	6	0	29	13	74	0.10	- 0.79	0.04	3	0	3.0	8	5.3	27	23*	34	24	16	10	3	3.6	
ELY	6257	809.6	1022.5	37	8	22.3	- 4.3	53	10	- 7	3	0	29	13	70	0.07	- 0.63	0.06	2	0	1.2	1	9.1	19	37	N	19	20	4	5	3.0	85
LAS VEGAS	2162	952.8	1020.3	59	32	45.6	- 2.2	71	19	23	15	0	19	10	25	0.02	- 0.42	0.02	1	0	0.0	0	9.9	26	38*	34	5	24	3	2	1.8	93
RENO	4404	867.3	1025.3	51	18	34.2	- 1.4	62	10	8	26	0	29	16	53	0.01	- 1.01	0.01	1	0	1.0	1	5.8	13	29	W	28+	20	9	0	2.0	98
WINNEMUCCA	4299	873.0		46	18	31.9	- 0.4	61	10	5	26	0	29			0.11	- 0.83	0.10	2	0	2.4	2	7.0	18	25	W	28	19	6	4	3.2	70
NEW HAMPSHIRE																																
CONCORD	339	996.9	1008.0	34	11	22.4	- 0.3	44	5	-12	28	0	29	12	66	1.93	- 0.55	0.96	8	0	19.1	11	9.6	31	35*	31	2	12	6	11	5.4	62
MT WASHINGTON OBS	6262	786.8		12	- 5	3.4	- 2.2	24	12+	-21	3	0	29			5.64	0.43	1.62	17	0	38.5	9	42.3	W	141Y	NW	3	7	7	15	6.8	43
NEW JERSEY																																
ATLANTIC CITY	58	1009.3	1011.4	41	25	33.2	- 1.5	55	5	14	23	0	27	22	66	4.32	1.19	1.36	12	0	12.0	5	12.1	32	37*	8	18	10	5	14	5.7	55
ATLANTIC CITY U	10			41	28	34.6	- 1.1	55	5	19	23	0	25			4.04	0.66	1.35	11		0.0	0	18.2		54*	NW	2					
NEWARK	11	1009.6	1010.9	39	25	31.9	- 1.8	53	5	16	22	0	26	19	61	2.59	- 0.21	0.59	13	0	15.0	5	13.1	32	35*	6	19+	10	9	10	5.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
TRENTON U	56	1004.0		38	25	31.6	- 1.8	52	5	15	23	0	26			3.14	0.55	1.04	12	1	11.5	5	10.9	NW#	35	NW	16	9	9	11	5.7	61
NEW MEXICO																																
ALBUQUERQUE	5310	846.3	1017.2	40	18	29.1	-10.8	52	29+	1	7	0	29	14	59	1.12	0.74	0.45	6	0	8.2	4	8.6	35	52	E	20	16	4	9	3.6	75
CLAYTON	4969	841.7		40	18	29.1	- 6.9	57	1	4	7	0	29			0.56	0.19	0.37	4	0	7.9	7						12	8	9	4.6	
RATON	6379	800.7		41	8	24.7	- 8.0	59	11+	- 5	7	0	29			0.50	0.08	0.21	7	0	5.7	3						12	9	8	4.6	
ROSWELL	3619	891.6		51	19	35.3	- 6.8	65	9	2	21	0	29			1.25	0.83	0.58	5	0	11.3	5	8.8		40	W	27	21	2	6	3.4	82
SILVER CITY	5373	833.0		52	19	35.5	- 7.9	65	10	6	21	0	29			0.05	- 0.64	0.03	2		0.8	1						17	6	6	3.1	
NEW YORK																																
ALBANY	277	1007.2	1010.9	32	13	22.3	- 1.4	43	5	- 8	28	0	28	13	67	1.63	- 0.57	0.73	9	0	21.4	15	9.4	27	35	W	2	9	7	13	6.0	68
BINGHAMTON	1590	949.0	1010.2	26	12	18.9	- 4.9	37	5+	0	25+	0	29	15	82	2.00	- 0.18	0.67	18	0	27.5	16	11.1	30	34	NW	16	2	12	15	7.2	51
BUFFALO	705	982.8	1012.0	31	16	23.5	- 0.6	43	6	1	11	0	28	16	74	1.09	- 1.63	0.32	15	0	14.6	7	11.5	24	38	SW	24	3	8	18	7.6	49
NEW YORK U	132	998.9		39	27	32.9	- 0.5	52	5	19	25+	0	25			2.93	0.09	0.88	14	0	14.1	6	11.3	W#	38	NE	19	13	6	10	4.9	57
NEW YORK LA GUARDIA	19	1008.7	1010.4	37	28	32.6	- 1.0	50	5	20	23+	0	25	18	58	2.39	- 0.70	0.93	14	0	8.8	4	14.9	31	38	NE	6	8	11	10	5.6	
ROCHESTER	543	992.4	1012.4	33	15	24.0	- 0.9	43	5	1	28+	0	28	16	68	0.89	- 1.64	0.21	12	0	13.1	4	11.9	26	33	W	5	5	8	16	6.8	57
SCHENECTADY	217			32	16	23.8	- 0.8	42	5	- 4	28	0	28			1.26	- 1.03	0.44	8		18.9	12						17	6	6	4.0	
SYRACUSE	417	988.3	1011.2	32	15	23.7	- 0.6	42	5	- 1	28	0	28	16	70	1.13	- 2.00	0.28	14	0	16.1	7	10.2	25	34	N	16	2	13	14	7.3	50
NORTH CAROLINA																																
ASHEVILLE U	2203	933.2		43	26	34.7	- 5.9	56	4	14	23	0	25			3.58	0.54	0.88	14	0	13.9	3	8.9	NW#	31	NW	16	8	7	14	6.1	48
CAPE HATTERAS R	7	1011.8	1012.6	52	36	44.2	- 2.3	65	16	21	24	0	9	35	70	5.86	1.93	1.41	13	0	T	T	13.0	25	42	SSW	16	11	6	12	5.3	61
CHARLOTTE	735	985.4	1014.0	51	29	40.1	- 4.1	59	1	20	17	0	21	25	60	4.29	0.74	1.47	13	0	0.2	T	8.6	24	33	SW	6	13	6	10	5.2	61
GREENSBORO	891	981.1	1013.7	48	28	37.7	- 3.3	62	5	17	23	0	24	25	65	4.09	0.79	1.20	12	0	3.3	2	9.2	22	37	NW	16	13	5	11	5.3	60
RALEIGH	433	999.2	1013.3	50	29	39.4	- 3.6	64	5	16	4	0	23	27	66	4.11	0.88	0.92	13	0	3.1	T	8.9	22	24*	12	18	11	8	10	5.2	64
WILMINGTON	30	1011.4	1014.3	55	37	45.8	- 2.9	66	16+	26	4	0	8	34	67	6.17	2.75	1.92	15	0	T	0	10.5	27	42	S	15	14	5	10	5.1	65
WINSTON SALEM	967	977.6	1013.4	49	30	39.3	- 2.4	62	5	19	23	0	21	26	63	4.32	0.84	1.21	11	0	3.1	1	9.2	24	25*	32	16	11	7	11	5.6	
NORTH DAKOTA																																
BISMARCK	1647	952.0	1014.8	36	8	21.9	8.4	51	28	-12	26	0	29	13	69	0.22	- 0.21	0.11	7	0	2.8	2	9.5	32	34	NW	6	1	10	18	7.6	59
FARGO	900	978.6	1014.4	30	8	18.9	8.2	48	29	-13	26+	0	29	11	70	0.27	- 0.24	0.10	5	0	6.2	3	12.4	34	45	N	6	9	4	16	6.4	66
WILLISTON	1899	944.1		37	12	24.4	12.0	50	28	-13	26	0	29			0.24	- 0.24	0.12	6	0	2.4	1	11.2	SW#	45	N	5	2	12	15	7.2	57
OHIO																																
AKRON	1209	974.5	1013.7	33	17	25.0	- 3.7	50	5	3	22	0	29	16	70	1.81	- 0.49	0.57	18	0	16.5	8	10.0	27	23*	29	23	5	10	14	6.7	
CINCINNATI OBS	761			41	24	32.4	- 2.7	57	5	14	24	0	27			1.56	- 1.24	0.46	15		5.6	1	6.7	W#	21	NW	1					45
CINCINNATI U	553	991.1		42	26	34.3	0.0	59	5	18	24	0	26			1.42	- 1.47	0.55	13		5.5	0										
CLEVELAND	777	984.7	1013.4	33	18	25.5	- 2.1	46	5	3	22	0	28	19	76	1.49	- 0.84	0.42	15	0	15.7	6	9.0	18	26	W	8	5	9	15	7.0	49
COLUMBUS	812	983.8	1014.7	36	19	27.7	- 3.4	53	5	7	23	0	27	21	75	1.68	- 0.63	0.53	11	0	11.3	3	8.7	29	27	NW	16	7	6	16	6.4	57
COLUMBUS U	724			38	24	30.6	- 2.2	55	5	12	24	0	27			1.54	- 0.65	0.76	11	0	8.8	3										
DAYTON	997	981.0	1014.4	39	21	30.0	- 0.9	55	5	9	24	0	28	23	76	1.52	- 0.80	0.58	10	0	12.5	3	10.5	27	26	W	1	10	6	13	5.7	58
MANSFIELD	1296			34	17	25.3	- 2.5	52	5	4	27+	0	29			1.33	- 1.27	0.60	13	0	16.1	5						5	9	15	6.8	
TOLEDO	676	987.8	1014.0	34	18	25.9	- 1.4	49	5	- 2	27	0	28	18	70	0.95	- 0.93	0.24	10	0	12.4	4	9.4	20	28	SW	7	8	6	15	6.4	66
YOUNGSTOWN	1178	969.3	1013.4	31	16	23.4	- 4.2	45	5	6	22	0	29	17	76	1.36	- 1.14	0.42	18	0	17.2	6	9.9	23	25*	25	8	6	6	17	7.0	
OKLAHOMA																																
OKLAHOMA CITY	1280	971.6	1016.3	49	28	38.5	- 2.8	64	2	18	26+	0	21	25	63	2.17	0.80	1.35	6	0	0.6	T	14.3	36	39	NW	15	13	8	8	5.0	68
TULSA	676	991.2	1016.5	52	27	39.4	- 1.2	66	2	16	22+	0	22	24	57	2.17	0.40	1.77	6	0	T	0	11.3	18	32	SW	29+	12	11	6	4.3	68
OREGON																																
ASTORIA	8	1025.3	1025.9	51	34	42.3	- 0.5	60	22	25	25	0	12	38	84	4.06	- 5.83	0.95	15	0	0.0	0	8.5	15	33*	20	29	7	6	16	6.6	
BURNS U	4151	877.9		39	15	27.0	- 2.7	49	18	7	12+	0	29			0.25	- 1.02	0.18	4	0	2.8	6						17	7	5	3.7	
EUGENE	361	1013.1		52	32	41.6	- 1.0	65	23	25	27+	0	17			0.86	- 4.11	0.24	10	0	0.0	0	6.4		25*	18	29	9	5	15	6.3	
MEACHAM	4050			36	22	29.2	0.1	49	23	14	25	0	28			2.69	- 1.31	1.04	13	0	26.6	37						7	7	15	6.6	
MEDFORD	1298	977.9	1027.1	52	23	37.9	- 2.2	67	22	18	27+	0	29	29	77	0.21	- 2.19	0.09	6	0	T	0	3.9	36	21*	24	14	13	8	8	4.9	
PENDLETON	1482	969.4	1024.6	51	31	41.1	3.7	64	23	24	25+	0	21	27	61	0.07	- 1.11	0.05	3	0	0.3	T	10.6	26	30*	26	23	11	7	11	5.4	
PORTLAND	21	1020.7	1026.6	50	31	40.1	- 1.9	60	22	23	7+	0	20	34	82	0.78	- 3.44	0.14	13	0	0.0	0	6.4	20	30	S	29	9	7	13	6.3	48
PORTLAND U	30			52	37	44.8	1.0	63	23	31	26	0	3			1.33	- 3.57	0.26	10		0.0	0										
ROSEBURG	505	1007.7		53	30	41.4	- 1.9	63	23	23	27+	0	20			1.04	- 3.17	0.32	7	0	T	0	3.5	N#	19	S	14	3	14	12	6.8	47
SALEM	195	1019.7	1027.2	50	31	40.3	- 1.6	60	23+	23	7	0	19	35	86	0.78	- 4.53	0.15	11	0	0.0	0	7.5	18	35*	18	29	8	7	14	6.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

FEBRUARY 1964

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow, Sleet		Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
OREGON																																
SEXTON SUMMIT R	3836	889.6		45	31	38.2	2.1	60	21+	22	5	0	18			0.81	- 3.31	0.33	7	0	9.6	4	10.8					14	7	8	4.1	
PACIFIC AREA																																
CANTON ISLAND	11	1007.3	1007.6	89	79	84.2	1.2	91	25	74	13	15	0	74	74	1.04	- 1.09	0.77	5	0	0.0	0	12.2	7	26*	2	12	5	11	13	6.5	
ENIWETOK	16	1010.8		85	77	81.1	0.2	87	28+	73	29+	0	0			1.08	- 0.76	0.20	14	0	0.0	0	19.2									
TAGUAC GUAM R	361	999.4		82	72	77.4	- 0.9	84	28+	70	8+	0	0			4.11	0.62	0.85	21		0.0	0	12.4	NE#	29	NE	8					63
JOHNSTON	7	1014.0	1014.7	79	72	75.8	- 1.2	80	23+	69	28+	0	0	68	74	1.18	- 0.35	0.38	15	0	0.0	0	18.4	8	35	W	8	5	22	2	5.0	61
KOROR R	94	1007.2	1009.8	85	75	79.7	- 0.6	88	22	72	12+	0	0	75	88	16.10	8.97	5.00	22	2	0.0	0	11.4	6	26	NE	3	0	0	29	10.0	57
KWAJALEIN	8	1009.7	1009.7	86	76	80.8	0.8	88	28	72	18	0	0	73	81	3.07	0.92	1.95	12	0	0.0	0	20.0	6	33*	9	18	5	2	22	8.1	
PONAPE R	123	1003.7	1008.0	86	77	81.6	1.1	88	27+	73	22+	0	0	73	78	19.76	10.02	6.42	21	1	0.0	0	11.9	6	23	E	26	0	0	29	9.7	49
TRUK MOEN ISLAND	5	1008.0	1008.1	85	77	80.7	0.0	86	21+	73	4	0	0	74	78	10.80	4.51	4.15	21	0	0.0	0	14.0	5	27	NE	14	0	0	29	9.7	42
WAKE	11	1015.0	1015.4	82	73	77.5	0.4	84	3+	69	8	0	0	65	67	0.61	- 0.74	0.22	6	0	0.0	0	13.1	6	24*	4	17+	10	11	8	5.4	
YAP R	53	1008.7	1009.5	84	76	80.0	- 0.4	86	1	72	7	0	0	74	84	6.47	1.83	1.41	22	0	0.0	0	16.3	4	37	22	7	0	0	29	10.0	86
PENNSYLVANIA																																
ALLENTOWN	376	998.2	1011.8	36	19	27.5	- 1.7	50	5	3	25	0	28	17	65	3.29	0.65	1.22	10	0	22.4	11	12.9	29	35*	32	16+	9	10	10	5.5	
ERIE	732	986.1	1013.2	33	17	24.8	- 1.6	43	6	1	11	0	29	19	78	1.39	- 0.93	0.41	12	0	19.7	6	13.9	18	32*	24	6	4	9	16	6.9	
HARRISBURG	335	998.1	1012.5	37	21	28.9	- 3.7	55	5	5	25	0	28	17	62	3.12	0.81	1.27	10	0	30.2	20	10.8	28	32	NW	16	8	9	12	5.9	59
PHILADELPHIA	5	1001.0	1011.6	40	24	31.8	- 1.4	57	5	13	23	0	27	20	63	2.83	0.03	0.71	12	0	12.4	6	11.6	31	31	NE	19	9	8	12	6.0	59
PITTSBURGH	1137	982.0	1013.1	35	19	27.0	- 2.2	52	5	6	23	0	27	18	69	1.73	- 0.46	0.65	16	0	13.7	7	10.0	26	29*	30	2	5	7	17	7.1	47
PITTSBURGH U	749			38	23	30.5	- 2.9	54	5	12	23	0	25			1.92	- 0.39	0.83	14		9.1	0										47
READING U	266	999.4		39	24	31.4	- 2.0	53	5	11	28	0	27			3.03	0.39	1.21	10	0	20.8	12	12.3	NW#	52	E	6	10	6	13	5.8	51
SCRANTON	940	976.3	1011.5	31	16	23.5	- 4.8	44	5	- 2	23	0	28	14	66	2.03	0.04	0.78	11	0	22.0	14	8.4	32	29	NW	2	6	9	14	6.5	55
WILLIAMSPORT	527	993.1	1012.7	36	17	26.8	- 2.4	51	5	0	25	0	28	16	65	3.11	0.60	1.51	9	0	25.2	18	9.6	27	26*	31	16	6	9	14	6.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1003.7		36	23	29.5	- 1.4	45	6	14	11	0	26			3.54	0.25	1.41	13	0	12.1	4						10	8	11	5.6	
PROVIDENCE	55	1002.0	1008.3	37	19	27.9	- 1.8	47	5	8	22	0	27	16	63	3.15	0.05	0.88	11	0	14.8	8	13.4	29	35*	28	5	11	9	9	5.4	57
SOUTH CAROLINA																																
CHARLESTON	41	1013.2	1015.1	58	37	47.5	- 4.0	67	18+	26	4	0	9	35	67	6.32	3.03	2.16	15	0	0.0	0	10.5	27	47Y	W	28	8	10	11	5.8	59
CHARLESTON U	9			56	41	48.3	- 4.0	66	18	32	12	0	1			6.62	3.55	2.44	12		0.0	0	10.4		35	W	28					
COLUMBIA	217	1002.0	1015.1	55	32	43.7	- 4.7	64	15	23	24+	0	17	30	65	5.33	1.59	1.45	14	0	0.0	0	8.0	24	29*	23	9+	11	7	11	5.3	63
FLORENCE	146	1008.6	1014.4	55	33	44.0	- 4.8	65	16+	24	4	0	13	31	63	5.21	2.04	1.85	14	1	0.0	0	9.4	27	26*	26	6	14	4	11	5.2	
GNVLE SPARTANBURG	957	976.9	1014.6	51	31	40.7	- 4.8	63	1	21	12	0	19	27	62	4.67	0.60	1.30	9	0	1.2	T	9.6	25	37	NW	11	11	8	10	5.1	65
SOUTH DAKOTA																																
HURON	1282	966.5	1015.3	40	13	26.2	9.6	58	29	- 5	23	0	29	16	69	0.20	- 0.40	0.08	7	0	4.3	1	11.6	32	42	S	11	7	9	13	6.5	54
RAPID CITY	3165	898.5	1016.2	39	17	28.1	4.0	58	4	- 5	23	0	29	17	66	0.83	0.35	0.40	11	0	8.9	3	13.6	33	40	NW	18+	6	9	14	6.6	64
SIOUX FALLS	1420	961.8	1015.2	39	15	26.9	7.8	59	5	- 6	23	0	29	18	72	0.08	- 0.85	0.06	4	0	0.7	T	11.6	34	36*	35	6	8	7	14	6.1	
TENNESSEE																																
BRISTOL	1507	958.3	1014.1	44	25	34.6	- 5.4	59	5	13	29	0	25	23	66	4.11	0.55	1.30	17	2	11.0	3	6.1	27	32*	24	6	7	6	16	6.8	
CHATTANOOGA	670	987.8	1016.2	49	31	39.9	- 4.5	61	4	18	23	0	15	29	69	4.51	- 0.86	1.24	10	1	0.1	T	8.8	2	36	SW	6	8	5	16	6.6	46
KNOXVILLE	950	979.2	1015.7	45	28	36.1	- 7.0	56	4	17	23	0	24	25	66	4.09	- 0.72	1.23	14	0	5.2	3	8.5	24	40	SW	6	9	4	16	6.2	45
MEMPHIS	263	1001.5	1016.7	51	30	40.2	- 3.9	62	2	20	23+	0	21	31	73	3.50	- 1.19	1.08	10	1	T	T	9.3	29	29	NW	15	12	6	11	5.3	78
MEMPHIS U	271			49	34	41.4	- 3.3	62	2	25	22	0	11			3.26	- 1.29	1.13	9	0	T	T										
NASHVILLE	577	995.3	1015.6	47	27	37.2	- 4.8	61	4	15	23	0	24	28	73	3.26	- 1.25	0.92	9	0	4.2	4	8.8	31	33	NW	28	9	5	15	6.4	50
OAK RIDGE	905	981.3		45	26	35.4	- 5.7	58	4	13	23	0	24			4.33	- 1.47	1.53	13	1	3.1	2			41Y		6	8	8	13	6.0	
TEXAS																																
ABILENE	1759	953.4	1016.0	57	32	44.9	- 3.5	72	25	25	27	0	14	27	54	2.47	1.38	1.68	7	1	4.3	4	11.1	18	38	SE	14	16	6	7	3.8	74
AMARILLO	3607	886.3	1015.5	43	21	32.1	- 9.2	64	29	5	7	0	28	20	67	1.37	0.75	0.87	3	0	17.3	13	16.0	3	42	NW	15	13	7	7	4.6	70
AUSTIN	597	995.0	1017.4	59	38	48.4	- 5.4	76	10	29	22	0	5	35	65	1.47	- 1.11	0.73	11	1	4.0	1	10.6	36	34	NW	5	9	10	10	5.5	64
BROWNSVILLE	16	1013.2	1015.9	69	48	58.5	- 5.5	80	11	36	23	0	0	49	74	1.32	- 0.16	0.68	8	0	0.0	0	13.1	12	36	NW	21	9	5	15	6.7	50
CORPUS CHRISTI	43	1015.7	1017.0	65	42	53.7	- 6.7	79	10+	29	8	0	4	45	76	1.53	- 0.17	0.62	8	0	T	0	13.4	14	40	N	21	7	7	15	6.6	48
DALLAS	481	997.9	1017.1	55	35	44.9	- 4.6	67	9	25	22	0	12	30	60	1.25	- 1.30	0.53	7	1	0.3	T	12.5	34	35	NW	15	14	5	10	4.9	68
DEL RIO	1026	981.3		63	39	50.7		77	10	28	22	0	5			0.76		0.51	6	0	T	T			25	24	5	11	9	9	4.9	
EL PASO	3918	884.3	1014.3	56	25	40.8	- 8.3	67	11	15	22	0	22	9	29	T	- 0.41	T	0	0	T	T	9.2	29	43	NW	14	20	6	3	2.6	91
FORT WORTH	544	995.6	1017.2	55	33	43.8	- 5.4	66	9+	21	22	0	15	31	64	1.17	- 1.07	0.58	6	1	0.2	T	11.5	33	39*	30	15	14	5	10	4.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F or above	No of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F	%	In	In.	In.			In	In	M.p.h		M.p.h							%
TEXAS																																
GALVESTON U	7			57	46	51.5	- 5.3	65	10+	35	22	0	0			3.39	0.51	1.43	10		T	0	12.0		31	NE	24					53
HOUSTON U	41			59	45	52.0	- 5.1	72	10	33	22	0	0			3.36	0.15	1.38	12		0.0	0										
HOUSTON	50	1014.3	1017.1	59	40	49.4	- 6.4	74	10	27	22	0	4	39	71	4.97	1.53	2.16	10	1	T	T	11.5	32	28*	34	18+	9	4	16	6.3	58
LAREDO	500	1000.9	1016.3	68	45	56.5	- 5.2	81	10	32	8	0	1	39	59	1.35	0.46	0.94	8	0	0.0	0	10.9	13	25*	1	21+	7	9	13	6.2	
LUBBOCK	3243	901.5	1015.8	50	23	36.5	- 6.6	63	29+	6	21	0	29	21	61	0.16	- 0.41	0.08	2	0	3.3	2	15.2	36	43*	25	14	17	7	5	3.4	
MIDLAND	2854	913.8	1014.2	58	28	42.7	- 5.6	72	25	19	28+	0	24	24	57	0.27	- 0.33	0.10	4	0	0.4	T	12.5	18	32*	32	27+	13	14	2	4.0	
PORT ARTHUR	16	1015.2	1016.9	59	39	49.2	- 6.8	72	10	27	22	0	5	41	78	3.10	- 1.35	1.22	11	1	T	0	11.3	36	38	NE	24	10	4	15	6.1	52
SAN ANGELO	1903	947.2	1015.8	58	32	45.4	- 5.1	75	12	25	27+	0	17	28	58	1.27	0.37	0.71	6	1	0.8	1	10.3	16	30*	17	12	14	8	7	4.2	
SAN ANTONIO	792	991.7	1017.2	60	40	49.8	- 5.6	74	10	28	23	0	6	34	61	1.89	0.24	0.69	9	1	2.0	2	10.2	36	29	NW	5	10	4	15	5.8	58
VICTORIA	104	1012.4		61	42	51.8	- 6.2	76	10	30	22	0	1			2.49	0.15	1.01	8	3	T	0	12.6		44Y		21+	8	4	17	6.7	
WACO	500	995.3	1017.0	56	35	45.5	- 6.0	69	10	25	22	0	10	35	70	1.29	- 1.13	0.50	8	1	1.0	1	13.1	32	33*	30	15	13	5	11	4.9	
WICHITA FALLS	994	978.3	1016.4	55	31	42.9	- 3.9	68	2	21	27	0	18	30	66	1.30	- 0.08	1.01	5	1	1.7	0	12.0	30	35*	33	15	15	7	7	4.0	
UTAH																																
MILFORD	5028	845.6		41	11	25.7	- 4.0	59	10	- 2	15	0	29			0.38	- 0.32	0.21	6	0	4.4	3						18	5	6	3.6	
SALT LAKE CITY	4220	871.6	1025.2	36	16	25.8	- 6.7	48	10	2	14	0	29	17	73	0.35	- 0.83	0.14	7	0	8.0	3	8.2	14	26	S	24+	12	7	10	4.6	68
WENDOVER	4237	874.3		39	21	30.2	- 2.6	50	18	13	26	0	29			0.03	- 0.27	0.03	1	0	0.6	1						21	5	3	3.2	
VERMONT																																
BURLINGTON	331	994.5	1009.6	28	7	17.2	- 0.2	37	6+	- 9	10	0	29	8	63	0.63	- 1.16	0.18	12	0	8.8	4	9.6	18	31	NW	2	6	7	16	6.9	59
VIRGINIA																																
LYNCHBURG	947	987.2		44	27	35.9	- 3.0	65	5	16	23	0	26			4.46	1.81	1.40	10	0	11.8	5	7.7		28	NE	18	11	7	11	5.2	53
NORFOLK	26	1011.4	1012.7	48	31	39.9	- 1.7	63	6+	22	13	0	19	27	66	4.56	1.35	0.90	13	0	5.8	3	13.9	24	59	SW	6	11	8	10	5.4	64
RICHMOND	162	1006.5	1012.8	48	27	37.2	- 2.7	66	5	15	4	0	24	24	64	4.46	1.56	1.24	12	0	10.2	7	9.2	31	33	SW	6	10	9	10	5.3	64
ROANOKE	1174	970.3	1013.1	44	27	35.6	- 3.6	63	5	15	23+	0	25	22	60	5.33	2.47	1.72	7	0	20.2	5	11.2	31	35*	29	16	8	10	11	5.8	
WASHINGTON																																
OLYMPIA	190	1018.3	1025.3	49	29	39.0	- 1.9	57	23	21	27+	0	18	34	86	2.54	- 4.08	1.15	11	0	0.0	0	7.4	18	32*	18	29	4	8	17	7.3	
SEATTLE TACOMA	400	1010.8	1025.3	48	34	41.3	0.5	54	22+	28	8+	0	12	33	74	1.66	- 2.58	0.45	14	0	T	0	8.6	20	30*	23	29	6	8	15	6.9	
SEATTLE U	14			50	39	44.2	0.6	56	3	33	7+	0	0			1.55	- 2.35	0.49	12		T	0			48	SW	29					49
SPOKANE	2356	952.6	1023.0	37	21	29.2	- 0.8	42	27+	9	14	0	29	23	79	0.98	- 0.88	0.38	7	0	5.2	3	8.0	22	42	SW	16	7	10	12	6.3	68
STAMPEDE PASS R	3958	883.3		34	24	29.4	2.8	46	22	18	12	0	28			8.78	- 1.37	1.87	17	0	69.5	166						7	4	18	7.3	
TATOOSH ISLAND R	101	1021.3	1024.3	48	40	43.7	0.6	52	22	35	12	0	0	38	82	6.80	- 1.90	2.10	15	0	0.0	0	15.0	6	57	NW	4	3	7	19	7.6	43
WALLA WALLA U	949			51	34	42.3	3.9	64	23	26	25+	0	10			0.17	- 1.35		4	0	T	0										
YAKIMA	1061	984.2	1024.5	49	23	36.1	2.1	61	23	16	13	0	28	23	65	T	- 0.87	T	0	0	T	0	7.5	28	44*	28	17	6	12	11	6.0	
WEST INDIES																																
SAN JUAN P.R.	5	1012.9	1015.8	86	69	77.5	3.1	91	29	64	5	4	0	69	77	1.70	- 1.20	0.53	11	0	0.0	0	6.9	5	23	E	26	14	10	5	4.5	78
SWAN ISLAND	28	1011.3		84	76	79.8	1.4	86	28+	70	19	0	0			0.40	- 0.76	0.20	4		0.0	0						16	10	3	3.8	
WEST VIRGINIA																																
BECKLEY	2504	922.9	1014.7	36	20	28.1		57	5	4	23	0	28	21	77	3.83		0.75	19	1	30.8	15	11.1	30	35*	15	15	6	4	19	7.4	
CHARLESTON	939	977.7	1014.1	41	25	33.2	- 4.3	58	5	8	12	0	26	24	72	3.58	0.05	0.68	17	0	21.8	7	6.4	23	21*	22	16+	7	5	17	7.0	
ELKINS	1970	942.0	1013.2	37	16	26.4	- 6.6	54	5	-11	12	0	28	20	77	3.07	- 0.20	0.45	22	0	29.5	9	8.5	30	30*	27	16+	4	6	19	7.6	
HUNTINGTON	827	983.3	1015.0	40	24	32.1	- 5.6	56	5	9	12	0	27	24	75	3.07	0.03	0.97	17	0	14.3	6	7.1	24	23*	25	16	8	5	16	6.7	
PARKERSBURG U	615			39	23	30.8	- 4.7	58	5	7	23	0	27			2.17	- 0.66	0.68	15	0	8.5	2	7.1		26	NW	16					43
WISCONSIN																																
GREEN BAY	682	989.8	1013.3	31	12	21.4	3.3	54	29	-12	24	0	29	14	72	0.26	- 0.82	0.10	5	0	3.2	1	11.5	22	36	SW	29	4	14	11	6.4	50
LA CROSSE	652	989.0	1014.6	37	16	26.8	7.4	58	29	1	24	0	29	15	65	0.09	- 0.96	0.04	4	0	1.0	T	11.5	18	36*	22	29	8	9	12	5.9	
MADISON	858	977.6	1014.1	37	13	24.9	5.4	53	29	- 3	27	0	29	14	63	0.26	- 0.87	0.24	3	0	3.7	4	9.4	20	34	SW	29	8	5	16	6.4	59
MILWAUKEE	672	988.5	1014.3	34	16	25.3	2.9	50	29	- 2	24	0	29	17	71	0.41	- 0.99	0.34	6	0	5.7	4	11.8	21	34	SW	29	11	5	13	5.9	57
WYOMING																																
CASPER	5319	834.5	1018.4	31	12	21.2	- 5.1	45	10	- 2	26+	0	29	12	68	0.72	0.13	0.36	12	0	12.7	6	15.5	23	35*	31	22	4	14	11	6.5	
CHEYENNE	6126	808.5	1017.3	33	11	22.3	- 5.0	52	10	0	26+	0	29	8	55	0.24	- 0.32	0.10	7	0	3.3	2	19.3	31	54	NW	17	6	13	10	5.8	78
LANDER	5563	833.1	1019.1	34	9	21.7	- 2.4	48	9	- 5	26	0	29	8	57	1.20	0.51	0.40	11	0	24.6	10	6.6	14	37	NW	17	9	11	9	5.4	71
SHERIDAN	3942	882.8	1017.9	37	16	26.7	2.9	55	4	- 2	15	0	29	18	70	0.81	0.07	0.16	14	0	13.3	4	12.8	31	63	NW	5	3	9	17	7.5	56

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

- * Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
- A Maximum hourly average.
- B Number of days maximum 70°F. or above for Alaskan Stations.
- Y Peak Gust.
- # Wind direction to 8 compass points only.
- + And also on an earlier date or dates.
- Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	990.5	1016.5	11.1	1.1	5.9	-3.3	17.2	10	- 6.1	23	0	14	- 0.6	65	104	- 30	24	12	0	T	T	3.9	11	17.0	W	10	8	4	17	6.8	53
HUNTSVILLE	184	992.5	1016.4	10.0	- 0.6	4.9	-2.4	17.2	3	- 8.3	23	0	16	- 2.2	64	102	- 31	40	9	0	25	25	4.0	32	16.1*	13	15	8	4	17	6.6	
MOBILE	64	1013.9	1016.4	14.4	3.9	8.9	-3.9	22.8	13	- 3.3	23	0	6	2.8	68	69	- 47	20	11	2	0	0	5.5	9	15.6*	31	15	10	6	13	6.1	
MONTGOMERY	59	1008.1	1016.6	12.8	2.2	7.4	-2.8	19.4	10	- 4.4	23	0	12	0.6	67	114	3	41	11	0	T	0	3.9	30	13.9	W	19	6	9	14	6.8	53
ALASKA												B																				
ANCHORAGE	27	996.1	1001.1	- 2.2	-10.6	- 6.6	1.2	6.7	6	-30.0	16	0	28	-10.6	76	29	11	9	12	0	455	229	3.8	18	13.4*	19	7	5	3	21	7.8	32
ANNETTE	34	1012.6	1016.7	6.7	1.1	3.7	2.0	8.9	2	- 2.2	22	0	10	1.1	84	336	119	65	25	0	36	25	5.8	16	16.5*	18	11	0	4	25	9.0	
BARROW	7	1015.9	1016.6	-30.6	-36.7	-33.7	-5.7	-21.1	25+	-47.8	19	0	29	-37.8	64	10	5	2	11	0	135	305						11	5	13	5.9	
BARTER ISLAND	12	1012.9	1014.8	-28.9	-33.9	-31.4	-2.7	-14.4	25	-44.4	19	0	29	-35.0	67	4	- 5	1	8	0	36	330	4.9	26	11.2*	8	20+	6	3	20	7.2	
BETHEL	38	999.8	1001.2	-13.9	-22.8	-18.4	-5.2	5.6	26	-37.2	14+	0	29	-22.2	69	9	- 19	3	11	0	107	178	6.8	3	17.9*	3	11	8	0	21	7.0	
COLD BAY	29	993.3	997.3	- 0.6	- 6.1	- 3.2	-1.0	6.7	4	-14.4	18	0	24	- 6.1	80	44	- 36	17	17	0	211	127	8.3	3	23.2*	17	20	0	5	24	8.7	
CORDOVA	12	1000.7	1002.6	1.7	- 5.6	- 1.9	1.3	4.4	29+	-18.9	10	0	22	- 3.3	90	482	364	97	24	0	2037	711	4.3	12	13.9*	13	7	1	4	24	8.9	
FAIRBANKS	133	988.1	1006.1	-11.7	-23.3	-17.4	2.0	2.8	7	-39.4	17	0	29	-21.1	70	12	- 2	5	6	0	251	381	2.1	36	9.4*	25	7	2	11	16	7.5	
JUNEAU	5	1010.2	1010.8	3.9	0.0	2.2	5.1	7.8	20	- 2.8	16	0	16	0.6	88	215	138	34	27	0	493	127	6.8	11	17.9*	12	6	0	1	28	9.8	12
KING SALMON	13	999.4	999.4	- 5.0	-14.4	- 9.8	-1.7	6.1	23+	-32.2	17	0	26	-13.9	73	49	25	14	20	0	277	178	6.3	36	20.6*	14	4	4	6	19	7.7	
KOTZEBUE	3	1007.8	1008.3	-25.0	-33.9	-29.6	-9.6	- 1.7	24	-46.7	19+	0	29	-33.3	71	12	5	4	9	0	351	635	3.9	6	15.6*	18	24	13	0	16	5.7	
MC GRATH	102	990.7	1003.9	-11.7	-24.4	-18.1	-0.4	2.8	24+	-43.3	10	0	29	-22.8	63	28	- 1	6	14	0	541	483	2.4	2	11.6*	20	24+	10	0	19	6.6	
NOME	4	1003.9	1004.6	-16.7	-27.8	-22.3	-7.6	0.0	24	-38.3	14+	0	29	-25.6	73	23	- 1	8	11	0	231	559	4.6	36	19.7*	8	23	11	2	16	6.0	41
ST. PAUL ISLAND	7	997.7	998.9	- 5.6	-12.8	- 9.2	-4.3	1.7	23+	-23.3	20	0	29	-10.0	92	145	113	35	26	0	1417	838	11.2	3	30.8*	3	4	0	5	24	9.0	
SHEMYA	37	985.5	1000.8	- 1.1	- 3.9	- 2.5	-1.8	3.3	13	- 7.8	2+	0	28	- 6.1	76	48	- 10	7	21	0	505	152	11.1	6	27.3*	12	13	1	4	24	8.5	
YAKUTAT	9	1006.8	1007.8	2.8	- 1.7	0.4	2.3	5.6	19	- 8.3	28	0	20	- 0.6	91	816	608	127	27	1	2123	559	4.2	9	17.4*	13	1	1	0	28	9.3	
ARIZONA																																
FLAGSTAFF	2131	786.9	1017.2	5.6	-11.7	- 3.0	-1.7	14.4	10	-17.2	15	0	29	-13.3	49	4	- 42	4	2	0	36	51	3.8	36	11.2*	4	4	24	2	3	2.0	
PHOENIX	340	976.3	1016.3	18.3	0.6	9.6	-2.3	23.3	1	- 3.3	15+	0	15	- 7.8	31	T	- 21	T	1	1	0	0	3.1	11	12.5Y	ENE	2	21	5	3	2.0	94
PRESCOTT	1528	845.9	1017.7	11.1	- 6.1	2.6	-1.7	18.9	10	-11.7	15	0	29	-13.3	36	2	- 26	2	1	0	25	T	4.4	33	15.6	N	2	23	3	3	1.8	93
TUCSON	788	925.8	1015.4	17.2	0.6	8.7	-2.9	24.4	10	- 4.4	15+	0	14	-11.7	26	3	- 18	3	1	0	0	0	4.2	12	13.0	NW	2	19	4	6	2.7	88
WINSLOW	1487	850.7	1019.5	10.0	- 9.4	0.2	-2.9	16.7	10	-14.4	15	0	29	-15.0	37	4	- 9	2	3	0	36	T	4.2	34	14.8*	34	19	21	3	5	2.4	
YUMA	61	1011.9	1017.3	21.7	5.6	13.4	-1.6	27.8	10	0.0	15	0	1	- 9.4	25	4	- 6	3	2	0	0	0	3.7	36	22.4	W	20	21	5	3	2.3	94
ARKANSAS																																
FORT SMITH	137	999.4	1016.9	11.1	- 1.7	4.7	-1.8	18.9	2	- 9.4	22	0	22	- 2.2	64	82	- 6	51	5	0	0	0	3.9	27	13.4	W	25	10	11	8	5.0	65
LITTLE ROCK	78	1003.3	1016.9	11.7	- 1.1	5.3	-1.6	17.8	2	- 6.1	23	0	19	- 2.2	62	73	- 37	34	6	0	0	0	4.0	25	13.4	SW	15	13	7	9	5.0	62
TEXARKANA	110	1003.2	1016.9	12.8	1.7	7.2	-1.9	18.3	2	- 5.6	22	0	11	0.0	67	70	- 33	40	7	1	0	0	3.1	25								
CALIFORNIA																																
BAKERSFIELD	151	1002.4	1020.7	18.3	2.8	10.6	-0.6	23.9	20	- 1.1	13	0	2	- 0.6	51	10	- 19	9	3	0	0	0	2.7	10	11.2*	13	20	21	5	3	2.0	
BISHOP	1252	877.0		15.6	- 3.9	5.8	0.7	20.0	24+	- 8.3	28+	0	28			T	- 25	T	0	0	T	0						27	2	0		
BLUE CANYON	1609	840.9		9.4	- 0.6	4.5	1.7	16.7	9	- 5.6	29+	0	15			21	-238	11	4	0	150	991	3.8		17.9*	5	19	23	2	4	2.0	
BURBANK	213	991.3	1017.7	20.6	4.4	12.6	-0.3	26.7	19+	1.1	15	0	0	- 4.4	35	T	- 82	T	0	0	0	0	3.3	36	11.6*	35	11+	25	3	1	1.1	
EUREKA U	13	1022.0		12.2	4.4	8.3	-0.7	22.2	20	0.6	16	0	0			30	-110	21	7	1	0	0	3.1	N#	15.2	W	14	20	4	5	3.0	87
FRESNO	99	1008.2	1020.5	16.7	0.6	8.6	-1.7	21.1	24+	- 2.2	14	0	16	1.1	65	T	- 56	T	0	0	0	0	2.4	8	11.6	NW	28	23	4	2	1.6	90
LONG BEACH	10	1016.8	1018.5	21.1	5.6	13.2	0.7	27.2	19+	2.2	17	0	0	0.6	51	0	- 59	0	0	0	0	0	2.8	30	12.5*	7	20	22	5	2	1.8	
LOS ANGELES	30	1014.4	1018.4	19.4	7.2	13.3	0.4	26.1	9	3.3	26	0	0	1.1	49	T	- 73	T	0	0	0	0	4.1	8	11.6Y	36	16	24	5	0	1.4	
LOS ANGELES U	95			20.6	9.4	15.0	1.1	26.1	19+	7.2	14+	0	0			T	- 85	T	0	0	0	0	3.1	W	16.1	NW	11	25	3	1	1.5	96
MT SHASTA R	1080	898.2		9.4	- 3.3	2.9	0.2	14.4	27+	- 7.8	14	0	28			9	-141	6	6	0	165	102						22	5	2	2.1	
OAKLAND	1	1021.0	1021.5	15.6	7.2	11.3	0.9	22.2	19	5.0	26+	0	0	3.9	63	6	- 76	5	2	0	0	0	3.7	29	15.6*	4	20	22	5	2	1.8	
POINT ARGUELLO R	112	1005.4		17.2	3.3	10.2	-0.4	25.0	9	- 0.6	27+	0	3			3	- 53	2	3	0	0	0	3.2		10.3*	32	29	23	4	2	2.0	
RED BLUFF	104	1009.1	1022.3	18.3	3.3	11.0	1.2	23.9	18	0.0	28+	0	2	- 3.3	44	1	- 84	1	1	0	0	0	4.9	35	16.5	SE	14	20	7	2	2.2	94
SACRAMENTO	5	1020.0	1021.6	17.2	2.2	9.7	0.1	24.4	19	- 0.6	26+	0	5	2.2	67	4	- 72	4	2	0	0	0	3.4	34	15.2	NW	11	24	4	1	1.7	95
SACRAMENTO U	7			17.8	3.9	10.8	0.6	25.0	19	1.1	17	0	0			5	- 83	5	2		0	0										
SANDBERG R	1377	863.9		9.4	0.6	5.0	-0.2	16.7	10	- 4.4	29	0	16			5	- 60	4	2	0	0	0	7.0		19.2*	35	16+	22	5	2	1.8	
SAN DIEGO	4	1014.6	1017.9	20.0	7.2	13.7	0.3	26.1	20	5.0	15	0	0	1.7	50	9	- 45	9	3	0	0	0	2.8	7	10.7	NW	29	19	7	3	2.8	89
SAN FRANCISCO	2	1020.9	1021.8	16.7	4.4	10.4	-0.1	22.2	19	2.2	24	0	0	2.8	62	7	- 82	6	2	0	0	0	4.2	29	21.0	WNW	10	24	3	2	1.3	
SAN FRANCISCO U	16			16.7	8.9	12.8	1.1	23.9	19	6.7	29	0	0			5	- 88	4	2	0	0	0	3.1	W	11.2	NE	25					95
SANTA CATALINA	478	961.7		16.7	10.0	13.4	1.2	23.3	10+	6.7	29+	0	0			1	- 80	T	2	0	0	0						21	5	3	2.4	
SANTA MARIA	73	1011.1	1020.2	19.4	0.6	9.8	-1.2	25.6	19+	- 3.3	14	0	17	0.6	62	1	- 62	1	1	0	0	0	3.7	30	11.6*	30	13	26	1	2	1.2	
STOCKTON	9	1019.8	1021.5	16.7	0.6	8.5	-0.9	22.8	19	- 3.3	26	0	10	1.1	66	1	- 61	1	1	0	0	0	3.0	31	17.0*	31	11	24	4	1	1.6	
COLORADO																																
ALAMOSA	2297	766.2		0.6	-18.3	- 8.9	-4.2	9.4	10	-27.8	8+	0	29			7	3	3	5	0	160	76						15	7	7	4.1	
COLORADO SPRINGS	1882	806.3	1017.3	3.9	-10.6	- 3.3	-3.0	14.4	1	-20.6	26	0	29	-13.9	50	6	- 3	3	4	0	69	51	5.6	36	17.4*	34	14	10	6	13	5.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	°C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
DENVER	1610	1003.7	1016.4	4.4	-9.4	-2.6	-2.3	17.8	1	-19.4	26+	0	27	-11.7	53	26	9	8	8	0	323	127	4.6	18	13.4	N	19+	8	9	12	5.9	61
GRAND JUNCTION	1478	859.6	1019.8	5.6	-8.3	-1.4	-1.7	11.1	10	-12.2	26+	0	29	-13.3	44	1	-17	1	1	0	10	T	2.8	13	11.6	E	25	13	8	8	4.2	83
PUEBLO	1414	853.8	1017.3	6.7	-11.1	-2.4	-3.4	17.8	1	-21.7	26	0	29	-12.2	52	5	-7	2	5	0	102	51	5.3	36	22.8	NW	16	13	5	11	5.1	66
CONNECTICUT																																
BRIDGEPORT	2	1004.0	1010.7	2.8	-5.0	-1.2	-0.3	10.0	5	-10.6	23	0	27	-7.2	66	57	-18	15	11	0	274	152	7.2	31	19.7*	32	5	10	8	11	5.4	
HARTFORD	52	1002.8	1009.0	1.7	-8.3	-3.4	-0.7	7.8	26	-18.3	23	0	28	-9.4	63	87	12	34	11	0	559	356	4.2	31	14.8	NW	5	7	11	11	5.9	64
NEW HAVEN	2	1008.4		3.3	-6.1	-1.5	-0.2	10.0	5	-10.6	28	0	27			68	-13	20	12	0	381	229	4.6		14.8	W	5	9	8	12	5.6	66
DELAWARE																																
WILMINGTON	24	1008.6	1011.9	3.9	-4.4	-0.2	-1.2	12.8	5	-11.7	23	0	26	-6.1	65	36	11	26	10	1	378	152	5.4	31	13.9*	28	[illegible]	10	8	11	5.6	
DIST.OF COLUMBIA																																
WASHINGTON U	22			5.6	-1.7	2.0		16.1	5	-7.2	23	0	24			85	18	24	10		0	0										
WASH NATL AP	4	1007.8	1012.3	7.2	-1.7	2.7	-0.5	17.8	5	-7.2	23	0	23	-5.6	58	86	23	23	10	0	297	203	5.0	34	16.1	NW	16	10	8	11	5.5	61
FLORIDA																																
APALACHICOLA U	4	1014.4		14.4	6.7	10.6	-3.2	18.3	6+	1.7	23+	0	0			164	65	72	14	3	0	0	4.0					10	9	10	5.4	
DAYTONA BEACH	9	1014.8	1016.6	18.3	8.9	13.6	-2.3	26.7	15	1.7	24	0	0	8.3	73	67	-3	19	14	3	0	0	4.7	30	17.9*	26	18	7	8	14	6.5	
FORT MYERS	4	1015.9		22.2	11.1	16.7	-1.8	28.3	27+	3.3	24	0	0			84	28	57	9	0	0	0	5.2		16.5*	29	8	11	9	9	5.1	
JACKSONVILLE	7	1014.7	1016.0	16.7	6.1	11.3	-2.8	25.0	15	-1.7	24	0	1	5.0	69	166	92	98	13	1	0	0	4.7	27	18.3	W	6	9	10	10	6.0	67
KEY WEST	2	1015.0	1016.2	22.8	16.7	19.8	-1.5	27.2	18+	12.2	12	0	0	15.0	75	35	-15	22	5	0	0	0	5.7	36	15.2	NW	8	12	8	9	4.8	67
LAKELAND U	65			19.4	8.9	14.1	-3.2	26.7	15	2.8	12	0	0			106	42	24	13	3	0	0	4.0					9	9	11	5.9	55
MIAMI BEACH	3			22.8	15.0	18.9	-1.9	30.0	16	7.8	21+	0	0			58	16	34	7		0	0	6.3	S				10	12	7	4.8	62
MIAMI	2	1014.9	1016.2	23.9	13.9	18.7	-1.2	30.6	28	6.1	9	0	0	13.9	74	56	9	24	7	0	0	0	4.0	32	17.0*	30	8	8	11	10	5.6	
ORLANDO	32	1011.9	1016.5	20.0	9.4	14.6	-2.0	27.2	15	3.9	24+	0	0	8.3	72	87	25	22	10	1	0	0	5.0	31	17.9*	30	18	7	10	12	6.0	
PENSACOLA	4			13.9	3.9	8.9	-4.5	20.0	13	-2.8	23	0	5			172	59	47	13	2	0	0	4.1	35	15.6	W	19					45
TALLAHASSEE	18	1014.0	1016.8	15.6	3.3	9.4	-3.7	20.0	25+	-4.4	24	0	10	3.9	72	292	186	142	16	2	T	0	4.6	36	16.5*	28	19	7	12	10	5.9	
TAMPA	6	1015.2	1016.9	19.4	8.3	13.9	-3.1	25.0	15	0.6	12	0	0	8.3	72	136	64	39	13	2	0	0	5.9	32	17.9*	32	8+	7	8	14	6.3	55
WEST PALM BEACH	5	1015.7	1016.8	22.8	11.1	17.1	-2.7	30.6	28	3.3	24	0	0	12.2	76	111	51	70	8	0	0	0	4.8	32	14.3*	24	28	9	12	8	5.3	
GEORGIA																																
ATHENS	245	985.6	1015.2	10.6	-0.6	5.1	-2.8	17.2	10	-7.2	12	0	19	-1.7	65	132	12	34	9	1	T	0	4.2	29	10.7*	30	28+	8	9	12	5.9	
ATLANTA	306	972.5	1015.7	9.4	0.0	4.6	-3.4	15.6	10	-6.1	23	0	17	-2.2	67	106	-9	30	12	0	8	T	4.1	29	13.9	W	19+	7	5	17	6.6	56
AUGUSTA	44	1008.5	1015.4	12.8	0.6	6.4	-3.2	18.9	10	-6.1	24	0	14	-0.6	65	123	34	45	12	0	0	0	4.0	24	16.5*	27	28	7	11	11	5.9	
COLUMBUS	117	1001.5		12.2	1.1	6.7	-3.1	18.3	10	-5.0	24+	0	11			136	19	38	12	1	0	0	4.8		13.0*	31	28+	8	6	15	6.7	
MACON	109	1002.2	1016.1	12.8	2.2	7.3	-3.3	18.3	10	-4.4	23	0	9	0.0	64	145	37	44	12	0	T	T	4.5	30	15.6	W	19	10	5	14	6.1	53
ROME	194	992.3		9.4	-2.2	3.6	-3.3	16.1	10	-8.9	12	0	21			126	-8	37	7	0	8	0						8	9	12	6.0	
SAVANNAH	15	1013.2	1015.7	15.0	2.8	8.8	-2.9	22.2	18	-2.8	12	0	6	3.3	71	201	108	88	15	1	0	0	5.5	27	17.0	NW	28	7	10	12	6.2	60
THOMASVILLE U	86			14.4	4.4	9.2	-3.7	21.1	15	-1.7	23	0	6			200	98	81	13	1	T	T										
HAWAII																																
HILO	9	1016.3	1018.2	25.6	17.2	21.2	-0.2	26.7	3+	15.6	28+	0	0	16.7	79	463	134	95	27	5	0	0	4.1	27	11.6*	6	27	3	10	16	7.2	49
HONOLULU	2	1017.7	1018.1	27.8	20.0	23.7	1.3	28.9	23+	17.8	19+	0	0	15.0	60	13	-71	5	8	0	0	0	5.0	6	14.3	NE	14	12	14	3	4.2	81
KAHULUI	13	1014.3	1017.4	27.2	18.9	22.9	0.9	29.4	1	15.0	17	0	0	16.1	68	9	-56	3	8	0	0	0	5.9	7	14.3	NE	29	15	12	2	3.7	78
LIHUE	35	1013.5	1019.3	26.1	19.4	22.7	1.2	27.2	22+	16.7	5	0	0	16.7	70	44	-91	19	16	0	0	0	6.1	5	12.1	NE	13	13	10	6	4.8	68
IDAHO																																
BOISE	865	926.4	1026.2	1.1	-7.8	-3.2	-4.6	6.7	18	-12.2	6	0	29	-6.1	81	5	-29	2	5	0	53	51	3.4	14	11.2	NW	24+	10	11	8	4.9	86
IDAHO FALLS 42NW R	1460			-4.4	-22.8	-13.7	-6.4	1.7	11+	-32.8	26	0	29			2	-10	1	3		0	0										
IDAHO FALLS 46W R	1504	850.8		-3.3	-21.7	-12.3	-5.8	2.8	11	-27.8	28	0	29			6	-14	2	4	0	66	203	1.4		10.3A	N	19					
LEWISTON	431	970.8		7.8	-2.8	2.7	0.5	11.7	17	-7.2	25	0	22			5	-19	3	6	0	53	25						7	7	15	6.4	
POCATELLO	1355	866.6	1026.6	-1.7	-15.0	-8.4	-5.7	4.4	10	-22.8	15	0	29	-11.1	79	9	-15	4	5	0	127	203	3.8	24	15.6	SW	19	6	10	13	6.7	48
ILLINOIS																																
CAIRO U	96	1002.5		8.3	-1.1	3.7	-1.2	15.6	2	-6.7	22	0	21			61	-32	25	8	0	5	T	3.8	N	12.5	SW	29	11	7	11	5.3	63
CHICAGO O HARE	201	989.1	1014.5	2.2	-8.3	-3.0	0.2	12.8	5	-16.7	22	0	29	-7.8	70	13	-25	6	7	0	150	76	4.9	21	15.6*	22	29	13	3	13	5.7	
CHICAGO MIDWAY	186	991.4	1015.0	2.8	-6.1	-1.8	0.6	12.8	5	-12.8	24	0	29	-7.2	67	14	-26	6	8	0	163	76	5.0	20	14.3	SW	29	13	2	14	5.6	57
MOLINE	177	992.7	1015.6	2.2	-7.8	-2.8	0.7	11.7	5	-16.7	27	0	29	-7.2	74	19	-16	9	5	0	140	76	4.4	31	13.4	SW	29	12	5	12	5.4	57
PEORIA	199	993.4	1016.5	2.8	-7.2	-2.2	-0.2	11.1	29+	-14.4	26	0	29	-6.1	74	14	-30	9	9	0	157	102	3.9	18	11.6	S	29	12	1	16	5.7	59
ROCKFORD	222	986.1	1014.3	2.2	-8.9	-3.5	0.7	11.7	5	-18.3	27	0	29	-7.8	71	13	-24	9	4	0	165	127	4.6	21	12.5*	23	29	14	3	12	5.1	
SPRINGFIELD	179	991.7	1015.8	3.3	-6.7	-1.6	-1.4	12.2	5	-16.7	26	0	29	-5.0	76	32	-14	11	9	0	345	152	5.1	30	16.1	S	29	12	4	13	5.3	62

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

FEBRUARY 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	C.	C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	116	999.7	1016.0	7.2	- 5.0	1.0	-2.1	15.0	25+	-11.1	11	0	27	- 5.0	68	40	- 41	16	8	0	81	76	3.0	30	11.2	NW	28+	10	5	14	5.8	52
FORT WAYNE	241	982.4	1014.7	1.7	- 8.3	- 3.5	-1.4	11.1	5	-20.6	27	0	26	- 7.2	74	28	- 28	8	12	0	295	127	4.3	26	12.5	W	23	8	7	14	6.1	65
INDIANAPOLIS	242	984.1	1015.0	3.3	- 6.7	- 1.7	-1.2	11.7	5	-13.9	24	0	28	- 6.1	74	51	- 7	19	15	0	323	152	4.1	30	11.6	W	7	7	11	11	5.8	65
SOUTH BEND	234	985.3	1014.2	1.7	- 6.7	- 2.6	0.3	11.1	5	-15.0	27	0	28	- 7.2	70	26	- 22	7	16	0	366	102	4.5	21	10.3*	24	26+	8	3	18	6.5	
IOWA																																
BURLINGTON	212	989.8	1016.3	3.3	- 7.2	- 1.9	0.4	11.7	5	-15.0	26	0	29	- 6.7	73	27	- 8	8	8	0	302	152	5.1	21	14.3	NW	6	12	3	14	5.7	62
DES MOINES	289	983.8	1016.0	2.2	- 8.9	- 3.2	1.1	12.8	29	-15.6	24+	0	29	- 7.8	74	7	- 21	3	6	0	104	25	5.0	33	19.7	S	29	11	7	11	5.6	64
DUBUQUE	325	988.7		1.7	- 8.9	- 3.5	2.1	11.1	5	-17.2	24	0	29			7	- 28	5	4	0	97	76			16.5*	22	29	12	5	12	5.6	
SIOUX CITY	334	973.1	1015.9	3.9	- 8.3	- 2.3	3.2	12.2	29+	-16.1	23	0	29	- 7.8	69	8	- 15	2	7	0	81	25	4.8	33	18.8	NW	6	10	7	12	5.9	66
WATERLOO	265	981.4	1014.5	3.3	-11.1	- 3.9	2.0	13.9	29	-21.1	27	0	29	- 9.4	70	5	- 18	3	4	0	20	T	4.6	32	15.6*	21	29	12	8	9	5.2	
KANSAS																																
CONCORDIA	448	964.6	1016.0	6.7	- 6.7	- 0.1	0.1	15.6	1	-13.9	26	0	27	- 6.7	65	11	- 12	5	6	0	58	51	6.3	18	19.2	S	29	13	4	12	5.1	69
DODGE CITY	791	925.8	1016.6	5.6	- 6.1	- 0.1	-1.8	17.2	1	-12.2	7	0	29	- 6.1	68	14	- 3	10	6	0	84	51	6.0	35	18.8	S	11	8	8	13	6.0	65
GOODLAND	1111	885.5	1016.4	4.4	- 8.9	- 2.2	-1.6	17.8	1	-15.6	26	0	29	- 7.8	72	19	6	8	7	0	262	127	6.9	35	20.1*	34	8	10	5	14	5.8	
TOPEKA	267	979.4	1016.3	7.8	- 5.6	1.3	0.7	16.1	2+	-12.2	27+	0	26	- 6.1	62	7	- 19	4	3	0	51	25	6.1	32	20.1	NW	6	12	7	10	5.1	65
WICHITA	403	965.9	1016.0	8.3	- 3.9	2.3	-0.1	15.6	1	-10.0	26+	0	24	- 5.0	63	13	- 10	7	3	0	38	T	6.0	36	21.9	S	29	10	10	9	5.1	65
KENTUCKY																																
COVINGTON	265	981.7	1014.4	4.4	- 6.7	- 1.0	-1.6	12.2	25+	-13.9	24	0	28	- 5.6	73	50	- 24	20	13	0	170	25	3.9	29	10.3*	34	16	8	6	15	6.4	
LEXINGTON	298	977.9	1015.1	5.0	- 5.0	0.0	-2.1	13.9	5	-16.7	12	0	27	- 5.0	71	64	- 23	20	14	0	305	152	4.2	30	10.7*	24	6	10	5	14	5.9	
LOUISVILLE	144	997.1	1015.2	6.1	- 5.0	0.8	-1.3	15.6	5	-12.2	12	0	28	- 4.4	70	62	- 21	23	13	0	196	102	3.8	27	12.5	NW	28+	8	9	12	6.1	54
LOUISIANA																																
ALEXANDRIA	28	1012.8	1017.6	14.4	1.1	7.6	-3.9	21.7	10	- 7.2	22	0	15	1.1	67	63	- 63	27	7	0	T	0	3.0	31	10.7*	25	5	11	7	11	5.7	
BATON ROUGE	20	1013.9	1017.0	15.6	4.4	9.7	-3.3	20.6	10	- 3.9	23	0	4	2.2	63	132	20	52	8	3	0	0	4.4	9	13.0*	31	15	9	9	11	5.8	
LAKE CHARLES	4	1015.8	1017.4	13.9	3.9	8.9	-4.6	20.0	10	- 2.2	22+	0	5	3.3	70	77	- 37	25	10	0	T	0	4.4	36	11.2*	33	15	9	6	14	6.2	
NEW ORLEANS	1	1014.7	1017.0	15.0	4.4	9.9	-4.1	23.9	13	- 3.3	23	0	4	5.6	76	136	35	47	11	1	0	0	4.2	7	13.4*	24	5	9	6	14	6.1	
NEW ORLEANS AUDUBON	2	1009.7		15.0	6.1	10.7	-3.6	22.2	15+	- 0.6	23	0	1			136	25	47	13	1	0	0	2.9	NE	8.0	SW	5	11	7	11	5.6	57
SHREVEPORT	77	1008.0	1017.6	12.8	2.2	7.6	-2.6	20.0	10	- 4.4	22	0	8	0.6	66	70	- 34	34	9	0	T	0	5.1	30	14.3*	28	15	9	10	10	5.6	62
MAINE																																
CARIBOU	190	981.1	1004.9	- 3.9	-13.9	- 8.9	1.9	2.8	20	-23.3	11+	0	29	-12.8	70	14	- 37	6	8	0	257	254	5.5	31				9	5	15	6.2	
PORTLAND	19	1003.0	1007.1	1.1	-11.1	- 5.0	0.1	7.2	5	-21.1	11+	0	29	- 9.4	69	68	- 29	27	9	0	452	279	4.8	32	19.2	NW	3	9	8	12	5.9	66
MARYLAND																																
BALTIMORE	45	1007.5	1012.2	5.6	- 3.9	0.7	-1.4	15.0	26+	-10.0	23	0	25	- 7.8	57	111	37	32	9	0	462	178	4.6	28	19.7	S	6	13	5	11	5.4	61
BALTIMORE U	4			5.6	- 1.7	2.1	-1.2	15.0	5	- 7.2	23	0	23			115	39	32	11		0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	982.4		1.1	- 7.8	- 3.2	-0.6	7.2	26	-13.9	25	0	29			135	41	41	11		818	406	8.0	NW	28.6	NW	3					61
BOSTON	5	1003.1	1008.0	2.2	- 5.6	- 1.6	-0.7	8.3	26+	-10.6	25+	0	26	- 8.3	62	119	34	36	11	2	589	330	6.8	31	17.9	34	16	10	7	12	5.4	68
NANTUCKET	13	1006.9	1007.5	2.8	- 3.9	- 0.8	-0.4	8.3	5	- 9.4	18+	0	26	- 6.1	69	142	47	52	13	0	632	305	7.4	30	29.5	NW	16	8	7	14	6.6	53
PITTSFIELD	357			- 0.6	-12.8	- 6.5	-1.1	4.4	26	-23.3	28	0	29			42	- 22	15	12		808	635										
WORCESTER	301	969.4	1007.4	0.0	- 8.9	- 4.5	-0.6	6.7	26	-16.1	25	0	29	-11.1	62	90	16	32	10	0	693	559	6.1	28	15.6*	30	2	9	8	12	5.7	
MICHIGAN																																
ALPENA	210	988.9		0.0	-11.7	- 5.6	1.8	10.6	29	-21.7	24	0	29			9	- 32	6	8	0	145	51	3.6	SW#	14.8	SW	29	10	6	13	6.1	68
DETROIT	189	985.9	1013.5	2.2	- 5.6	- 1.7	0.9	9.4	5	-12.2	27	0	26	- 7.2	67	13	- 40	4	9	0	130	25	5.2	22	14.3	W	26	11	3	15	6.1	57
DETROIT M WAYNE CO	193	989.1	1013.9	1.1	- 7.8	- 3.4	-0.7	8.9	5	-16.7	22	0	28	- 8.3	69	17	- 32	4	11	0	196	51	3.3	20				8	6	15	6.2	
DETROIT WILLOW RUN	217	984.3	1013.6	1.7	- 7.2	- 2.8	-0.2	8.9	5	-12.8	27	0	28	- 6.1	76	15	- 34	7	8	0	163	51	5.0	21	14.3*	25	23	8	5	16	6.3	
FLINT	233	985.2	1014.0	1.7	- 8.3	- 3.4	2.0	10.0	29	-15.6	22	0	29	- 8.3	67	14	- 31	6	11	0	183	76	4.8	21	13.4*	27	7	8	6	15	6.5	
GRAND RAPIDS	210	987.1	1013.6	0.6	- 8.3	- 3.9	0.3	8.9	5	-17.2	27	0	29	- 7.2	77	19	- 26	9	9	0	295	152	4.7	20	13.4	SW	26	7	4	18	7.0	50
LANSING	260	980.3	1013.4	1.7	- 8.3	- 3.4	0.9	9.4	29+	-16.7	22	0	29	- 6.7	75	12	- 38	5	10	0	137	76	3.3	22	15.2	SW	29	8	5	16	6.4	52
MARQUETTE U	206	983.7		- 0.6	- 8.9	- 4.7	2.1	11.7	29	-18.3	27	0	29			36	- 6	15	13	0	551	610	4.5	W#	15.2	SW	11	4	7	18	7.4	52
MUSKEGON	191	990.3	1014.1	1.7	- 6.1	- 2.1	1.4	9.4	5	-14.4	11+	0	29	- 5.0	77	21	- 25	6	9	0	518	127	5.9	22	13.0*	21	29	6	3	20	7.6	
SAULT STE MARIE	220	987.8	1011.5	- 2.8	-13.9	- 8.3	0.8	5.6	29	-26.1	24	0	29	-11.1	79	24	- 14	6	14	0	483	635	4.6	36	12.5*	22	29	6	5	18	7.2	58
MINNESOTA																																
DULUTH	435	970.4	1013.3	- 2.8	-14.4	- 8.7	3.1	6.7	29	-25.0	10	0	29	-12.8	69	14	- 10	5	12	0	173	330	4.7	34	17.0	W	6	8	9	12	6.2	62
INTERNATIONAL FALLS	359	969.7	1012.8	- 3.9	-18.9	-11.4	2.4	4.4	29+	-32.2	26	0	29	-15.0	72	16	- 2	8	6	0	173	381	4.9	36	13.0*	27	4	10	7	12	5.5	
MINNEAPOLIS	251	979.7	1014.5	1.1	-10.0	- 4.5	4.6	12.2	29	-17.2	27+	0	29	-11.1	63	2	- 18	1	3	0	25	T	4.3	34	14.3	SW	11	12	7	10	5.0	73

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	976.2	1014.5	1.7	-10.6	- 4.4	4.4	13.3	29	-18.9	27	0	29	-10.6	66	1	- 19	1	3	0	20	T	6.2	32	17.4*	21	29	9	11	9	5.6	
ST CLOUD	315	975.2		- 0.6	-12.8	- 6.6	3.7	8.9	29	-20.6	23+	0	29			1	- 19	1	2	0	13	25						11	9	9	5.0	
MISSISSIPPI																																
JACKSON	93	1004.2	1016.6	12.8	0.6	6.9		18.9	10	- 8.3	23	0	12	0.6	67	59		23	9	0	T	0	4.3	12	10.3*	14	5	9	7	13	5.8	
MERIDIAN	89	1002.9	1017.3	12.8	- 0.6	6.1	-4.3	20.6	10	- 8.9	23	0	19	0.6	71	104	- 26	32	9	0	0	0	3.3	18	10.3*	28	15	7	7	15	6.4	
VICKSBURG U	71	1006.9		12.8	3.3	7.9	-3.1	19.4	10	- 3.3	22	0	5			83	- 52	23	8	1	T	0	4.1		12.1	W	5	8	7	14	5.9	53
MISSOURI																																
COLUMBIA	237	985.9	1015.2	6.1	- 4.4	0.7	-0.3	13.9	2	-15.6	11	0	27	- 5.6	67	42	- 4	15	6	0	343	152	5.0	32	13.9	NW	6	11	6	12	5.3	55
KANSAS CITY	226	979.6	1015.5	7.2	- 2.2	2.3	0.2	15.6	2	- 9.4	26	0	22	- 5.0	62	38	7	16	8	0	216	102	4.4	20	13.9	SW	29	11	7	11	5.3	65
ST JOSEPH	247	980.2		6.1	- 6.1	0.1	0.6	13.3	1	-15.0	26	0	26			15	- 12	8	7	0	137	51	4.5	32	13.0*	19	29	11	7	11	5.2	
ST LOUIS	163	994.6	1016.0	6.1	- 3.3	1.3	-0.2	13.9	25	-10.6	11	0	27	- 6.1	61	58	7	17	9	0	231	152	4.3	30	13.9	SW	29	12	3	14	5.5	55
ST LOUIS RFC	142			6.1	- 2.2	2.1	-0.4	13.9	25	- 6.7	22	0	23			62	6	22	10		165	102										
SPRINGFIELD	386	966.9	1015.8	8.3	- 3.9	2.2	-0.7	16.7	2	-11.1	24+	0	25	- 5.0	63	42	- 11	24	8	0	58	25	5.0	16	12.1	SE	3	10	9	10	5.4	67
MONTANA																																
BILLINGS	1087	889.7	1016.8	5.0	- 5.6	- 0.3	3.2	13.9	10	-16.1	25	0	29	- 9.4	54	9	- 6	6	5	0	130	76	7.0	24	19.2	NW	5	1	11	17	7.6	57
GLASGOW	694	938.0		3.9	- 8.3	- 2.4	7.8	10.6	28	-16.7	23	0	29			5	- 6	2	5	0	48	25						2	7	20	7.8	
GREAT FALLS	1116	887.4	1018.6	5.6	- 4.4	0.6	5.1	14.4	4	-15.0	24	0	26	- 8.9	54	13	- 6	4	8	0	145	51	8.3	23	17.4	W	9	5	5	19	7.6	50
HAVRE	787	924.6		5.6	- 6.1	- 0.1	8.6	13.3	4	-12.2	24+	0	28			3	- 8	3	1	0	36	25	5.9	SW#	21.9	W	5	6	4	19	7.0	50
HELENA	1187	874.0	1021.2	2.2	- 7.8	- 2.7	2.2	7.8	4	-18.3	25+	0	28	- 8.3	64	7	- 4	2	7	0	160	76	4.5	27	16.5	W	4	5	5	19	7.4	51
KALISPELL	904	914.3		2.8	-11.7	- 4.5	-0.3	7.8	4	-20.6	25	0	29			13	- 13	5	10	0	170	356	2.4					2	11	16	7.3	
MILES CITY	801		1016.2	3.3	- 8.3	- 2.5	4.0	10.6	28	-16.1	23	0	29	- 6.7	73	14	5	8	7	0	140	102	6.1	30	17.9*	28	5					
MISSOULA	972	905.4	1024.3	0.6	-11.1	- 5.2	-1.3	6.7	4	-23.3	25	0	29	- 8.3	77	13	- 9	6	7	0	226	229	2.5	34	20.1	W	4	3	6	20	7.8	52
NEBRASKA																																
GRAND ISLAND	561	947.9	1016.5	3.3	- 8.3	- 2.6	0.7	15.6	1	-16.7	16	0	29	- 7.8	71	23	5	11	7	0	216	102	5.5	18	15.6*	35	6	7	10	12	5.8	
LINCOLN U	351			5.0	- 5.6	- 0.4	1.4	13.9	29+	-13.3	26	0	27			19	- 8	14	8	0	56	25	4.9	NW#	21.5	S	29	9	9	11	5.5	63
NORFOLK	471	958.1		1.1	- 9.4	- 4.1	0.9	11.7	1	-20.0	16	0	29			19	- 1	9	8	0	236	102						10	5	14	5.7	
NORTH PLATTE	847	913.2	1015.9	3.3	-11.1	- 3.9	-1.7	12.2	29	-21.7	26	0	29	- 8.9	69	16	3	9	6	0	218	127	5.2	31	22.4	N	6	8	8	13	5.8	62
OMAHA	298	974.6	1015.8	5.6	- 7.2	- 0.8	2.2	14.4	29	-15.6	26	0	28	- 7.8	62	9	- 15	3	9	0	89	25	4.6	33	16.5	N	6	7	10	12	5.9	66
OMAHA N OMAHA AP	403	965.8		3.9	- 7.2	- 1.6	2.4	14.4	29	-15.6	26	0	29			9	- 17	2	10	0	61	25						8	8	13	5.8	
SCOTTSBLUFF	1204	876.6	1017.3	3.9	-10.6	- 3.2	-1.6	10.6	1	-19.4	26	0	29	- 9.4	65	6	- 4	3	6	0	104	51	7.0	30	20.6*	35	19	7	8	14	6.6	
VALENTINE	789	919.9		3.9	- 9.4	- 2.7	2.3	12.8	29	-18.9	23	0	29			6	- 8	4	4		76	51	5.5	N#				6	11	12	6.4	66
NEVADA																																
ELKO	1547	848.7	1026.6	1.7	-15.0	- 6.6	-4.4	6.1	1	-22.2	6	0	29	-10.6	74	3	- 20	1	3	0	76	203	2.4	27	10.3*	34	24	16	10	3	3.6	
ELY	1907	809.6	1022.5	2.8	-13.3	- 5.4	-2.4	11.7	10	-21.7	3	0	29	-10.6	70	2	- 16	2	2	0	30	25	4.1	19	16.5	N	19	20	4	5	3.0	85
LAS VEGAS	659	952.8	1020.3	15.0	0.0	7.6	-1.2	21.7	19	- 5.0	15	0	19	-12.2	25	1	- 11	1	1	0	0	0	4.4	26	17.0*	34	5	24	3	2	1.8	93
RENO	1342	867.3	1025.3	10.6	- 7.8	1.2	-0.8	16.7	10	-13.3	26	0	29	- 8.9	53	T	- 26	T	1	0	25	25	2.6	13	13.0	W	28+	20	9	0	2.0	98
WINNEMUCCA	1310	873.0		7.8	- 7.8	- 0.1	-0.2	16.1	10	-15.0	26	0	29			3	- 21	3	2	0	61	51	3.1	18	11.2	W	28	19	6	4	3.2	70
NEW HAMPSHIRE																																
CONCORD	103	996.9	1008.0	1.1	-11.7	- 5.3	-0.2	6.7	5	-24.4	28	0	29	-11.1	66	49	- 14	24	8	0	485	279	4.3	31	15.6*	31	2	12	6	11	5.4	62
MT WASHINGTON OBS	1909	786.8		-11.1	-20.6	-15.9	-1.2	- 4.4	12+	-29.4	3	0	29			143	11	41	17	0	978	229	18.9	W	63.0Y	NW	3	7	7	15	6.8	43
NEW JERSEY																																
ATLANTIC CITY	18	1009.3	1011.4	5.0	- 3.9	0.7	-0.8	12.8	5	-10.0	23	0	27	- 5.6	66	110	30	35	12	0	305	127	5.4	32	16.5*	8	18	10	5	14	5.7	55
ATLANTIC CITY U	3			5.0	- 2.2	1.4	-0.6	12.8	5	- 7.2	23	0	25			103	17	34	11		0	0	8.1		24.1*	NW	2					
NEWARK	3	1009.6	1010.9	3.9	- 3.9	- 0.1	-1.0	11.7	5	- 8.9	22	0	26	- 7.2	61	66	- 5	15	13	0	381	127	5.9	32	15.6*	6	19+	10	9	10	5.8	
TRENTON U	17	1004.0		3.3	- 3.9	- 0.2	-1.0	11.1	5	- 9.4	23	0	26			80	14	26	12	1	292	127	4.9	NW#	15.6	NW	16	9	9	11	5.7	61
NEW MEXICO																																
ALBUQUERQUE	1618	846.3	1017.2	4.4	- 7.8	- 1.6	-6.0	11.1	29+	-17.2	7	0	29	-10.0	59	28	19	11	6	0	208	102	3.8	35	23.2	E	20	16	4	9	3.6	75
CLAYTON	1515	841.7		4.4	- 7.8	- 1.6	-3.8	13.9	1	-15.6	7	0	29			14	5	9	4	0	201	178						12	8	9	4.6	
RATON	1944	800.7		5.0	-13.3	- 4.1	-4.4	15.0	11+	-20.6	7	0	29			13	2	5	7	0	145	76						12	9	8	4.6	
ROSWELL	1103	891.6		10.6	- 7.2	1.8	-3.8	18.3	9	-16.7	21	0	29			32	21	15	5	0	287	127	3.9		17.9	W	27	21	2	6	3.4	82
SILVER CITY	1638	833.0		11.1	- 7.2	1.9	-4.4	18.3	10	-14.4	21	0	29			1	- 16	1	2		20	25						17	6	6	3.1	
NEW YORK																																
ALBANY	84	1007.2	1010.9	0.0	-10.6	- 5.4	-0.8	6.1	5	-22.2	28	0	28	-10.6	67	41	- 14	19	9	0	544	381	4.2	27	15.6	W	2	9	7	13	6.0	68
BINGHAMTON	485	949.0	1010.2	- 3.3	-11.1	- 7.3	-2.7	2.8	5+	-17.8	25+	0	29	- 9.4	82	51	- 5	17	18	0	699	406	5.0	30	15.2	NW	16	2	12	15	7.2	51

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	°C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
BUFFALO	215	982.8	1012.0	- 0.6	- 8.9	- 4.7	-0.3	6.1	6	-17.2	11	0	28	- 8.9	74	28	- 41	8	15	0	371	178	5.1	24	17.0	SW	24	3	8	18	7.6	49
NEW YORK U	40	998.9		3.9	- 2.8	0.5	-0.3	11.1	5	- 7.2	25+	0	25			74	2	22	14	0	358	152	5.1	W#	17.0	NE	19	13	6	10	4.9	57
NEW YORK LA GUARDIA	6	1008.7	1010.4	2.8	- 2.2	0.3	-0.6	10.0	5	- 6.7	23+	0	25	- 7.8	58	61	- 18	24	14	0	224	102	6.7	31	17.0	NE	6	8	11	10	5.6	
ROCHESTER	166	992.4	1012.4	0.6	- 9.4	- 4.4	-0.5	6.1	5	-17.2	28+	0	28	- 8.9	68	23	- 42	5	12	0	333	102	5.3	26	14.8	W	5	5	8	16	6.8	57
SCHENECTADY	66			0.0	- 8.9	- 4.6	-0.4	5.6	5	-20.0	28	0	28			32	- 26	11	8		480	305						17	6	6	4.0	
SYRACUSE	127	988.3	1011.2	0.0	- 9.4	- 4.6	-0.3	5.6	5	-18.3	28	0	28	- 8.9	70	29	- 51	7	14	0	409	178	4.6	25	15.2	N	16	2	13	14	7.3	50
NORTH CAROLINA																																
ASHEVILLE U	671	933.2		6.1	- 3.3	1.5	-3.3	13.3	4	-10.0	23	0	25			91	14	22	14	0	353	76	4.0	NW#	13.9	NW	16	8	7	14	6.1	48
CAPE HATTERAS R	2	1011.8	1012.6	11.1	2.2	6.8	-1.3	18.3	16	- 6.1	24	0	9	1.7	70	149	49	36	13	0	T	T	5.8	25	18.8	SSW	16	11	6	12	5.3	61
CHARLOTTE	224	985.4	1014.0	10.6	- 1.7	4.5	-2.3	15.0	1	- 6.7	17	0	21	- 3.9	60	109	19	37	13	0	5	T	3.8	24	14.8	SW	6	13	6	10	5.2	61
GREENSBORO	272	981.1	1013.7	8.9	- 2.2	3.2	-1.8	16.7	5	- 8.3	23	0	24	- 3.9	65	104	20	30	12	0	84	51	4.1	22	16.5	NW	16	13	5	11	5.3	60
RALEIGH	132	999.2	1013.3	10.0	- 1.7	4.1	-2.0	17.8	5	- 8.9	4	0	23	- 2.8	66	104	22	23	13	0	79	T	4.0	22	10.7*	12	18	11	8	10	5.2	64
WILMINGTON	9	1011.4	1014.3	12.8	2.8	7.7	-1.6	18.9	16+	- 3.3	4	0	8	1.1	67	157	70	49	15	0	T	0	4.7	27	18.8	S	15	14	5	10	5.1	65
WINSTON SALEM	295	977.6	1013.4	9.4	- 1.1	4.1	-1.3	16.7	5	- 7.2	23	0	21	- 3.3	63	110	21	31	11	0	79	25	4.1	24	11.2*	32	16	11	7	11	5.6	
NORTH DAKOTA																																
BISMARCK	502	952.0	1014.8	2.2	-13.3	- 5.6	4.7	10.6	28	-24.4	26	0	29	-10.6	69	6	- 5	3	7	0	71	51	4.2	32	15.2	NW	6	1	10	18	7.6	59
FARGO	274	978.6	1014.4	- 1.1	-13.3	- 7.3	4.6	8.9	29	-25.0	26+	0	29	-11.7	70	7	- 6	3	5	0	157	76	5.5	34	20.1	N	6	9	4	16	6.4	66
WILLISTON	579	944.1		2.8	-11.1	- 4.2	6.7	10.0	28	-25.0	26	0	29			6	- 6	3	6	0	61	25	5.0	SW#	20.1	N	5	2	12	15	7.2	57
OHIO																																
AKRON	369	974.5	1013.7	0.6	- 8.3	- 3.9	-2.1	10.0	5	-16.1	22	0	29	- 8.9	70	46	- 12	14	18	0	419	203	4.5	27	10.3*	29	23	5	10	14	6.7	
CINCINNATI OBS	232			5.0	- 4.4	0.2	-1.5	13.9	5	-10.0	24	0	27			40	- 31	12	15		142	25	3.0	W#	9.4	NW	1					45
CINCINNATI U	169	991.1		5.6	- 3.3	1.3	0.0	15.0	5	- 7.8	24	0	26			36	- 37	14	13		140	0										
CLEVELAND	237	984.7	1013.4	0.6	- 7.8	- 3.6	-1.2	7.8	5	-16.1	22	0	28	- 7.2	76	38	- 21	11	15	0	399	152	4.0	18	11.6	W	8	5	9	15	7.0	49
COLUMBUS	247	983.8	1014.7	2.2	- 7.2	- 2.4	-1.9	11.7	5	-13.9	23	0	27	- 6.1	75	43	- 16	13	11	0	287	76	3.9	29	12.1	NW	16	7	6	16	6.4	57
COLUMBUS U	221			3.3	- 4.4	- 0.8	-1.2	12.8	5	-11.1	24	0	27			39	- 17	19	11	0	224	76										
DAYTON	304	981.0	1014.4	3.9	- 6.1	- 1.1	-0.5	12.8	5	-12.8	24	0	28	- 5.0	76	39	- 20	15	10	0	318	76	4.7	27	11.6	W	1	10	6	13	5.7	58
MANSFIELD	395			1.1	- 8.3	- 3.7	-1.4	11.1	5	-15.6	27+	0	29			34	- 32	15	13	0	409	127						5	9	15	6.8	
TOLEDO	206	987.8	1014.0	1.1	- 7.8	- 3.4	-0.8	9.4	5	-18.9	27	0	28	- 7.8	70	24	- 24	6	10	0	315	102	4.2	20	12.5	SW	7	8	6	15	6.4	66
YOUNGSTOWN	359	969.3	1013.4	- 0.6	- 8.9	- 4.8	-2.3	7.2	5	-14.4	22	0	29	- 8.3	76	35	- 29	11	18	0	437	152	4.4	23	11.2*	25	8	6	6	17	7.0	
OKLAHOMA																																
OKLAHOMA CITY	390	971.6	1016.3	9.4	- 2.2	3.6	-1.6	17.8	2	- 7.8	26+	0	21	- 3.9	63	55	20	34	6	0	15	T	6.4	36	17.4	NW	15	13	8	8	5.0	68
TULSA	206	991.2	1016.5	11.1	- 2.8	4.1	-0.7	18.9	2	- 8.9	22+	0	22	- 4.4	57	55	10	45	6	0	T	0	5.1	18	14.3	SW	29+	12	11	6	4.3	68
OREGON																																
ASTORIA	2	1025.3	1025.9	10.6	1.1	5.7	-0.3	15.6	22	- 3.9	25	0	12	3.3	84	103	-148	24	15	0	0	0	3.8	15	14.8*	20	29	7	6	16	6.6	
BURNS U	1265	877.9		3.9	- 9.4	- 2.8	-1.5	9.4	18	-13.9	12+	0	29			6	- 26	5	4	0	71	152						17	7	5	3.7	
EUGENE	110	1013.1		11.1	0.0	5.3	-0.6	18.3	23	- 3.9	27+	0	17			22	-104	6	10	0	0	0	2.9		11.2*	18	29	9	5	15	6.3	
MEACHAM	1234			2.2	- 5.6	- 1.6	0.1	9.4	23	-10.0	25	0	28			68	- 33	26	13	0	676	940						7	7	15	6.6	
MEDFORD	396	977.9	1027.1	11.1	- 5.0	3.3	-1.2	19.4	22	- 7.8	27+	0	29	- 1.7	77	5	- 56	2	6	0	T	0	1.7	36	9.4*	24	14	13	8	8	4.9	
PENDLETON	452	969.4	1024.6	10.6	- 0.6	5.1	2.1	17.8	23	- 4.4	25+	0	21	- 2.8	61	2	- 28	1	3	0	8	T	4.7	26	13.4*	26	23	11	7	11	5.4	
PORTLAND	6	1020.7	1026.6	10.0	- 0.6	4.5	-1.1	15.6	22	- 5.0	7+	0	20	1.1	82	20	- 87	4	13	0	0	0	2.9	20	13.4	S	29	9	7	13	6.3	48
PORTLAND U	9			11.1	2.8	7.1	0.6	17.2	23	- 0.6	26	0	3			34	- 91	7	10		0	0										
ROSEBURG	154	1007.7		11.7	- 1.1	5.2	-1.1	17.2	23	- 5.0	27+	0	20			26	- 81	8	7	0	T	0	1.6	N#	8.5	S	14	3	14	12	6.8	47
SALEM	59	1019.7	1027.2	10.0	- 0.6	4.6	-0.9	15.6	23+	- 5.0	7	0	19	1.7	86	20	-115	4	11	0	0	0	3.4	18	15.6*	18	29	8	7	14	6.1	
SEXTON SUMMIT R	1169	889.6		7.2	- 0.6	3.4	1.2	15.6	21+	- 5.6	5	0	18			21	- 84	8	7	0	244	102	4.8					14	7	8	4.1	
PACIFIC AREA																																
CANTON ISLAND	3	1007.3	1007.6	31.7	26.1	29.0	0.7	32.8	25	23.3	13	15	0	23.3	74	26	- 28	20	5	0	0	0	5.5	7	11.6*	2	12	5	11	13	6.5	
ENIWETOK	5	1010.8		29.4	25.0	27.3	0.1	30.6	28+	22.8	29+	0	0			27	- 19	5	14	0	0	0	8.6									
TAGUAC GUAM R	110	999.4		27.8	22.2	25.2	-0.5	28.9	28+	21.1	8+	0	0			104	16	22	21		0	0	5.5	NE#	13.0	NE	8					63
JOHNSTON	2	1014.0	1014.7	26.1	22.2	24.3	-0.7	26.7	23+	20.6	28+	0	0	20.0	74	30	- 9	10	15	0	0	0	8.2	8	15.6	W	8	5	22	2	5.0	61
KOROR R	29	1007.2	1009.8	29.4	23.9	26.5	-0.3	31.1	22	22.2	12+	0	0	23.9	88	409	228	127	22	2	0	0	5.1	6	11.6	NE	3	0	0	29	10.0	57
KWAJALEIN	2	1009.7	1009.7	30.0	24.4	27.1	0.4	31.1	28	22.2	18	0	0	22.8	81	78	23	50	12	0	0	0	8.9	6	14.8*	9	18	5	2	22	8.1	
PONAPE R	37	1003.7	1008.0	30.0	25.0	27.6	0.6	31.1	27+	22.8	22+	0	0	22.8	78	502	255	163	21	1	0	0	5.3	6	10.3	E	26	0	0	29	9.7	49
TRUK MOEN ISLAND	2	1008.0	1008.1	29.4	25.0	27.1	0.0	30.0	21+	22.8	4	0	0	23.3	78	274	115	105	21	0	0	0	6.3	5	12.1	NE	14	0	0	29	9.7	42
WAKE	3	1015.0	1015.4	27.8	22.8	25.3	0.2	28.9	3+	20.6	8	0	0	18.3	67	15	- 19	6	6	0	0	0	5.9	6	10.7*	4	17+	10	11	8	5.4	
YAP R	16	1008.7	1009.5	28.9	24.4	26.7	-0.2	30.0	1	22.2	7	0	0	23.3	84	164	46	36	22	0	0	0	7.3	4	16.5	22	7	0	0	29	10.0	86

See footnotes at end of table

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	°C.	C.		C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
ALLENTOWN	115	998.2	1011.8	2.2	-7.2	-2.5	-0.9	10.0	5	-16.1	25	0	28	-8.3	65	84	17	31	10	0	569	279	5.8	29	15.6*	32	16+	9	10	10	5.5	
ERIE	223	986.1	1013.2	0.6	-8.3	-4.0	-0.9	6.1	6	-17.2	11	0	29	-7.2	78	35	-24	10	12	0	500	152	6.2	18	14.3*	24	6	4	9	16	6.9	
HARRISBURG	102	998.1	1012.5	2.8	-6.1	-1.7	-2.1	12.8	5	-15.0	25	0	28	-8.3	62	79	21	32	10	0	767	508	4.8	28	14.3	NW	16	8	9	12	5.9	59
PHILADELPHIA	2	1001.0	1011.6	4.4	-4.4	-0.1	-0.8	13.9	5	-10.6	23	0	27	-6.7	63	72	1	18	12	0	315	152	5.2	31	13.9	NE	19	9	8	12	6.0	59
PITTSBURGH	347	982.0	1013.1	1.7	-7.2	-2.8	-1.2	11.1	5	-14.4	23	0	27	-7.8	69	44	-12	17	16	0	348	178	4.5	26	13.0*	30	2	5	7	17	7.1	47
PITTSBURGH U	228			3.3	-5.0	-0.8	-1.6	12.2	5	-11.1	23	0	25			49	-10	21	14		231	0										47
READING U	81	999.4		3.9	-4.4	-0.3	-1.1	11.7	5	-11.7	28	0	27			77	10	31	10	0	528	305	5.5	NW#	23.2	E	6	10	6	13	5.8	51
SCRANTON	287	976.3	1011.5	-0.6	-8.9	-4.7	-2.7	6.7	5	-18.9	23	0	28	-10.0	66	52	1	20	11	0	559	356	3.8	32	13.0	NW	2	6	9	14	6.5	55
WILLIAMSPORT	161	993.1	1012.7	2.2	-8.3	-2.9	-1.3	10.6	5	-17.8	25	0	28	-8.9	65	79	15	38	9	0	640	457	4.3	27	11.6*	31	16	6	9	14	6.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1003.7		2.2	-5.0	-1.4	-0.8	7.2	6	-10.0	11	0	26			90	6	36	13	0	307	102						10	8	11	5.6	
PROVIDENCE	17	1002.0	1008.3	2.8	-7.2	-2.3	-1.0	8.3	5	-13.3	22	0	27	-8.9	63	80	1	22	11	0	376	203	6.0	29	15.6*	28	5	11	9	9	5.4	57
SOUTH CAROLINA																																
CHARLESTON	12	1013.2	1015.1	14.4	2.8	8.6	-2.2	19.4	18+	-3.3	4	0	9	1.7	67	161	77	55	15	0	0	0	4.7	27	21.0Y	W	28	8	10	11	5.8	59
CHARLESTON U	3			13.3	5.0	9.1	-2.2	18.9	18	0.0	12	0	1			168	90	62	12		0	0	4.6		15.6	W	28					
COLUMBIA	66	1002.0	1015.1	12.8	0.0	6.5	-2.6	17.8	15	-5.0	24+	0	17	-1.1	65	135	40	37	14	0	0	0	3.6	24	13.0*	23	9+	11	7	11	5.3	63
FLORENCE	45	1008.6	1014.4	12.8	0.6	6.7	-2.7	18.3	16+	-4.4	4	0	13	-0.6	63	132	52	47	14	1	0	0	4.2	27	11.6*	26	6	14	4	11	5.2	
GNVLE SPARTANBURG	292	976.9	1014.6	10.6	-0.6	4.8	-2.7	17.2	1	-6.1	12	0	19	-2.8	62	119	15	33	9	0	30	T	4.3	25	16.5	NW	11	11	8	10	5.1	65
SOUTH DAKOTA																																
HURON	391	966.5	1015.3	4.4	-10.6	-3.2	5.3	14.4	29	-20.6	23	0	29	-8.9	69	5	-10	2	7	0	109	25	5.2	32	18.8	S	11	7	9	13	6.5	54
RAPID CITY	965	898.5	1016.2	3.9	-8.3	-2.2	2.2	14.4	4	-20.6	23	0	29	-8.3	66	21	9	10	11	0	226	76	6.1	33	17.9	NW	18+	6	9	14	6.6	64
SIOUX FALLS	433	961.8	1015.2	3.9	-9.4	-2.8	4.3	15.0	5	-21.1	23	0	29	-7.8	72	2	-22	2	4	0	18	T	5.2	34	16.1*	35	6	8	7	14	6.1	
TENNESSEE																																
BRISTOL	459	958.3	1014.1	6.7	-3.9	1.4	-3.0	15.0	5	-10.6	29	0	25	-5.0	66	104	14	33	17	2	279	76	2.7	27	14.3*	24	6	7	6	16	6.8	
CHATTANOOGA	204	987.8	1016.2	9.4	-0.6	4.4	-2.5	16.1	4	-7.8	23	0	15	-1.7	69	115	-22	31	10	1	3	T	3.9	2	16.1	SW	6	8	5	16	6.6	46
KNOXVILLE	290	979.2	1015.7	7.2	-2.2	2.3	-3.9	13.3	4	-8.3	23	0	24	-3.9	66	104	-18	31	14	0	132	76	3.8	24	17.9	SW	6	9	4	16	6.2	45
MEMPHIS	80	1001.5	1016.7	10.6	-1.1	4.6	-2.2	16.7	2	-6.7	23+	0	21	-0.6	73	89	-30	27	10	1	T	T	4.2	29	13.0	NW	15	12	6	11	5.3	78
MEMPHIS U	83			9.4	1.1	5.2	-1.8	16.7	2	-3.9	22	0	11			83	-33	29	9	0	T	T										
NASHVILLE	176	995.3	1015.6	8.3	-2.8	2.9	-2.7	16.1	4	-9.4	23	0	24	-2.2	73	83	-32	23	9	0	107	102	3.9	31	14.8	NW	28	9	5	15	6.4	50
OAK RIDGE	276	981.3		7.2	-3.3	1.9	-3.2	14.4	4	-10.6	23	0	24			110	-37	39	13	1	79	51			18.3Y		6	8	8	13	6.0	
TEXAS																																
ABILENE	536	953.4	1016.0	13.9	0.0	7.2	-1.9	22.2	25	-3.9	27	0	14	-2.8	54	63	35	43	7	1	109	102	5.0	18	17.0	SE	14	16	6	7	3.8	74
AMARILLO	1099	886.3	1015.5	6.1	-6.1	0.1	-5.1	17.8	29	-15.0	7	0	28	-6.7	67	35	19	22	3	0	439	330	7.2	3	18.8	NW	15	13	7	7	4.6	70
AUSTIN	182	995.0	1017.4	15.0	3.3	9.1	-3.0	24.4	10	-1.7	22	0	5	1.7	65	37	-28	19	11	1	102	25	4.7	36	15.2	NW	5	9	10	10	5.5	64
BROWNSVILLE	5	1013.2	1015.9	20.6	8.9	14.7	-3.1	26.7	11	2.2	23	0	0	9.4	74	34	-4	17	8	0	0	0	5.9	12	16.1	NW	21	9	5	15	6.7	50
CORPUS CHRISTI	13	1015.7	1017.0	18.3	5.6	12.1	-3.7	26.1	10+	-1.7	8	0	4	7.2	76	39	-4	16	8	0	T	0	6.0	14	17.9	N	21	7	7	15	6.6	48
DALLAS	147	997.9	1017.1	12.8	1.7	7.2	-2.6	19.4	9	-3.9	22	0	12	-1.1	60	32	-33	13	7	1	8	T	5.6	34	15.6	NW	15	14	5	10	4.9	68
DEL RIO	313	981.3		17.2	3.9	10.4		25.0	10	-2.2	22	0	5			19		13	6	0	T	T			11.2	24	5	11	9	9	4.9	
EL PASO	1194	884.3	1014.3	13.3	-3.9	4.9	-4.6	19.4	11	-9.4	22	0	22	-12.8	29	T	-10	T	0	0	T	T	4.1	29	19.2	NW	14	20	6	3	2.6	91
FORT WORTH	166	995.6	1017.2	12.8	0.6	6.6	-3.0	18.9	9+	-6.1	22	0	15	-0.6	64	30	-27	15	6	1	5	T	5.1	33	17.4*	30	15	14	5	10	4.7	
GALVESTON U	2			13.9	7.8	10.8	-2.9	18.3	10+	1.7	22	0	0			86	13	36	10		T	0	5.4		13.9	NE	24					53
HOUSTON U	12			15.0	7.2	11.1	-2.8	22.2	10	0.6	22	0	0			85	4	35	12		0	0										
HOUSTON	15	1014.3	1017.1	15.0	4.4	9.7	-3.6	23.3	10	-2.8	22	0	4	3.9	71	126	39	55	10	1	T	T	5.1	32	12.5*	34	18+	9	4	16	6.3	58
LAREDO	152	1000.9	1016.3	20.0	7.2	13.6	-2.9	27.2	10	0.0	8	0	1	3.9	59	34	12	24	8	0	0	0	4.9	13	11.2*	1	21+	7	9	13	6.2	
LUBBOCK	988	901.5	1015.8	10.0	-5.0	2.5	-3.7	17.2	29+	-14.4	21	0	29	-6.1	61	4	-10	2	2	0	84	51	6.8	36	19.2*	25	14	17	7	5	3.4	
MIDLAND	870	913.8	1014.2	14.4	-2.2	5.9	-3.1	22.2	25	-7.2	28+	0	24	-4.4	57	7	-8	3	4	0	10	T	5.6	18	14.3*	32	27+	13	14	2	4.0	
PORT ARTHUR	5	1015.2	1016.9	15.0	3.9	9.6	-3.8	22.2	10	-2.8	22	0	5	5.0	78	79	-34	31	11	1	T	0	5.1	36	17.0	NE	24	10	4	15	6.1	52
SAN ANGELO	580	947.2	1015.8	14.4	0.0	7.4	-2.8	23.9	12	-3.9	27+	0	17	-2.2	58	32	9	18	6	1	20	25	4.6	16	13.4*	17	12	14	8	7	4.2	
SAN ANTONIO	241	991.7	1017.2	15.6	4.4	9.9	-3.1	23.3	10	-2.2	23	0	6	1.1	61	48	6	18	9	1	51	51	4.6	36	13.0	NW	5	10	4	15	5.8	58
VICTORIA	32	1012.4		16.1	5.6	11.0	-3.4	24.4	10	-1.1	22	0	1			63	4	26	8	3	T	0	5.6		19.7Y		21+	8	4	17	6.7	
WACO	152	995.3	1017.0	13.3	1.7	7.5	-3.3	20.6	10	-3.9	22	0	10	1.7	70	33	-29	13	8	1	25	25	5.9	32	14.8*	30	15	13	5	11	4.9	
WICHITA FALLS	303	978.3	1016.4	12.8	-0.6	6.1	-2.2	20.0	2	-6.1	27	0	18	-1.1	66	33	-2	26	5	1	43	0	5.4	30	15.6*	33	15	15	7	7	4.0	
UTAH																																
MILFORD	1533	845.6		5.0	-11.7	-3.5	-2.2	15.0	10	-18.9	15	0	29			10	-8	5	6	0	112	76						18	5	6	3.6	
SALT LAKE CITY	1286	871.6	1025.2	2.2	-8.9	-3.4	-3.7	8.9	10	-16.7	14	0	29	-8.3	73	9	-21	4	7	0	203	76	3.7	14	11.6	S	24+	12	7	10	4.6	68
WENDOVER	1291	874.3		3.9	-6.1	-1.0	-1.4	10.0	18	-10.6	26	0	29			1	-7	1	1	0	15	25						21	5	3	3.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Average speed	Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	994.5	1009.6	- 2.2	-13.9	- 8.2	-0.1	2.8	6+	-22.8	10	0	29	-13.3	63	16	- 29	5	12	0	224	102	4.3	18	13.9	NW	2	6	7	16	6.9	59
VIRGINIA																																
LYNCHBURG	289	987.2		6.7	- 2.8	2.2	-1.7	18.3	5	- 8.9	23	0	26			113	46	36	10	0	300	127	3.4		12.5	NE	18	11	7	11	5.2	53
NORFOLK	8	1011.4	1012.7	8.9	- 0.6	4.4	-0.9	17.2	6+	- 5.6	13	0	19	- 2.8	66	116	34	23	13	0	147	76	6.2	24	26.4	SW	6	11	8	10	5.4	64
RICHMOND	49	1006.5	1012.8	8.9	- 2.8	2.9	-1.5	18.9	5	- 9.4	4	0	24	- 4.4	64	113	40	31	12	0	259	178	4.1	31	14.8	SW	6	10	9	10	5.3	64
ROANOKE	358	970.3	1013.1	6.7	- 2.8	2.0	-2.0	17.2	5	- 9.4	23+	0	25	- 5.6	60	135	63	44	7	0	513	127	5.0	31	15.6*	29	16	8	10	11	5.8	
WASHINGTON																																
OLYMPIA	58	1018.3	1025.3	9.4	- 1.7	3.9	-1.1	13.9	23	- 6.1	27+	0	18	1.1	86	65	-104	29	11	0	0	0	3.3	18	14.3*	18	29	4	8	17	7.3	
SEATTLE TACOMA	122	1010.8	1025.3	8.9	1.1	5.2	0.3	12.2	22+	- 2.2	8+	0	12	0.6	74	42	- 66	11	14	0	T	0	3.8	20	13.4*	23	29	6	8	15	6.9	
SEATTLE U	4			10.0	3.9	6.8	0.3	13.3	3	0.6	7+	0	0			39	- 60	12	12		T	0			21.5	SW	29					49
SPOKANE	718	952.6	1023.0	2.8	- 6.1	- 1.6	-0.4	5.6	27+	-12.8	14	0	29	- 5.0	79	25	- 22	10	7	0	132	76	3.6	22	18.8	SW	16	7	10	12	6.3	68
STAMPEDE PASS R	1206	883.3		1.1	- 4.4	- 1.4	1.6	7.8	22	- 7.8	12	0	28			223	- 35	47	17	0	1765	4216						7	4	18	7.3	
TATOOSH ISLAND R	31	1021.3	1024.3	8.9	4.4	6.5	0.3	11.1	22	1.7	12	0	0	3.3	82	173	- 48	53	15	0	0	0	6.7	6	25.5	NW	4	3	7	19	7.6	43
WALLA WALLA U	289			10.6	1.1	5.7	2.2	17.8	23	- 3.3	25+	0	10			4	- 34		4	0	T	0										
YAKIMA	323	984.2	1024.5	9.4	- 5.0	2.3	1.2	16.1	23	- 8.9	13	0	28	- 5.0	65	T	- 22	T	0	0	T	0	3.4	28	19.7*	28	17	6	12	11	6.0	
WEST INDIES																																
SAN JUAN P.R.	2	1012.9	1015.8	30.0	20.6	25.3	1.7	32.8	29	17.8	5	4	0	20.6	77	43	- 30	13	11	0	0	0	3.1	5	10.3	E	26	14	10	5	4.5	78
SWAN ISLAND	9	1011.3		28.9	24.4	26.6	0.8	30.0	28+	21.1	19	0	0			10	- 19	5	4		0	0						16	10	3	3.8	
WEST VIRGINIA																																
BECKLEY	763	922.9	1014.7	2.2	- 6.7	- 2.2		13.9	5	-15.6	23	0	28	- 6.1	77	97		19	19	1	782	381	5.0	30	15.6*	15	15	6	4	19	7.4	
CHARLESTON	286	977.7	1014.1	5.0	- 3.9	0.7	-2.4	14.4	5	-13.3	12	0	26	- 4.4	72	91	1	17	17	0	554	178	2.9	23	9.4*	22	16+	7	5	17	7.0	
ELKINS	600	942.0	1013.2	2.8	- 8.9	- 3.1	-3.7	12.2	5	-23.9	12	0	28	- 6.7	77	78	- 5	11	22	0	749	229	3.8	30	13.4*	27	16+	4	6	19	7.6	
HUNTINGTON	252	983.3	1015.0	4.4	- 4.4	0.1	-3.1	13.3	5	-12.8	12	0	27	- 4.4	75	78	1	25	17	0	363	152	3.2	24	10.3*	25	16	8	5	16	6.7	
PARKERSBURG U	187			3.9	- 5.0	- 0.7	-2.6	14.4	5	-13.9	23	0	27			55	- 17	17	15	0	216	51	3.2		11.6	NW	16					43
WISCONSIN																																
GREEN BAY	208	989.8	1013.3	- 0.6	-11.1	- 5.9	1.8	12.2	29	-24.4	24	0	29	-10.0	72	7	- 21	3	5	0	81	25	5.1	22	16.1	SW	29	4	14	11	6.4	50
LA CROSSE	199	989.0	1014.6	2.8	- 8.9	- 2.9	4.1	14.4	29	-17.2	24	0	29	- 9.4	65	2	- 24	1	4	0	25	T	5.1	18	16.1*	22	29	8	9	12	5.9	
MADISON	262	977.6	1014.1	2.8	-10.6	- 3.9	3.0	11.7	29	-19.4	27	0	29	-10.0	63	7	- 22	6	3	0	94	102	4.2	20	15.2	SW	29	8	5	16	6.4	59
MILWAUKEE	205	988.5	1014.3	1.1	- 8.9	- 3.7	1.6	10.0	29	-18.9	24	0	29	- 8.3	71	10	- 25	9	6	0	145	102	5.3	21	15.2	SW	29	11	5	13	5.9	57
WYOMING																																
CASPER	1621	834.5	1018.4	- 0.6	-11.1	- 6.0	-2.8	7.2	10	-18.9	26+	0	29	-11.1	68	18	3	9	12	0	323	152	6.9	23	15.6*	31	22	4	14	11	6.5	
CHEYENNE	1867	808.5	1017.3	0.6	-11.7	- 5.4	-2.8	11.1	10	-17.8	26+	0	29	-13.3	55	6	- 8	3	7	0	84	51	8.6	31	24.1	NW	17	6	13	10	5.8	78
LANDER	1696	833.1	1019.1	1.1	-12.8	- 5.7	-1.3	8.9	9	-20.6	26	0	29	-13.3	57	30	13	10	11	0	625	254	3.0	14	16.5	NW	17	9	11	9	5.4	71
SHERIDAN	1202	882.8	1017.9	2.8	- 8.9	- 2.9	1.6	12.8	4	-18.9	15	0	29	- 7.8	70	21	2	4	14	0	338	102	5.7	31	28.2	NW	5	3	9	17	7.5	56

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.
* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

FEBRUARY 1964

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	639	2577	2243
Huntsville	693	2829	2479
Mobile	488	1793	1382
Montgomery	568	2222	1885
ALASKA			
Anchorage	1297	7373	7785
Annette	754	4275	4812
Barrow	2725	14072	13360
Barter Island	2602	13476	13165
Bethel	1920	9713	9160
Cold Bay	1118	6497	6418
Cordova	1051	6211	6683
Fairbanks	1862	10703	10695
Juneau	835	5551	6210
King Salmon	1464	8020	7885
Kotzebue	2502	11692	10778
McGrath	1901	12053	10497
Nome	2122	10323	9584
St. Paul Is.	1433	7442	7168
Shemya	1083	6295	6258
Yakutat	928	5778	6143
ARIZONA			
Flagstaff	1105	4889	4850
Phoenix (U)	352	1237	
Phoenix	450	1544	1352
Prescott	818	3188	3224
Tucson	497	1590	1541
Winslow	942	3737	3716
Yuma	249	883	779
ARKANSAS			
Ft. Smith	706	2817	2670
Little Rock	673	2768	2650
Texarkana	574	2236	2078
CALIFORNIA			
Bakersfield	399	2033	1731
Bishop	649	3039	3235
Blue Canyon	715	3521	3586
Burbank	298	1145	1170
Eureka (U)	515	2778	3043
Fresno	502	2360	2046
Long Beach	265	933	1251
Los Angeles (U)	169	668	938
Los Angeles	254	879	1315
Mt. Shasta (R)	796	3987	3953
Oakland	359	2008	1992
Point Arguello (R)	418	2170	2312
Red Bluff	377	2186	1959
Sacramento (U)	386	2078	1860
Sacramento	448	2257	1920
Sandberg (R)	691	2964	2842
San Diego	234	853	977
San Francisco (U)	284	1901	1984
San Francisco	404	2060	2033
San Jose (U)	346		
Santa Catalina	255	1026	
Santa Maria	441	1971	1924
Stockton	506	2430	
COLORADO			
Alamosa	1413	6231	6205
Colorado Springs	1119	4281	4584
Denver	1082	4227	4275
Grand Junction	1022	4183	4358
Pueblo	1077	4019	4072
CONNECTICUT			
Bridgeport	1013	4032	4019
Hartford	1129	4638	4570
Middletown	1113	4710	
New Haven	1030	4168	4193
DELAWARE			
Wilmington	962	3880	3690
DIST. OF COLUMBIA			
Washington (U)	848	3213	
Washington	810	3382	3236
FLORIDA			
Apalachicola (U)	401	1497	1095
Daytona Beach	251	957	724
Fort Myers	118	452	380
Jacksonville	361	1408	1044
Key West	29	92	99
Lakeland (U)	223	807	562
Miami	67	244	195
Miami Beach	63	183	132
Orlando	199	781	655
Pensacola	487	1807	1207
Tallahassee	457	1822	1247
Tampa	227	849	581
West Palm Beach	110	336	222
GEORGIA			
Athens	687	2716	2335
Atlanta	713	2835	2361
Augusta	614	2420	1957
Columbus	597	2346	1949
Macon	566	2240	1778
Rome	766	3116	2647
Savannah	493	1935	1520
Thomasville (U)	471	1759	1288
IDAHO			
Boise	1113	4361	4294
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	1591	6488	6156
Idaho Falls 42NW(R)	1666	6685	6416
Lewiston	806	3610	4093
Pocatello	1387	5320	5121
ILLINOIS			
Cairo (U)	757	3109	3040
Chicago (Midway)	1043	4322	4496
Chicago (O'Hare)	1106	4840	
Moline	1097	4671	4798
Peoria	1066	4551	4534
Rockford	1133	4807	5057
Springfield	1034	4243	4197
INDIANA			
Evansville	898	3753	3551
Ft. Wayne	1133	4467	4606
Indianapolis	1037	4328	4242
South Bend	1085	4454	4682
IOWA			
Burlington	1055	4417	4619
Des Moines	1116	4619	4934
Dubuque	1133	5044	5466
Sioux City	1071	4720	5286
Waterloo	1154	5111	5414
KANSAS			
Concordia	958	3926	4087
Dodge City	956	3684	3780
Goodland	1065	4250	4472
Topeka	882	3716	3994
Wichita	831	3464	3612
KENTUCKY			
Lexington	952	3773	3568
Louisville	910	3634	3613
LOUISIANA			
Alexandria	554	2207	
Baton Rouge	444	1709	1364
Lake Charles	484	1706	1241
New Orleans (Audubon Park)	393	1429	
New Orleans	432	1653	1216
Shreveport	556	2142	1826
MAINE			
Caribou	1417	6841	6950
Greenville (U)	1413	6644	
Portland	1214	5472	5311
MARYLAND			
Baltimore (U)	847	3262	3129
Baltimore	916	3809	3558
MASSACHUSETTS			
Blue Hill Obs. (R)	1118	4622	4517
Boston	1033	4123	4031
Nantucket	989	3959	3944
Pittsfield	1286	5503	5424
Worcester	1187	4999	4977
MICHIGAN			
Alpena	1244	5598	5674
Detroit (City AP)	1040	4179	4518
Detroit (M. Wayne Co.)	1128	4726	4666
Detroit (Willow Run)	1095	4498	4544
Escanaba (U)	1165	5338	5886
Flint	1130	4779	5045
Grand Rapids	1154	4658	4950
Lansing	1133	4737	4977
Marquette (U)	1195	5232	5790
Muskegon	1062	4519	4931
S. Ste. Marie	1388	5920	6431
MINNESOTA			
Duluth	1407	6136	7103
Internat. Falls	1548	6851	7747
Minneapolis	1186	5450	6261
Rochester	1180	5455	6032
St. Cloud	1297	5846	6561
MISSISSIPPI			
Jackson	592	2299	1842
Meridian	636	2502	1898
Vicksburg (U)	539	2154	1690
MISSOURI			
Columbia	917	3752	3873
Kansas City	830	3406	3747
St. Joseph	948	3939	4219
St. Louis (RFC)	843	3458	3476
St. Louis	884	3826	3716
Springfield	838	3483	3499
MONTANA			
Billings	972	4610	5076
Butte	1322	6219	
Glasgow	1077	5353	6676
Great Falls	923	4589	5332
Havre	958	5300	6317
Helena	1089	5420	5860
Kalispell	1187	5642	6251
Miles City	1081	4872	5717
Missoula	1222	5742	5924
NEBRASKA			
Grand Island	1084	4466	4688
Lincoln (U)	971	4050	4427
Norfolk	1167	4806	5217
North Platte	1157	4691	4930
Omaha	994	4328	4748
Omaha N. Omaha AP	1032	4471	5086
Scottsbluff	1120	4533	4900
Valentine	1088	4749	5429
NEVADA			
Elko	1298	5475	5300
Ely	1230	5348	5403
Las Vegas	557	2198	2209
Reno	887	4119	4328
Tonopah	926	4106	
Winnemucca	953	4351	4835
NEW HAMPSHIRE			
Concord	1231	5359	5525
Mt. Washington Obs. (R)	1786	9670	
NEW JERSEY			
Atlantic City	913	3599	3503
Atlantic City (U)	874	3523	
Newark	955	3702	3760
Trenton (U)	961	3728	3695
NEW MEXICO			
Albuquerque	1036	3740	3354
Clayton	1035	3718	3778
Raton	1160	4491	4487
Roswell	853	3281	3261
Silver City	847	3142	
NEW YORK			
Albany	1233	5151	5035
Binghamton	1333	5489	5262
Buffalo	1198	4787	5061
New York (U)	927	3559	3567
New York (LaGuardia)	938	3585	3517
Rochester	1181	4839	4810
Schenectady	1193	4961	
Syracuse	1190	4930	4889
NORTH CAROLINA			
Asheville (U)	873	3469	3090
Cape Hatteras (R)	596	2222	1970
Charlotte	720	2811	2485
Greensboro	785	3304	2972
Raleigh	735	3018	2692
Wilmington	548	2175	1894
Winston-Salem	738	3166	2827
NORTH DAKOTA			
Bismarck	1243	5870	6656
Devils Lake (U)	1425	6453	7284
Fargo	1331	5916	6888
Grand Forks FAA	1390	6207	
Pembina	1536	6707	
Williston	1171	5730	
OHIO			
Akron	1154	4679	4591
Cincinnati (U)	885	3495	
Cincinnati	1005	4099	3793
Cincinnati Obs.	940	3765	3642
Cleveland	1139	4581	4636
Columbus	1075	4377	4070
Columbus (U)	993	3978	
Dayton	1010	4161	4171
Mansfield	1146	4626	4631
Toledo	1128	4655	4725
Youngstown	1198	4884	4519
OKLAHOMA			
Oklahoma City	762	2922	3045
Tulsa	734	2912	2919
OREGON			
Astoria	652	3128	3504
Burns (U)	1094	4980	4988
Eugene	671	3020	3297
Meacham	1030	5152	5299
Medford	777	3589	3412
Pendleton	688	3434	3921
Portland (U)	580	2643	2946
Portland	718	3314	3303
Roseburg	679	3008	3126
Salem	710	3274	3267
Sexton Summit (R)	770	4201	4115
PENNSYLVANIA			
Allentown	1079	4366	4299
Erie	1158	4493	4545
Harrisburg	1041	4255	3907
Philadelphia (U)	867	3279	
Philadelphia	955	3953	3847
Pittsburgh (U)	993	3903	3764
Pittsburgh	1095	4457	4399
Reading (U)	968	3790	3733
Scranton	1198	4639	4739
Williamsport	1102	4514	4409
RHODE ISLAND			
Block Island	1024	4010	3830
Providence	1066	4349	4265
SOUTH CAROLINA			
Charleston (U)	477	1810	1479
Charleston	500	1922	1672
Columbia	612	2426	2046
Florence	602	2399	1956
Greenville-Spartanburg	698	2749	
SOUTH DAKOTA			
Huron	1117	5264	5962
Pierre	1130	4855	
Rapid City	1064	4525	5227
Sioux Falls	1101	5108	5836
TENNESSEE			
Bristol	878	3630	3266
Chattanooga	722	2910	2697
Knoxville	834	3434	2820
Memphis (U)	682	2679	2436
Memphis	713	2881	2525
Nashville	797	3203	2837
Oak Ridge	855	2419	2967
TEXAS			
Abilene	575	2132	2163
Amarillo	949	3315	3246
Austin	475	1673	1437
Brownsville	190	784	526
Corpus Christi	324	1096	805
Dallas	576	2195	1948
Del Rio	405	1602	
El Paso	695	2525	2154
Fort Worth	608	2250	1987
Galveston (U)	384	1337	1016
Houston (U)	371	1290	1074
Houston	446	1518	1087
Laredo	246	1062	723
Lubbock	821	2964	2862
Midland	643	2338	2179
Port Arthur	452	1623	1279
San Angelo	562	2194	1848
San Antonio	434	1595	1315
Victoria	376	1302	1000
Waco	559	2057	1694
Wichita Falls	634	2401	2410
UTAH			
Milford	1137	4670	4790
Salt Lake City	1130	4752	4339
Wendover	1002	4440	4413
VERMONT			
Burlington	1380	5953	5614
VIRGINIA			
Lynchburg	834	3425	3216
Norfolk	719	2920	2635
Richmond	801	3338	3035
Roanoke	848	3463	3210
WASHINGTON			
Olympia	747	3460	3657
Seattle (U)	599	2794	3092
Seattle	622	2821	3478
Seattle-Tacoma	682	3314	3636
Spokane	1030	4682	4952
Stampede Pass (R)	1024	6046	6206
Tatoosh Island (R)	613	3391	3785
Walla Walla	653	3260	
Walla Walla (U)	654	3175	3652
Yakima	830	4156	4504
WEST VIRGINIA			
Beckley	1063	4466	
Charleston	917	3848	3364
Elkins	1113	4787	
Huntington	947	3898	3217
Parkersburg (U)	984	3893	3603
WISCONSIN			
Green Bay	1258	5606	5977
La Crosse	1104	4994	5739
Madison	1156	5273	5476
Milwaukee	1141	5043	5141
WYOMING			
Casper	1264	4984	5440
Cheyenne	1229	4760	5181
Lander	1249	5334	6012
Sheridan	1103	4800	5675

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

FEBRUARY 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS
Alabama *																													
Alaska *																													
Arizona *																													
Arkansas *																													
California										1	3	6	7																
Colorado *																													
Connecticut *																													
Delaware														0	0	?	0	0	0	4	0								
Florida	1	1	0	0	0					0	0	4	0																
Georgia *																													
Hawaii *																													
Idaho																			4	4									
Illinois *																													
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky *																													
Louisiana										0	0	5	0													0	0	?	?
Maine																		0	0	4	0								
Maryland																		0	0	4	0								
Massachusetts										0	0	4	0					1	0	5	0					R 0 S 0	0 0	4 4	0 0
Michigan *																													
Minnesota *																													
Mississippi																										0	0	?	?
Missouri *																													
Montana										0	8	3	0																
Nebraska *																													
Nevada *																													
New Hampshire																		0	0	4	0								
New Jersey *																													
New Mexico																		1	0	3	0								
New York												3						4	25										
North Carolina										0	0	5	0	0	0	3	0									0	0	4	0
North Dakota *																													
Ohio *																													
Oklahoma																		0	0	4	0	0	0	5	0				
Oregon *																													
Pacific Area *																													
Pennsylvania *																													
Puerto Rico *																													
Rhode Island *																													
South Carolina *																													
South Dakota N																													
Tennessee										0	0	4	0																
Texas	1	1	0	1	?					0	0	4	0					4	0	6	5								
Utah *																													
Vermont																		0	0	4	0								
U.S. Virgin Is. *																													
Virginia *																													
Washington *																													
West Virginia																		0	0	?	0								
Wisconsin *																													
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
N No report received by printing deadline.
R Rain
S Storm tides

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

FEBRUARY 1964

Flooding during February was mostly light. Only low-lying areas were affected. Damages reported were minor.

ATLANTIC SLOPE DRAINAGE

Snow cover in the Lehigh River Basin ranged from an average of 5 inches from Lehighton, Pa., to 23 inches over the Pocono plateau in Pennsylvania. Amounts of snow in the Lackawaxen River Basin ranged from 8 inches at Hawley, Pa., to 23 inches at Pleasant Mount, Pa.

The water content of the snow cover in the Susquehanna River Basin in Pennsylvania at the end of February averaged about 2.75 inches. Ice was reported on most streams in the northern areas.

Light to moderate flooding occurred on the Neuse and lower Cape Fear Rivers in North Carolina from heavy rainfall on the 6th, 15th, 18th, and 19th. Rainfall on the 6th averaged from around 1 to 1 3/4 inches with local heavier amounts. Rainfall on the 15th averaged about 1 inch. Rainfall on the 18th and 19th ranged from 1/2 inch to 1 inch. The combination of the latter two periods of rainfall resulted generally in the highest stages since March 1963. Stages on the Cape Fear ranged from around bankfull in the middle to near 8 feet above bankfull in the lower portions. On the Neuse River, stages ranged from bankfull to 4 feet in flood. Sharp rises occurred on the Tar, Dan, and the upper portions of the Roanoke and Cape Fear Rivers. No damage was reported from the overflows.

Heavy precipitation on the 16th and 18th caused flooding along streams in South Carolina. This was the second consecutive month that precipitation in the Pee Dee and Santee River Basins was well above average, ranging from 4 to 9 inches. Some minor damage occurred to small grains planted along the banks of the Rocky River. Minor damage occurred to cultivated lands and lowland pastures along the Broad, Congaree, and Wateree Rivers. Logging operations in the lowlands were interrupted with resultant loss of wages and business.

Minor flooding prevailed during most of February on the Savannah River below Augusta, Ga., and on the Ogeechee River. Minor losses were reported to cattle grazing interests and building contractors.

There were two periods of flooding on the Ocmulgee, Altamaha, and Satilla Rivers in Georgia during February. No damage resulted from the high water other than that which normally occurs in the lowlands at such stages. Lumbering operations on the lower Altamaha and Satilla were hampered due to flooding of lowlying timberland.

EAST GULF OF MEXICO DRAINAGE

Weather conditions over the Flint and Apalachicola River Basins during February were similar to those occurring during January. Rainfall occurred at regular and very frequent intervals and temperatures were persistently cooler than normal. The heaviest rains occurred on the 18th, with amounts of 1.0 to 1.5 inches in the upper areas and 2.0 to 2.5 inches in lower areas. These recurring rains kept the rivers high throughout the month, with monthly crests occurring a few days after the heavy rains of the 18th. Flood stages were exceeded only at Albany and Bainbridge, Ga., on the Flint River and at Blountstown, Fla., on the Apalachicola. Only low-lying areas were affected on the Flint at Albany, Ga., where flood stage was exceeded by about 2.5 feet. The Apalachicola River was in flood at Blountstown, Fla., from January 9 through the entire month of February. Little damage resulted from this flooding as only wooded and unpopulated areas were involved. Operations of the lumber industry were retarded somewhat by the high water, but most of the personnel were assigned to higher ground away from the reach of the high water.

Minor flooding occurred on the Pearl River at Bogalusa, La., on the 28th due to moderate rain on the 25th. No damage resulted from the overflow.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Temperatures over the Upper Mississippi Basin averaged 4° to 8° above the long-term mean during February. Precipitation averaged much below the mean. Similar conditions occurred during January. Navigation on the Mississippi River opened at La Crosse, Wis., and Guttenberg, Iowa, on February 28.

A comparison of snow depths in the Upper Mississippi Basin on February 29 with that of other years is given in the following table:

COMPARATIVE SNOW DEPTHS (INCHES)

Station	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955
(Minnesota)										
Bemidji	9	4	24	5	5	4	T	14	22	25
International Falls	14	13	23	14	11	17	T	15	12	--
Duluth	12	10	23	8	17	9	3	22	--	--
Alexandria	T	2	17	0	4	1	0	4	12	10
New Ulm	T	2	17	0	T	T	0	0	6	7
Minneapolis	0	3	24	0	2	0	0	T	7	6
Rochester	0	3	13	2	3	13	0	T	6	1
(Wisconsin)										
Park Falls	7	16	33	6	17	10	3	16	20	--
Wausau	11	7	30	1	5	9	0	1	7	--
Portage	0	6	24	0	4	10	T	0	T	--

The first towboat of the season reached the Moline, Ill., area on the 22d for the earliest opening of navigation on record. The previous record was February 23, 1953. All pools below Dam 13 were practically free of ice on the 19th.

Navigation in the Burlington, Iowa, area began on the 14th, about 3 weeks ahead of normal. Some of the tributaries still had a lot of ice at the month's end, but areas free of ice were large. River stages were generally very low throughout the month.

Missouri Basin.--Precipitation was below normal during February in South Dakota. Temperatures were mostly above normal. At the end of the month the only snow cover remaining was in the Black Hills. Elsewhere the ground was bare except for a few scattered snow drifts.

The ice broke up on the Missouri River at Sioux City, S. Dak., between the 10th and 12th. Except for occasional flow ice, the channel was open the remainder of the month. Tributary streams in South Dakota were frozen at the end of February.

Only traces of snow were present over the Elkhorn River Basin in Nebraska at the end of the month. There were many areas free of ice in the Elkhorn and major tributaries by the close of the month.

Ohio Basin.--The ice gorge on the Allegheny River between Lock 8, Mosgrove, Pa., and Lock 9, Rimerton, Pa., remained about stationary during the month. Backwater from this gorge caused gage height on the lower gage at Lock 9, Rimerton to remain 8 to 10 feet above normal, but well below flood stage. Below normal temperatures over the Allegheny Basin from the 20th to the end of the month resulted in a general ice condition along the entire river. The Monongahela and upper Ohio Rivers were generally free of ice throughout the month.

Mild weather during the last 2 weeks of the month melted most of the ice in the Scioto River Basin in Ohio. Most of the snow cover in the basin below Columbus, Ohio, had melted by the end of the month.

The only flooding in the Ohio Basin during the month occurred on the Elk River at Fayetteville, Tenn., on the 16th. This overflow was due to general rains on the 15th and 16th which averaged about 2.5 inches. No damage resulted.

Arkansas Basin.--Ten to 12 inches of snow was reported in the western portion of the Arkansas Basin on the morning of the 5th. Heavy rains occurred in the eastern portion, averaging 1.3 inches from Tulsa, Okla., to Fort Smith, Ark. This produced only minor rises due to the deficiency of precipitation during the last few months. The Arkansas River at Tulsa, Okla., showed a monthly mean stage of 3.0 ft., which was 1.4 ft., below the normal stage.

PACIFIC SLOPE DRAINAGE

The Tualatin River in Oregon, which began flooding at Dilley, Oreg., on the 17th receded within its banks on the 3d. The Pudding River dropped below bankfull stage on the 1st. Stages on all streams of the Willamette Basin receded slowly during February.

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Neuse: Neuse, N. C.	14	8	11	#14.6	9
Smithfield, N. C.	13	8	11	15.4	10
		17	23	16.75	20
Goldsboro, N. C.	14	11	15	#15.0	14
		18	27	#17.6	24
Kinston, N. C.	14	16	29	#15.9	27
Cape Fear: Elizabethtown, N. C.	20	8	9	22.0	8
		18	23	27.6	21
Rocky: Norwood, N. C.	15	18	19	#20.1	19
Lynches: Effingham, S. C.	14	24	26	#14.6	25
Pee Dee: Cheraw, S. C.	30	19	20	#32.6	20
Peedee, S. C.	19	18	Mar. 4	#22.3	24
Black: Kingstree, S. C.	12	20	25	#12.5	22-23
Broad: Blair, S. C.	14	18	20	17.9	20
North Fork Edisto: Orangeburg, S. C.	8	18	23	# 8.7	20
		28	1/	# 8.1	29
Edisto: Givhans Ferry State Park, N. C.	10	Jan. 15	13	#11.9	Jan. 24
		18	1/	#12.4	26
Savannah: Millhaven, Ga.	15	Jan. 15	5	(16.1	Jan. 21
				(15.9	2
		19	29	16.2	25
Clyo, Ga.	11	Jan. 13	29	(14.8	Jan. 24
				(14.5	5
				(15.0	28
Ogeechee: Dover, Ga.	7	Jan. 14	8	8.2	Jan. 19
		22	29	7.5	29
Eden, Ga.	9	3	7	10.5	3-7
		7	29	(11.5	26
				(11.5	29
ATLANTIC SLOPE DRAINAGE (Cont'd.)	Ft.			Ft.	
Ocmulgee: Abbeville, Ga.	12	Jan. 13	5	(14.2	Jan. 17
				(13.9	2
		20	29	13.4	25,26
Altamaha: Charlotte, Ga.	15	1	13	17.6	7,8
		19	29	18.4	29
Satilla: Atkinson, Ga.	13	1	6	14.6	1
		21	29	16.4	29
Waycross, Ga.	16	25	26	16.5	25
		29	1/	16.7	29
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga.	20	20	22	22.6	21
Bainbridge, Ga.	25	22	23	25.1	22
Apalachicola: Blountstown, Fla.	15	Jan. 9	29	(20.7	Jan. 13
				(20.3	23
Pearl: Bogalusa, La.	15	28	28	15.1	28
MISSISSIPPI SYSTEM					
Ohio Basin					
Elk: Fayetteville, Tenn.	659	16	16	659.6	16
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Pudding: Aurora, Oreg.	20	Jan. 19	1	23.5	Jan. 20
				24.3	Jan. 26
Tualatin: Dilley, Oreg.	12	Jan. 17	2	(13.8	Jan. 20
				(14.7	Jan. 25
Farmington, Oreg.	29	Jan. 19	3	33.2	Jan. 21
				34.4	Jan. 27

* Provisional
# Highest stage observed
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

FEBRUARY 1964

ALBANY, N. Y.
1000 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	86	- 8.1	75	278	5.1
1000	29	82			271	4.9
950	29	481	- 6.8	64	304	12.4
900	29	903	- 8.5	62	311	17.3
850	29	1,346	- 9.0	56	306	19.2
800	29	1,814	-10.1	54	307	21.6
750	29	2,310	-11.7	52	299	22.9
700	29	2,837	-13.8	52	291	24.5
650	29	3,394	-16.3	52	283	27.2
600	29	3,997	-19.2	47	278	32.2
550	29	4,633	-23.2	46	273	35.2
500	29	5,331	-27.8	43	271	36.3
450	29	6,075	-33.1		268	40.0
400	29	6,900	-38.6		267	43.5
350	29	7,806	-44.2		265	46.2
300	29	8,827	-49.4		264	54.0
250	29	10,014	-51.8		269	53.4
200	28	11,464	-51.0		267	54.8
175	28	12,335	-50.1		266	54.2
150	28	13,338	-50.6		266	52.4
125	28	14,522	-52.1		264	49.0
100	27	15,963	-54.0		268	45.5
80	26	17,391	-55.3		268	39.4
70	26	18,247	-55.1		268	34.0
60	26	19,228	-55.0		269	28.6
50	26	20,393	-55.3		275	20.4
40	26	21,818	-54.4		282	19.6
30	23	23,658	-54.4		296	16.1
25	22	24,825	-54.0		300	13.2
20	22	26,258	-53.8		299	15.9
15	13	28,110	-52.3			
10						
7						

ALBUQUERQUE, N. MEX.
835 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,619	- 5.2	69	53	2.7
1000	29	183				
950	29	597				
900	29	1,029				
850	29	1,482				
800	29	1,962	- 3.4	47	330	5.6
750	29	2,467	- 5.8	47	323	13.4
700	29	3,009	- 8.7	46	311	16.7
650	29	3,572	-11.9	44	301	19.2
600	29	4,189	-15.4	42	300	20.8
550	29	4,837	-19.6	39	297	25.6
500	29	5,543	-24.0		293	33.2
450	29	6,297	-29.6		289	34.2
400	29	7,134	-35.8		293	35.7
350	29	8,050	-41.7		291	42.5
300	29	9,083	-46.8		295	46.4
250	29	10,278	-51.3		291	47.2
200	27	11,722	-51.8		287	54.6
175	27	12,587	-52.6		286	56.9
150	27	13,579	-54.3		284	50.5
125	27	14,739	-57.8		282	46.6
100	27	16,135	-60.6		285	37.3
80	27	17,520	-61.6		285	27.4
70	27	18,359	-60.4		285	18.6
60	27	19,311	-60.4		290	13.0
50	27	20,451	-58.6		303	9.7
40	27	21,859	-57.3		349	5.2
30	25	23,684	-55.8		39	6.2
25	21	24,850	-54.6		67	8.9
20	19	26,298	-52.8		64	10.5
15	16	28,163	-50.4		48	9.1
10	6	30,822	-47.4			
7						

AMARILLO, TEXAS
889 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1,095	- 3.9	75	296	5.1
1000	28	158				
950	28	568				
900	28	1,004				
850	28	1,455	- .4	53	308	9.5
800	28	1,938	- 2.2	47	307	11.7
750	28	2,446	- 4.4	44	305	15.2
700	28	2,990	- 7.5	44	289	17.3
650	28	3,558	-11.0	44	285	19.6
600	28	4,173	-14.7	42	287	22.0
550	28	4,823	-19.0	37	285	24.9
500	28	5,529	-24.0	35	279	30.1
450	28	6,283	-29.5		277	35.5
400	28	7,121	-35.3		276	42.3
350	28	8,039	-41.4		277	48.2
300	28	9,073	-47.0		277	55.8
250	28	10,270	-51.0		276	59.8
200	28	11,720	-51.4		274	61.8
175	27	12,589	-52.1		274	62.2
150	27	13,585	-53.7		272	60.6
125	27	14,750	-56.5		275	57.7
100	27	16,156	-59.2		276	50.7
80	27	17,549	-60.4		277	43.9
70	26	18,381	-60.9		278	37.1
60	26	19,340	-59.8		276	27.0
50	24	20,483	-58.6		271	21.4
40	24	21,890	-56.7		280	11.7
30	23	23,719	-55.2		312	7.2
25	22	24,881	-54.4		324	6.4
20	19	26,320	-53.3		8	10.5
15	17	28,182	-51.0		317	4.9
10	6	30,801	-49.4			
7						

ANCHORAGE, ALASKA
997 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	29	- 7.2	76	184	1.2
1000	29	7			172	5.2
950	29	406	- 7.0	65	139	3.1
900	29	830	- 7.6	64	159	8.5
850	29	1,273	-10.1	65	156	14.6
800	29	1,738	-13.0	69	152	18.1
750	29	2,225	-15.7	71	172	20.4
700	29	2,744	-18.5	68	182	21.4
650	29	3,289	-21.6	62	196	21.0
600	29	3,880	-24.9	56	206	22.7
550	29	4,504	-28.3	52	216	26.4
500	29	5,186	-32.8	50	219	27.4
450	29	5,916	-37.4		220	31.5
400	29	6,725	-43.1		225	36.5
350	29	7,613	-48.5		229	37.5
300	29	8,616	-52.9		234	43.3
250	29	9,788	-53.7		233	47.0
200	29	11,228	-51.5		240	42.2
175	29	12,096	-50.7		240	42.9
150	29	13,101	-50.3		245	43.5
125	29	14,291	-50.4		248	45.1
100	29	15,746	-50.6		251	45.5
80	29	17,205	-49.6		254	45.8
70	29	18,080	-49.6		256	45.3
60	29	19,089	-49.2		258	45.3
50	29	20,285	-48.7		262	43.7
40	29	21,752	-48.6		264	45.5
30	29	23,647	-47.6		270	47.6
25	28	24,849	-47.8		272	48.4
20	25	26,333	-46.5		273	47.8
15	16	28,276	-44.5		267	48.6
10						
7						

* ANNETTE, ALASKA
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	37	3.2	85	167	7.0
1000	29	140			178	6.6
950	29	552	.6	81	183	14.0
900	29	987	- 2.1	79	199	15.7
850	29	1,440	- 4.5	76	219	16.9
800	29	1,916	- 6.9	74	236	19.6
750	29	2,416	- 9.1	66	247	25.3
700	29	2,950	-11.8	62	257	27.8
650	29	3,513	-15.0	63	258	31.3
600	29	4,117	-18.5	63	267	37.1
550	29	4,756	-22.3	63	266	36.3
500	29	5,456	-27.1	59	268	38.9
450	29	6,204	-32.2	56	268	42.5
400	29	7,031	-38.4	51	269	49.1
350	29	7,935	-45.2		276	50.9
300	29	8,949	-51.6		276	55.4
250	27	10,118	-57.0		287	55.0
200	26	11,528	-58.4		283	46.4
175	26	12,373	-55.7		286	45.6
150	26	13,360	-54.0		285	41.6
125	26	14,532	-53.1		278	38.1
100	26	15,966	-54.0		283	33.0
80	26	17,402	-52.7		287	30.1
70	26	18,269	-52.3		291	26.8
60	26	19,263	-51.8		286	24.7
50	26	20,447	-50.6		293	26.2
40	25	21,900	-50.7		291	22.7
30	25	23,779	-49.1		303	23.7
25	24	24,968	-48.9		306	27.0
20	23	26,437	-47.7		313	26.0
15	22	28,342	-45.4		317	29.1
10	16	31,058	-44.5		322	28.9
7	10	33,518	-41.9		337	26.8

ATHENS, GA.
986 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	246	.7	78	305	2.7
1000	29	131				
950	29	546	2.5	58	295	8.0
900	29	983	.6	58	290	10.9
850	29	1,440	- 1.2	58	287	16.5
800	29	1,923	- 2.1	47	282	21.8
750	29	2,431	- 4.0	43	280	25.8
700	29	2,976	- 6.3		275	30.5
650	29	3,548	- 8.6		268	38.9
600	29	4,170	-12.1		268	47.8
550	29	4,825	-16.0		266	55.4
500	29	5,542	-20.9		263	62.7
450	29	6,304	-26.5		262	67.4
400	29	7,154	-31.6		261	80.6
350	29	8,089	-36.6		260	89.0
300	29	9,142	-43.0		262	97.3
250	29	10,357	-48.0		261	112.7
200	29	11,811	-52.6		267	121.0
175	29	12,671	-53.6		267	103.7
150	28	13,656	-56.1		267	88.8
125	28	14,806	-59.1		267	77.3
100	28	16,192	-62.6		268	61.6
80	28	17,565	-62.8		268	50.7
70	28	18,389	-62.4		271	36.9
60	28	19,340	-61.5		274	21.8
50	27	20,477	-59.6		279	21.8
40	27	21,877	-57.9		292	14.4
30	26	23,700	-55.7		324	8.0
25	25	24,863	-54.7		342	4.9
20	23	26,299	-53.4		307	5.6
15	20	28,174	-50.8		304	10.9
10	9	30,851	-46.3			
7						
5						

* BARROW, ALASKA
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	8	-34.2	57	53	4.7
1000	29	115	-30.4	64	74	7.6
950	29	487	-27.1	78	71	10.9
900	29	875	-24.6	82	78	11.1
850	29	1,291	-23.8	77	78	11.3
800	29	1,734	-24.2	70	83	8.7
750	29	2,206	-25.0	68	101	4.1
700	29	2,703	-26.9	65	181	3.7
650	29	3,236	-29.6	66	199	4.9
600	29	3,802	-32.9	66	222	6.6
550	29	4,412	-36.5	61	232	11.7
500	29	5,065	-40.8		236	13.0
450	29	5,777	-45.5		238	14.4
400	29	6,551	-50.6		237	15.2
350	28	7,417	-55.2		246	14.6
300	28	8,392	-58.8		243	18.1
250	28	9,534	-59.1		246	23.1
200	28	10,938	-57.6		254	29.5
175	28	11,781	-57.4		254	34.2
150	28	12,754	-57.7		253	40.6
125	28	13,903	-58.1		255	48.0
100	28	15,309	-57.7		257	58.7
80	28	16,719	-57.1		259	69.7
70	28	17,562	-56.6		260	74.0
60	27	18,564	-55.5		261	82.8
50	27	19,728	-54.7		262	91.9
40	27	21,158	-53.7		264	104.3
30	26	23,006	-52.7		266	116.6
25	26	24,185	-51.7		267	123.2
20	24	25,697	-49.3		270	118.7
15	22	27,625	-46.5		273	114.8
10	17	30,379	-41.1		276	124.7
7	12	32,979	-35.5			
5	6	35,795	-25.7			

BARTER IS., ALASKA
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	15	-31.3	67	263	1.6
1000	29	104			297	1.7
950	29	478	-25.2	57	72	2.9
900	29	871	-21.6	63	91	4.3
850	29	1,294	-19.5	66	104	4.3
800	29	1,743	-20.5	66	169	1.4
750	29	2,218	-22.3	64	283	5.4
700	29	2,725	-24.2	61	272	7.2
650	29	3,259	-27.0	55	266	9.9
600	29	3,835	-30.2	52	265	12.4
550	29	4,444	-34.2	50	259	15.9
500	29	5,110	-38.7		259	16.9
450	29	5,825	-43.4		255	21.4
400	29	6,610	-48.7		253	25.8
350	29	7,477	-54.0		253	30.5
300	29	8,456	-57.8		255	35.4
250	29	9,602	-58.8		258	37.5
200	29	11,007	-57.0		261	36.9
175	29	11,853	-56.6		264	40.0
150	29	12,830	-56.5		266	44.5
125	28	13,996	-56.3		268	49.7
100	28	15,414	-56.0		269	57.7
80	25	16,831	-55.6		272	66.2
70	24	17,712	-54.7		273	69.2
60	22	18,692	-53.9		273	73.2
50	21	19,865	-53.1		276	77.9
40	19	21,307	-51.8		278	79.1
30	18	23,174	-50.4		280	84.9
25	16	24,374	-48.6		282	88.8
20	13	25,975	-45.6		286	88.0
15						
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7						
5						

BETHEL, ALASKA
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	39	-18.8	70	30	6.0
1000	29	5			23	7.8
950	29	393	-14.6	69	61	7.6
900	29	802	-13.4	71	94	4.9
850	29	1,237	-13.6	69	173	3.5
800	29	1,697	-15.0	62	195	7.2
750	29	2,183	-17.3	58	202	8.2
700	29	2,698	-20.0	56	213	10.5
650	29	3,241	-23.2	54	218	12.0
600	29	3,826	-26.1	48	213	15.3
550	29	4,448	-29.0	45	209	19.0
500	29	5,124	-34.2	47	213	21.0
450	29	5,849	-39.2		208	24.9
400	29	6,653	-44.4		198	24.3
350	29	7,536	-49.9		201	29.1
300	29	8,534	-53.6		211	31.7
250	29	9,707	-52.8		220	35.2
200	29	11,154	-50.4		225	38.9
175	29	12,026	-49.8		228	39.8
150	29	13,035	-49.2		227	43.3
125	28	14,231	-48.3		232	44.5
100	28	15,701	-47.8		237	45.5
80	28	17,174	-47.7		241	46.8
70	27	18,060	-47.9		244	47.6
60	27	19,071	-47.7		244	48.4
50	26	20,277	-47.2		251	46.4
40	26	21,754	-47.0		253	48.0
30	24	23,672	-45.6		253	48.6
25	21	24,891	-44.9		254	46.0
20	18	26,409	-43.4		259	46.0
15	11	28,445	-40.1		242	50.1
10						
7						
5						

BISMARCK, N. DAK.
953 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	505	- 9.6	76	321	4.7
1000	29	128				
950	29	532			313	5.8
900	29	951	- 5.8	66	298	14.6
850	29	1,399	- 6.3	59	304	18.1
800	29	1,872	- 8.2	53	308	19.6
750	29	2,369	-10.8	49	311	21.8
700	29	2,898	-13.7	45	311	22.5
650	29	3,455	-16.9	39	313	22.9
600	29	4,054	-20.3	34	309	23.7
550	29	4,690	-24.5	37	307	24.5
500	29	5,381	-29.1	38	307	25.8
450	29	6,120	-34.2		304	28.0
400	29	6,942	-39.9		307	30.9
350	29	7,841	-46.2		292	30.3
300	29	8,850	-52.5		298	30.3
250	29	10,018	-55.7		297	31.5
200	29	11,445	-53.2		301	32.4
175	29	12,307	-51.6		297	31.9
150	29	13,308	-51.3		296	31.5
125	29	14,491	-51.8		293	30.3
100	29	15,935	-52.7		296	28.7
80	29	17,375	-52.8		300	25.1
70	29	18,241	-53.1		303	22.7
60	29	19,231	-52.7		309	22.0
50	29	20,408	-52.7		314	17.1
40	29	21,850	-52.7		320	15.0
30	29	23,707	-52.5		332	15.9
25	29	24,888	-51.8		344	16.5
20	26	26,327	-52.1		351	18.6
15	19	28,195	-51.5		351	21.0
10	12	30,823	-48.3			
7						
5						

BOISE, IDAHO
923 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	868	- 5.4	90	152	2.9
1000	29	229				
950	29	636				
900	29	1,063	- 2.7	68	343	1.6
850	29	1,518	- 2.5	54	322	7.2
800	29	1,997	- 4.7	51	319	12.0
750	29	2,499	- 7.5	50	319	15.2
700	29	3,037	- 9.9	46	326	16.9
650	29	3,602	-13.1	40	330	19.2
600	29	4,212	-16.2	34	332	23.7
550	29	4,859	-20.2		329	24.5
500	29	5,563	-24.8		329	24.9
450	29	6,317	-30.1		332	24.5
400	29	7,151	-36.3		332	30.1
350	29	8,064	-43.1		330	31.3
300	29	9,087	-50.4		331	35.7
250	29	10,258	-57.0		329	34.4
200	29	11,663	-57.3		322	31.7
175	28	12,517	-55.2		310	33.6
150	28	13,501	-54.8		306	34.2
125	28	14,666	-55.5		307	28.9
100	28	16,088	-56.5		308	26.4
80	28	17,504	-56.4		314	16.7
70	28	18,353	-56.3		319	12.8
60	28	19,333	-55.4		336	10.7
50	28	20,496	-54.8		1	10.7
40	26	21,920	-53.9		20	10.5
30	23	23,778	-52.8		44	15.2
25	23	24,959	-51.3		47	17.7
20	20	26,412	-50.2		56	25.1
15	18	28,307	-50.1			
10						
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5						
4						

* BROWNSVILLE, TEXAS
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	7	11.8	86	38	3.1
1000	29	130	13.6	78	81	4.3
950	29	559	11.9	72	135	5.8
900	29	1,014	10.6	67	180	8.7
850	29	1,489	8.8	64	205	11.7
800	29	1,990	7.3	55	236	14.4
750	29	2,515	6.1	47	246	18.6
700	29	3,083	3.3	43	255	26.0
650	29	3,674	- .2	41	262	33.0
600	29	4,318	- 3.9	42	258	40.2
550	29	4,993	- 8.0	43	259	50.3
500	29	5,736	-12.1	37	262	61.8
450	29	6,529	-15.1	37	262	76.1
400	29	7,416	-21.7	40	262	85.1
350	29	8,385	-28.6	38	262	92.5
300	29	9,471	-37.0	35	262	103.1
250	29	10,707	-46.3		263	101.8
200	29	12,159	-55.5		261	109.9
175	29	13,002	-59.1		261	102.4
150	29	13,959	-63.0		262	96.7
125	28	15,071	-68.0		262	78.7
100	28	16,395	-72.9		262	57.9
80	28	17,704	-72.6		262	38.3
70	28	18,499	-70.7		264	24.1
60	28	19,414	-67.3		270	15.7
50	28	20,523	-63.2		257	5.1
40	28	21,908	-60.0		274	2.5
30	27	23,718	-56.4		264	8.9
25	27	24,881	-54.6		268	9.9
20	25	26,312	-52.4		261	12.0
15	23	28,188	-49.2		263	18.8
10	11	30,892	-43.9			
7	6	33,354	-34.9			
5						
4						

BUFFALO, N. Y.
985 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	218	- 6.9	80	256	3.5
1000	29	99				
950	29	502	- 6.4	69	279	9.5
900	29	923	- 8.0	64	290	14.2
850	29	1,367	- 9.0	56	286	15.9
800	29	1,835	-10.5	52	288	16.9
750	29	2,332	-12.3	50	286	18.5
700	29	2,855	-14.4	47	284	23.1
650	29	3,414	-17.4	46	284	25.4
600	29	4,010	-20.5	45	281	27.2
550	29	4,648	-24.1	45	282	29.3
500	29	5,339	-28.6	46	284	31.7
450	29	6,083	-33.7		280	33.6
400	29	6,903	-39.2		280	37.7
350	29	7,805	-45.1		276	40.2
300	29	8,823	-50.2		272	46.0
250	29	10,006	-52.5		267	52.4
200	29	11,451	-51.2		265	53.2
175	29	12,321	-49.9		266	52.8
150	29	13,328	-50.7		266	46.2
125	29	14,511	-52.3		266	45.8
100	29	15,952	-53.2		267	40.6
80	29	17,385	-54.5		266	31.1
70	29	18,244	-55.1		267	29.7
60	29	19,224	-55.0		269	27.0
50	29	20,390	-54.5		281	21.6
40	29	21,820	-54.2		290	16.5
30	28	23,666	-53.8		293	15.5
25	28	24,839	-53.5		300	15.2
20	28	26,276	-53.1		300	17.5
15	23	28,120	-51.6		317	16.3
10	11	30,738	-50.2			
7						
5						
4						

* BURRWOOD, LA.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	3	11.5	80	20	4.9
1000	29	133	11.7	71	12	6.0
950	29	560	9.2	69	339	2.1
900	29	1,008	7.3	61	250	7.4
850	29	1,477	6.1	49	255	16.5
800	29	1,973	4.6	43	259	22.3
750	29	2,496	3.2	33	264	27.4
700	29	3,055	.8	34	263	33.6
650	29	3,646	- 1.9	33	261	40.0
600	29	4,278	- 6.0	37	263	48.8
550	29	4,947	-10.3	41	262	55.4
500	29	5,683	-14.3	44	258	62.9
450	29	6,476	-17.2	39	258	75.4
400	29	7,344	-24.5	36	259	85.3
350	29	8,304	-30.7	34	262	95.6
300	29	9,381	-38.3	34	262	102.6
250	29	10,612	-46.6		261	109.9
200	28	12,064	-54.4		263	113.3
175	28	12,914	-57.5		267	104.5
150	28	13,879	-60.7		265	94.2
125	27	15,000	-64.8		264	77.9
100	27	16,347	-68.9		265	64.5
80	26	17,682	-69.0		265	54.6
70	26	18,494	-67.2		264	40.4
60	25	19,421	-65.1		265	22.9
50	25	20,547	-61.0		266	12.6
40	25	21,936	-58.3		278	11.7
30	24	23,760	-55.5		281	11.8
25	24	24,926	-54.3		291	12.0
20	24	26,361	-52.7		279	8.7
15	24	28,235	-49.1		276	17.3
10	20	30,936	-42.3		275	23.7
7	17	33,377	-36.3		260	51.3
5	12	35,714	-33.2		259	55.8
4	8	37,254	-31.4			

*CANTON IS., PACIFIC AREA
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	4	27.5	79	56	9.1
1000	29	77	26.7	78	58	10.3
950	29	526	23.2	81	62	14.6
900	29	1,001	20.4	73	67	13.6
850	29	1,494	17.7	64	72	11.7
800	29	2,012	15.6	48	74	8.5
750	29	2,552	13.1	48	83	7.2
700	29	3,135	10.3	41	91	4.7
650	29	3,746	6.9	42	97	3.3
600	29	4,403	3.4	41	104	4.1
550	29	5,104	- .5	41	109	4.5
500	28	5,862	- 5.0	35	117	7.0
450	28	6,684	- 9.5	30	110	7.0
400	28	7,586	-15.1	26	101	5.6
350	28	8,583	-21.7	24	136	6.0
300	28	9,700	-30.0	24	143	8.0
250	28	10,972	-40.0		155	11.8
200	28	12,455	-52.6		163	15.7
175	28	13,304	-59.7		163	14.2
150	28	14,251	-67.2		154	10.3
125	28	15,329	-75.4		143	8.9
100	27	16,593	-82.8		134	9.5
80	23	17,845	-77.9		122	8.9
70	21	18,620	-70.5		232	2.1
60	21	19,547	-65.5		267	9.3
50	21	20,665	-62.3		254	8.2
40	21	22,057	-58.4		255	6.6
30	21	23,876	-56.1		276	6.0
25	21	25,042	-53.6		233	5.4
20	20	26,480	-52.4		138	5.4
15	18	28,349	-48.6		84	26.2
10	16	31,041	-44.8		90	29.7
7	15	33,451	-41.1		96	44.9
5	12	35,756	-39.3		87	48.4
4	8	37,315	-37.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1964

CAPE HATTERAS, N. C.
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	4	5.5	77	322	6.4
1000	29	97	5.4	67	319	11.3
950	29	508	4.0	64	296	16.7
900	29	954	2.4	59	289	17.3
850	29	1,415	.6	58	273	18.6
800	29	1,900	-1.3	51	264	23.7
750	29	2,411	-3.4		262	29.9
700	29	2,957	-5.6		261	37.7
650	29	3,529	-8.6		260	42.3
600	29	4,151	-12.3		260	49.3
550	29	4,805	-16.1		261	55.9
500	29	5,523	-20.6	38	260	63.1
450	28	6,285	-25.7		259	69.7
400	28	7,138	-30.7		262	76.7
350	28	8,075	-36.2		261	89.4
300	28	9,132	-42.0		265	99.8
250	28	10,352	-46.9		268	101.8
200	28	11,816	-51.2		269	102.8
175	28	12,681	-52.8		267	88.6
150	28	13,672	-54.7		266	85.7
125	28	14,829	-58.0		266	69.9
100	28	16,226	-61.2		266	57.5
80	28	17,610	-61.4		268	44.3
70	27	18,443	-61.1		270	37.5
60	27	19,397	-60.0		268	28.2
50	26	20,540	-58.4		268	15.2
40	25	21,950	-56.6		289	11.8
30	25	23,781	-55.0		319	5.4
25	25	24,949	-54.0		342	4.1
20	24	26,387	-52.3		6	5.4
15	24	28,264	-48.3		338	5.6
10	23	30,968	-42.5		284	18.1
7	19	33,400	-37.6		266	39.2
5	10	35,687	-36.1			

CARIBOU, ME.
981 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	191	-11.9	74	297	5.1
1000	29	45				
950	29	438	-11.1	67	306	12.6
900	29	854	-11.6	63	320	15.7
850	29	1,293	-11.6	57	320	15.3
800	29	1,757	-12.8	54	306	15.7
750	29	2,249	-14.4	51	302	18.6
700	29	2,769	-16.6	49	298	19.6
650	29	3,319	-18.7	46	289	21.2
600	29	3,917	-21.6	45	283	22.9
550	29	4,551	-25.3	44	282	26.8
500	29	5,240	-29.6	42	280	28.7
450	29	5,982	-34.7	42	272	32.1
400	29	6,798	-40.2		269	33.8
350	29	7,698	-45.9		262	38.7
300	29	8,711	-51.0		260	43.1
250	29	9,893	-52.2		257	44.3
200	29	11,345	-49.9		259	47.2
175	29	12,220	-48.9		259	44.3
150	29	13,231	-49.8		258	44.9
125	29	14,421	-50.6		260	40.8
100	29	15,869	-52.3		263	42.0
80	29	17,311	-53.1		264	33.8
70	29	18,174	-53.5		265	32.6
60	29	19,163	-53.2		269	29.7
50	29	20,337	-54.0		269	28.0
40	28	21,774	-53.9		275	24.1
30	28	23,622	-54.1		282	20.4
25	28	24,791	-54.7		285	22.1
20	27	26,221	-54.3		287	24.7
15	27	28,074	-52.8		297	25.1
10	25	30,711	-49.0		293	38.3
7	18	33,035	-46.0		282	59.4
5	10	35,217	-44.0			

CHARLESTON, S. C.
1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	13	4.8	81	294	4.3
1000	29	124	5.9	72	309	6.2
950	29	543	4.8	63	304	10.3
900	29	984	3.0	60	280	14.2
850	29	1,446	1.5	50	266	19.8
800	29	1,933	.4	41	260	27.6
750	29	2,449	-1.1		260	33.4
700	29	2,998	-3.5		261	39.4
650	29	3,577	-6.2		264	45.1
600	29	4,204	-9.5		264	57.1
550	29	4,868	-13.3		263	60.8
500	29	5,591	-18.2		261	66.6
450	29	6,364	-23.6		260	76.1
400	29	7,223	-29.0		261	83.7
350	29	8,167	-34.8		264	85.7
300	29	9,228	-41.7		264	90.1
250	29	10,446	-47.6		265	105.5
200	29	11,903	-53.1			
175	29	12,759	-55.4			
150	29	13,735	-58.3			
125	29	14,874	-61.5			
100	28	16,246	-64.4			
80	28	17,608	-64.9			
70	28	18,436	-64.1			
60	28	19,372	-62.3			
50	28	20,505	-60.1			
40	28	21,906	-58.0		307	9.3
30	26	23,727	-55.8		337	6.2
25	25	24,893	-54.3		328	5.8
20	22	26,327	-51.9		349	4.1
15	17	28,211	-48.7			
10						
7						
5						

* COLD BAY, ALASKA
994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	30	-3.1	81	202	2.1
1000	29	-21			118	3.9
950	29	384	-5.2	76	207	2.5
900	29	807	-7.9	82	202	5.1
850	29	1,250	-10.0	76	209	8.0
800	29	1,715	-12.7	66	216	10.9
750	29	2,206	-15.3	66	218	15.0
700	29	2,723	-17.9	66	219	18.5
650	29	3,274	-21.0	63	221	21.8
600	29	3,861	-24.6	59	221	24.1
550	29	4,489	-28.7	52	221	27.4
500	29	5,165	-32.8	49	222	30.5
450	29	5,898	-37.3	51	225	33.4
400	29	6,706	-42.8		226	40.0
350	29	7,596	-47.3		224	45.6
300	29	8,606	-51.5		227	49.7
250	29	9,785	-51.9		228	49.0
200	28	11,236	-49.8		235	42.2
175	27	12,106	-48.2		232	40.6
150	26	13,122	-47.6		233	41.6
125	26	14,326	-47.9		232	39.0
100	25	15,800	-48.2		233	36.7
80	25	17,270	-48.3		235	34.2
70	25	18,158	-48.4		237	32.6
60	25	19,165	-48.0		238	30.1
50	25	20,369	-47.6		241	26.8
40	25	21,845	-46.6		244	27.0
30	25	23,754	-46.4		246	24.9
25	25	24,965	-45.9		249	24.3
20	25	26,454	-44.6		244	23.5
15	25	28,383	-43.6		252	22.3
10	21	31,129	-40.7		259	15.2
7	19	33,585	-40.0		273	15.2
5	10	35,814	-41.2			

COLUMBIA, MO.
986 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	238	-2.2	77	253	1.2
1000	29	125				
950	29	534	-1.0	64	270	5.8
900	29	965	-2.9	61	295	10.1
850	29	1,416	-4.7	56	298	12.6
800	29	1,891	-7.0	49	296	13.2
750	29	2,391	-9.3	45	294	13.6
700	29	2,924	-11.8	46	290	15.2
650	29	3,484	-14.2	41	283	19.0
600	29	4,092	-17.7	39	279	23.9
550	29	4,735	-22.0	42	280	27.2
500	29	5,433	-26.6	41	276	29.5
450	29	6,178	-31.9		274	32.4
400	29	7,008	-37.9		271	37.3
350	29	7,915	-44.1		270	43.5
300	29	8,937	-49.1		273	46.0
250	29	10,124	-51.8		273	50.9
200	29	11,570	-51.1		275	51.1
175	28	12,438	-51.2		272	54.4
150	28	13,438	-52.3		271	50.9
125	28	14,612	-53.9		272	45.5
100	28	16,038	-55.4		275	36.3
80	27	17,451	-57.0		274	29.9
70	27	18,297	-56.9		276	26.0
60	27	19,273	-56.7		285	20.0
50	26	20,428	-56.6		300	13.4
40	26	21,845	-55.7		320	10.3
30	22	23,683	-54.5		1	9.5
25	21	24,850	-54.0		17	11.1
20	20	26,287	-52.8		19	14.0
15	17	28,160	-50.6		30	15.9
10	6	30,811	-46.2			
7						
5						

DAYTON, OHIO
978 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	297	-4.8	79	302	2.5
1000	29	119				
950	29	525	-4.0	74	290	5.2
900	29	949	-5.6	65	301	8.9
850	29	1,396	-6.9	60	294	12.0
800	29	1,868	-8.5	52	294	15.9
750	29	2,369	-10.5	48	285	19.0
700	29	2,896	-12.7	44	283	19.8
650	29	3,457	-15.4	41	280	22.1
600	29	4,060	-18.3	41	279	25.1
550	29	4,701	-22.1		279	29.3
500	29	5,400	-26.7	42	277	31.9
450	29	6,146	-32.0		276	35.5
400	29	6,976	-37.9		275	37.1
350	29	7,882	-44.5		273	42.9
300	29	8,902	-49.6		267	50.3
250	29	10,087	-52.0		266	55.8
200	29	11,534	-50.8		264	57.1
175	29	12,403	-50.9		267	59.2
150	29	13,404	-51.9		265	56.1
125	29	14,579	-54.0		266	52.3
100	29	16,006	-55.4		268	46.6
80	29	17,424	-56.6		271	38.1
70	29	18,270	-57.2		273	33.0
60	29	19,244	-57.3		274	26.8
50	29	20,398	-56.6		276	21.0
40	25	21,815	-55.3		288	18.6
30	23	23,653	-54.8		299	10.9
25	21	24,818	-54.3		301	9.9
20	20	26,251	-52.9		310	9.7
15	15	28,125	-50.7		292	16.1
10	[illegible]	30,734	-48.7			
7						

DEL RIO, TEXAS
979 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	25	314	6.8	67	61	2.5
1000	25	140				
950	25	561	7.1	61	117	2.1
900	25	1,006	5.3	56	192	3.5
850	25	1,472	4.1	50	234	8.4
800	25	1,964	2.8	41	258	14.0
750	25	2,486	1.1	39	269	21.4
700	25	3,038	-1.6		269	24.1
650	25	3,621	-5.2		264	28.9
600	25	4,248	-8.7		264	36.1
550	25	4,913	-12.8		267	42.7
500	25	5,638	-17.6		264	49.1
450	25	6,418	-22.4		265	57.1
400	25	7,277	-27.5		261	73.8
350	25	8,227	-33.6		261	86.2
300	25	9,294	-40.2		263	103.7
250	25	10,519	-46.8		266	113.6
200	25	11,978	-52.9		263	110.1
175	25	12,834	-56.1		262	98.9
150	25	13,805	-59.9		263	89.7
125	25	14,933	-63.8		266	73.8
100	25	16,289	-67.5		265	57.5
80	25	17,627	-68.7		269	36.9
70	25	18,434	-67.3		270	28.7
60	25	19,361	-64.8		272	21.2
50	25	20,478	-62.6		272	8.9
40	25	21,867	-58.5		293	6.8
30	24	23,680	-56.9		286	4.3
25	24	24,840	-55.3		276	2.5
20	22	26,271	-53.3		295	5.4
15	19	28,125	-50.7		271	8.0
10	9	30,802	-45.3			
7						

DENVER, COLO.
835 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,611	-6.2	61	278	3.9
1000	29	177				
950	29	586				
900	29	1,020				
850	29	1,470				
800	29	1,947	-4.4	47	312	9.7
750	29	2,452	-7.5	47	326	15.2
700	29	2,987	-11.2	46	329	15.5
650	29	3,552	-14.8	52	333	16.7
600	29	4,153	-18.6	51	326	18.3
550	29	4,795	-22.7	48	318	19.6
500	29	5,489	-27.2	43	316	21.6
450	29	6,234	-32.6		309	23.3
400	29	7,059	-38.8		311	26.4
350	29	7,964	-44.7		306	31.3
300	29	8,982	-50.2		303	31.3
250	29	10,162	-53.4		299	34.0
200	29	11,599	-52.6		288	37.1
175	29	12,464	-52.1		284	36.5
150	29	13,460	-52.7		283	38.7
125	29	14,635	-54.2		286	35.5
100	29	16,061	-56.0		286	29.3
80	29	17,477	-56.7		286	22.1
70	28	18,320	-57.2		291	19.2
60	28	19,296	-57.1		304	13.8
50	28	20,451	-56.5		326	9.1
40	28	21,872	-54.8		351	8.2
30	28	23,714	-54.2		14	9.5
25	27	24,887	-53.4		30	13.8
20	26	26,328	-53.1		35	13.6
15	21	28,190	-50.3		41	15.0
10	15	30,850	-48.1		16	19.8
7	7	33,204	-44.1			

DODGE CITY, KANS.
923 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	792	-3.8	77	309	5.1
1000	29	153				
950	29	560				
900	29	991	-1.2	61	311	9.1
850	29	1,446	-2.2	53	322	13.8
800	29	1,926	-4.0	49	320	14.6
750	29	2,431	-6.6	44	314	15.7
700	29	2,969	-9.4	44	304	17.3
650	29	3,533	-12.8	44	302	18.3
600	29	4,145	-16.5	45	296	21.4
550	29	4,792	-20.7	45	292	22.9
500	29	5,493	-25.4	42	290	24.7
450	29	6,242	-31.1	38	287	26.8
400	29	7,073	-37.6		283	29.7
350	29	7,981	-43.6		278	35.0
300	29	9,004	-49.4		274	42.7
250	29	10,190	-52.0		273	53.8
200	29	11,634	-51.6		271	55.0
175	29	12,502	-51.1		271	55.9
150	29	13,502	-52.1		280	47.4
125	29	14,676	-54.5		273	49.1
100	29	16,097	-57.0		275	40.0
80	29	17,507	-57.6		278	28.9
70	29	18,352	-57.9		283	22.3
60	29	19,322	-57.7		291	17.3
50	28	20,474	-57.2		297	15.0
40	28	21,888	-56.0		318	8.5
30	28	23,724	-54.6		4	8.4
25	28	24,894	-53.8		21	9.7
20	24	26,329	-52.9		25	9.9
15	17	28,188	-51.4		21	12.8
10	5	30,831	-49.1			
7						

EL PASO, TEXAS
881 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,193	-.3	38	298	2.1
1000	29	163				
950	29	581				
900	29	1,026				
850	29	1,483	3.7	31	297	3.9
800	29	1,974	1.1	32	288	10.5
750	29	2,491	-1.7	32	285	15.9
700	29	3,037	-4.2		281	21.0
650	29	3,613	-7.5		280	23.5
600	29	4,238	-11.4		280	28.7
550	29	4,890	-15.8		279	34.2
500	29	5,613	-20.7		280	41.2
450	29	6,381	-26.5		278	45.8
400	29	7,225	-32.5		276	48.6
350	29	8,156	-37.7		275	63.3
300	29	9,207	-43.4		270	78.1
250	29	10,419	-48.5		275	90.3
200	29	11,875	-51.6		273	93.6
175	29	12,738	-53.5		272	85.7
150	29	13,724	-56.5		273	77.1
125	29	14,870	-60.4		270	58.9
100	29	16,249	-64.0		275	46.6
80	29	17,611	-64.9		279	33.6
70	29	18,430	-63.8		281	25.3
60	29	19,375	-62.4		287	15.7
50	28	20,503	-60.3		300	8.0
40	28	21,902	-57.8		11	5.1
30	28	23,724	-55.8		58	5.8
25	26	24,883	-54.4		58	7.8
20	25	26,317	-52.7		55	6.6
15	15	28,202	-48.8			
10						
7						

ELY, NEV.
810 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,908	-10.5	83	196	2.3
1000	29	249				
950	29	658				
900	29	1,087				
850	29	1,530				
800	29	2,000	-6.3	62	309	3.3
750	29	2,510	-6.5	48	352	9.7
700	29	3,043	-8.9	44	349	15.3
650	29	3,613	-11.5	39	346	21.0
600	29	4,223	-14.7	32	343	24.1
550	29	4,874	-18.7		342	26.8
500	29	5,581	-23.1		339	29.1
450	29	6,342	-28.5		333	33.0
400	29	7,178	-34.8		325	32.6
350	29	8,095	-42.0		322	35.4
300	29	9,122	-49.4		318	31.1
250	29	10,298	-55.9		306	31.5
200	29	11,711	-56.0		306	39.4
175	29	12,564	-54.7		303	39.2
150	29	13,550	-55.0		297	40.8
125	29	14,712	-56.3		299	38.5
100	29	16,124	-58.3		295	29.5
80	29	17,523	-58.9		299	21.6
70	28	18,371	-58.5		311	16.7
60	28	19,229	-57.9		318	10.1
50	28	20,481	-56.8		346	5.4
40	28	21,898	-55.4		34	9.3
30	26	23,735	-53.9		54	11.5
25	25	24,911	-52.4		57	13.8
20	21	26,361	-51.1		61	16.3
15	14	28,238	-48.8		59	18.6
10						
7						
5						

* FAIRBANKS, ALASKA
988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	135	-17.7	66	14	2.3
1000	29	45				
950	29	433	-14.1	60	78	3.9
900	29	843	-14.5	65	158	5.6
850	29	1,276	-14.5	67	199	8.2
800	29	1,734	-15.7	70	207	14.4
750	29	2,216	-17.4	72	211	18.8
700	29	2,734	-20.0	73	217	20.4
650	29	3,273	-23.2	68	228	22.1
600	29	3,862	-26.7	66	225	21.4
550	29	4,476	-30.6	63	225	23.7
500	29	5,155	-35.1	62	225	25.8
450	29	5,879	-40.0		223	27.0
400	29	6,678	-45.1		228	30.1
350	29	7,559	-50.3		233	32.4
300	29	8,553	-55.1		233	33.0
250	29	9,713	-55.8		241	34.6
200	29	11,140	-53.6		247	39.8
175	29	12,000	-52.9		250	42.2
150	29	12,996	-51.9		253	48.2
125	29	14,176	-52.0		256	49.7
100	29	15,621	-52.1		258	53.4
80	28	17,061	-51.5		261	56.7
70	27	17,931	-51.0		263	59.6
60	25	18,924	-50.5		266	63.3
50	24	20,114	-49.8		267	66.0
40	24	21,575	-49.5		269	69.3
30	21	23,472	-49.5		272	77.5
25	19	24,703	-48.4		274	73.4
20	19	26,175	-47.1		276	73.2
15	16	28,048	-46.4		277	83.3
10	12	30,903	-41.5		270	76.9
7	7	33,576	-36.8			
5	5	35,090				

FORT WORTH, TEXAS
996 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	180	2.7	69	303	1.9
1000	29	148				
950	29	567	3.8	58	294	3.3
900	29	1,003	2.6	49	293	5.6
850	29	1,464	.8	47	286	10.1
800	29	1,951	-.6	39	283	13.0
750	29	2,467	-3.0	36	287	17.3
700	29	3,009	-5.9	34	283	22.0
650	29	3,586	-9.2	33	276	28.2
600	29	4,201	-13.2		273	34.8
550	29	4,861	-17.2		269	39.0
500	29	5,568	-21.9		265	45.3
450	29	6,334	-27.0		265	49.7
400	29	7,178	-32.4		264	56.5
350	29	8,109	-38.2		264	67.8
300	29	9,155	-44.4		261	82.0
250	29	10,361	-48.9		263	89.2
200	29	11,819	-51.4		264	92.9
175	29	12,684	-53.0		265	86.8
150	29	13,672	-56.0		268	77.9
125	29	14,821	-59.4		268	66.4
100	29	16,208	-62.4		268	51.9
80	29	17,582	-63.4		268	38.3
70	29	18,409	-62.8		272	26.8
60	29	19,356	-61.7		276	19.4
50	28	20,487	-59.9		288	12.6
40	26	21,892	-57.5		295	6.8
30	26	23,716	-55.9		340	5.8
25	26	24,879	-54.9		3	5.8
20	26	26,311	-53.1		20	4.7
15	22	28,175	-50.0		325	5.1
10	12	30,863	-44.8		278	13.4
7	8	33,273	-41.0			
5	6	35,567	-36.8			

GLASGOW, MONT.
931 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	696	-5.2	80	303	4.7
1000	29	130				
950	29	533				
900	29	963	-3.4	64	298	15.3
850	29	1,414	-5.0	61	307	25.1
800	29	1,889	-7.3	59	309	26.8
750	29	2,387	-10.1	57	308	28.9
700	29	2,919	-12.9	55	310	30.1
650	29	3,479	-16.2	49	313	29.3
600	29	4,079	-19.7	45	318	30.9
550	29	4,714	-24.0	41	318	31.7
500	29	5,408	-28.7	39	320	33.2
450	29	6,148	-34.2	41	320	35.5
400	29	6,969	-40.2		321	36.5
350	29	7,868	-46.4		320	36.1
300	29	8,877	-52.3		322	38.9
250	29	10,044	-56.2		322	40.2
200	29	11,464	-55.2		320	37.7
175	29	12,319	-53.7		317	35.0
150	29	13,314	-51.9		320	34.6
125	28	14,494	-52.5		313	32.4
100	28	15,934	-52.9		317	28.7
80	27	17,371	-53.0		310	26.0
70	26	18,228	-53.0		316	22.5
60	26	19,221	-53.6		316	20.6
50	26	20,394	-52.9		320	19.0
40	25	21,831	-52.5		334	16.5
30	25	23,691	-52.1		345	16.1
25	24	24,871	-51.8		346	17.9
20	22	26,314	-51.5		349	22.1
15	16	28,155	-50.7		1	22.1
10	8	30,899	-47.3			
7						
5						

GRAND JUNCTION, COLO.
853 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,474	-5.1	54	80	2.9
1000	29	200				
950	29	611				
900	29	1,047				
850	29	1,498			88	3.5
800	29	1,976	-5.2	43	79	2.3
750	29	2,479	-8.1	47	341	3.3
700	29	3,013	-11.3	53	332	8.0
650	29	3,575	-14.4	54	325	11.3
600	29	4,181	-17.6	48	329	15.2
550	29	4,826	-21.8	44	331	18.8
500	29	5,522	-26.4	40	324	22.3
450	29	6,272	-31.6		317	24.9
400	29	7,098	-38.0		319	27.4
350	29	8,005	-44.2		319	32.2
300	29	9,026	-49.3		321	34.0
250	29	10,208	-53.7		309	39.2
200	29	11,640	-53.1		301	42.7
175	29	12,504	-52.2		296	39.2
150	29	13,500	-53.2		294	38.3
125	29	14,669	-55.1		292	35.5
100	29	16,088	-57.3		291	30.5
80	29	17,497	-57.8		293	23.9
70	29	18,344	-57.6		293	18.5
60	28	19,312	-58.0		304	14.2
50	28	20,462	-57.5		325	9.1
40	28	21,878	-55.8		354	8.5
30	26	23,712	-54.4		31	9.1
25	25	24,878	-53.6		34	9.7
20	24	26,313	-52.3		42	14.8
15	22	28,180	-50.5		47	16.5
10	19	30,846	-47.2		49	24.1
7	12	33,242	-44.0			
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	GREAT FALLS, MONT. 886 MB						GREEN BAY, WIS. 987 MB						GREENSBORO, N. C. 981 MB						GUAM, MARIANA IS. 1000 MB						HILO, HAWAII 1017 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	1,123	- 2.1	59	238	14.4	29	210	- 8.6	78	271	3.9	29	273	- .8	77	287	3.1	29	111	24.4	83	70	11.3	29	11	18.9	86	263	4.1
1000	29	150					29	104					29	118					29	113			68	11.5	29	158	20.5	76	309	2.7
950	29	561					29	506	- 6.8	66	295	8.2	29	532	1.1	58	290	8.5	29	566	21.5	83	70	25.4	29	598	17.3	80	55	6.6
900	29	994					29	925	- 7.3	58	297	12.4	29	964	- .3	55	288	14.4	29	1,031	18.6	82	74	24.7	29	1,060	13.9	82	60	9.1
850	29	1,454	- 1.5	46	261	23.1	29	1,369	- 9.0	53	294	14.6	29	1,420	- 2.5	54	290	18.5	29	1,521	16.1	80	79	21.4	29	1,540	10.7	82	67	9.3
800	29	1,934	- 4.6	50	290	22.0	29	1,837	-10.6	49	290	16.5	29	1,930	- 4.4	47	287	22.3	29	2,035	14.1	67	86	17.5	29	2,044	7.7	80	66	11.5
750	29	2,433	- 8.0	52	305	22.5	29	2,332	-12.7	48	288	17.7	29	2,410	- 6.1	41	280	25.1	29	2,580	13.3	33	90	16.3	29	2,577	5.2	65	68	12.8
700	29	2,972	-11.6	55	311	23.9	29	2,856	-15.4	46	283	18.8	29	2,945	- 8.6	35	269	27.2	29	3,159	12.2		85	16.1	29	3,138	4.6		62	14.8
650	29	3,531	-15.2	54	315	25.3	29	3,411	-18.7	43	285	22.0	29	3,517	-11.6	32	266	32.6	29	3,775	9.0		82	17.1	29	3,737	2.3		47	12.8
600	29	4,137	-19.1	54	319	27.2	29	4,005	-22.0	39	286	22.3	29	4,125	-15.0		263	40.2	29	4,434	4.9		80	18.1	29	4,382	- 1.5		37	11.5
550	29	4,777	-23.4	52	319	28.9	29	4,638	-25.3	37	280	23.9	29	4,778	-18.6		262	47.6	29	5,138	.4		87	17.5	29	5,062	- 6.1		11	10.7
500	29	5,470	-28.0	50	319	33.4	29	5,327	-29.5	37	277	27.8	29	5,483	-22.9		262	54.0	29	5,897	- 4.6		95	15.9	29	5,809	-11.1		347	12.6
450	29	6,212	-33.0	46	323	36.9	29	6,063	-34.8		275	29.5	29	6,246	-27.8		263	58.9	29	6,714	- 9.9		97	16.5	29	6,607	-16.6		335	16.1
400	29	7,039	-39.0		325	39.2	29	6,883	-40.6		275	31.1	29	7,087	-33.6		259	68.8	29	7,618	-15.6		92	12.8	29	7,486	-22.8		318	22.5
350	29	7,941	-45.6		325	44.1	29	7,781	-46.6		275	36.5	29	8,013	-38.9		261	76.5	29	8,612	-22.5		110	8.0	29	8,452	-29.2		303	33.8
300	29	8,955	-51.4		327	47.8	29	8,790	-52.1		277	40.0	29	9,059	-44.0		261	82.2	29	9,725	-30.7		101	3.1	29	9,541	-34.8		295	47.4
250	29	10,126	-55.8		325	44.9	28	9,963	-53.9		277	40.8	29	10,269	-48.7		260	89.0	29	10,992	-40.9		161	3.3	29	10,795	-41.9		287	58.1
200	28	11,553	-55.3		325	38.9	28	11,401	-52.0		278	39.2	29	11,727	-50.9		260	92.7	29	12,470	-53.0		169	11.1	28	12,271	-51.5		287	62.0
175	28	12,409	-53.7		321	35.9	28	12,266	-51.3		279	40.8	29	12,593	-52.3		263	85.5	29	13,317	-59.9		180	14.0	28	13,127	-57.1		292	60.8
150	26	13,400	-52.8		313	34.0	27	13,265	-50.8		279	38.7	29	13,585	-51.2		261	77.5	29	14,263	-67.6		173	17.5	28	14,088	-63.3		295	53.2
125	26	14,576	-53.2		314	29.9	27	14,450	-51.7		279	36.9	29	14,743	-57.5		261	66.8	29	15,337	-75.9		159	19.0	27	15,195	-69.6		291	40.0
100	25	16,013	-54.1		312	25.8	27	15,895	-52.9		281	31.9	29	16,143	-60.2		263	54.8	29	16,600	-82.7		138	14.6	27	16,508	-74.4		296	29.3
80	24	17,447	-53.4		308	19.8	27	17,332	-53.6		282	27.6	29	17,531	-60.9		263	37.2	29	17,854	-78.1		107	5.4	26	17,805	-73.8		292	14.6
70	22	18,316	-53.7		318	20.6	27	18,190	-53.4		285	23.9	29	18,367	-60.9		265	31.9	29	18,627	-72.3		81	2.9	26	18,590	-71.0		292	7.4
60	22	19,298	-53.5		317	15.9	27	19,182	-53.6		289	21.2	29	19,321	-60.2		270	27.2	28	19,545	-68.6		273	3.3	25	19,507	-67.9		287	4.3
50	21	20,470	-53.5		329	13.2	27	20,353	-53.8		292	18.1	29	20,463	-58.6		277	18.1	27	20,646	-64.7		262	12.2	25	20,615	-63.7		280	5.2
40	20	21,902	-52.7		318	15.0	27	21,787	-53.2		299	14.4	29	21,870	-57.3		288	11.8	27	22,022	-66.8		261	21.0	24	22,001	-58.4		286	6.0
30	19	23,762	-51.9		343	17.7	26	23,641	-52.6		315	13.6	28	23,697	-55.8		308	9.5	27	23,835	-55.6		275	21.4	24	23,824	-54.9		303	6.4
25	16	24,953	-51.1		5	17.5	24	24,815	-52.2		323	14.8	27	24,859	-54.8		311	5.8	26	25,007	-52.0		281	13.4	24	24,995	-52.5		283	7.6
20	12	26,440	-49.3		25	18.1	22	26,258	-51.7		329	16.9	26	26,289	-53.2		305	7.4	22	26,472	-47.8		303	6.4	24	26,446	-49.7		293	11.1
15	8	28,368	-47.7				19	28,142	-50.0		330	20.0	23	28,149	-50.8		288	10.5	13	28,365	-46.6		338	6.8	21	28,349	-47.1		286	16.1
10							9	30,832	-48.7				12	30,803	-47.2				7	31,061	-44.0									

	HUNTINGTON, W. VA. 985 MB						* INTERNAT. FALLS, MINN. 968 MB						JACKSON, MISS. 1005 MB						JACKSONVILLE, FLA. 1016 MB						JOHN F. KENNEDY INT. AP, N. Y. 1010 MB					
SURFACE	29	246	- 2.5	81	255	2.7	29	360	-14.1	74	272	2.3	29	94	3.5	81	220	.6	29	5	8.1	87	294	3.3	29	5	- 2.0	58	314	8.2
1000	29	126					29	106					29	134			17	1.6	29	135	8.9	77	319	4.9	29	86			310	11.7
950	29	535	- 1.7	68	266	6.6	29	497	-11.9	78	275	3.3	29	552	3.7	66	274	2.5	29	561	7.8	69	268	7.6	29	492	- 4.0	55	322	14.8
900	29	963	- 3.4	65	278	11.8	29	913	-11.1	73	284	10.1	29	991	2.2	61	282	10.7	29	1,005	5.9	62	254	14.0	29	918	- 4.9	54	317	15.9
850	29	1,414	- 5.3	62	276	15.9	29	1,352	-11.2	69	295	12.6	29	1,452	.8	55	286	13.8	29	1,473	5.2	51	255	20.8	29	1,367	- 5.6	51	298	15.3
800	29	1,889	- 7.3	61	275	21.6	29	1,816	-12.4	61	301	15.2	29	1,938	- .2	46	281	19.4	29	1,967	3.8	44	259	26.2	29	1,842	- 7.0	51	288	18.3
750	29	2,389	- 9.3	57	279	21.2	29	2,306	-14.3	56	304	17.5	29	2,452	- 2.2	41	279	23.3	29	2,488	2.2		260	32.4	29	2,346	- 8.7	47	285	22.3
700	29	2,921	-11.8	50	278	23.3	29	2,828	-16.7	56	303	19.4	29	3,000	- 4.4	33	276	28.0	29	3,045	- .2		264	37.7	29	2,876	-11.2	43	281	26.2
650	29	3,486	-14.5	45	278	26.8	29	3,376	-19.4	52	302	21.4	29	3,580	- 7.5	34	271	32.6	29	3,630	- 2.8		260	47.2	29	3,442	-14.0	41	276	29.3
600	29	4,089	-17.7	42	279	28.4	29	3,973	-22.8	52	304	24.3	29	4,201	-11.2		266	38.3	29	4,266	- 6.4		263	54.0	29	4,046	-17.7	40	272	34.6
550	29	4,732	-21.3	41	280	31.7	29	4,599	-26.5	53	300	26.0	29	4,860	-15.3		269	45.1	29	4,932	-10.5	39	263	63.1	29	4,692	-21.8		269	39.4
500	29	5,434	-25.7		278	36.1	29	5,289	-30.8	51	302	27.0	29	5,579	-19.9		268	52.3	29	5,668	-15.1	38	261	70.9	29	5,386	-26.7		267	42.0
450	29	6,184	-30.9		275	39.0	29	6,024	-36.0	48	298	29.5	29	6,350	-24.8		267	62.0	29	6,452	-20.0	42	262	78.7	29	6,141	-31.9		269	46.4
400	29	7,016	-36.5		271	44.9	29	6,838	-41.8		301	30.5	29	7,202	-30.0		264	75.4	29	7,323	-25.5	43	260	90.1	29	6,961	-37.6		267	50.5
350	29	7,930	-42.5		267	52.1	29	7,730	-48.0		301	35.4	29	8,141	-36.2		262	77.5	29	8,279	-31.7		264	97.3	29	7,871	-43.2		266	59.2
300	29	8,960	-47.0		264	59.6	29	8,733	-53.7		299	39.8	29	9,195	-42.9		264	86.1	29	9,352	-39.0		266	113.8	29	8,898	-47.9		267	65.1
250	29	10,159	-50.3		262	61.0	29	9,897	-55.7		297	38.5	29	10,409	-47.9		266	96.3	29	10,581	-46.7		271	107.6	29	10,092	-50.6		268	72.3
200	29	11,613	-50.8		262	66.2	29	11,325	-52.7		297	37.9	29	11,869	-51.9				29	12,034	-54.2				29	11,548	-50.1		266	72.[illegible]
175	29	12,483	-50.4		266	65.9	29	12,190	-51.3		294	34.0	29	12,729	-54.2				29	12,885	-57.1				29	12,420	-50.3		267	68.4
150	29	13,483	-52.6		265	58.9	29	13,191	-51.1		291	33.4	29	13,711	-57.0				28	13,850	-60.9				29	13,424	-51.8		266	64.5
125	29	14,655	-54.8		265	52.8	29	14,375	-51.8		291	32.8	29	14,855	-60.3				28	14,974	-64.8				29	14,599	-54.0		267	55.4
100	29	16,075	-57.0		265	46.0	29	15,819	-52.1		292	30.3	29	16,232	-63.4				28	16,324	-68.1				29	16,027	-55.7		267	45.5
80	28	17,483	-58.0		269	37.1	29	17,264	-52.3		296	25.6	29	17,598	-64.4				28	17,664	-68.0				28	17,443	-56.6		270	36.1
70	27	18,320	-57.7		270	31.1	29	18,125	-52.8		299	25.3	29	18,421	-63.9				28	18,476	-66.2				27	18,298	-56.3		273	29.3
60	27	19,295	-57.6		268	23.1	29	19,122	-53.1		302	23.7	29	19,363	-62.6				28	19,409	-63.7				26	19,271	-56.6		272	22.0
50	26	20,445	-56.9		276	17.7	29	20,297	-53.1		303	22.1	29	20,492	-60.0				28	20,533	-61.5				26	20,429	-56.0		274	18.3
40	26	21,861	-55.9		292	13.0	29	21,737	-52.9		306	22.3	28	21,892	-58.4				28	21,928	-58.7				25	21,854	-54.9		289	14.6
30	26	23,695	-55.0		317	9.3	29	23,594	-53.0		315	20.6	27	23,708	-56.3				28	23,749	-55.8				24	23,693	-54.3		292	13.4
25	26	24,862	-54.2		336	8.0	29	24,769	-53.2		319	20.2	26	24,870	-55.0				28	24,913	-54.5				18	24,864	-54.2		311	10.7
20	26	26,296	-53.0		328	9.5	28	26,205	-52.9		325	23.1	24	26,302	-53.0				28	26,350	-52.4		288	10.5	14	26,312	-53.1		323	10.5
15	21	28,158	-51.0		323	16.9	24	28,070	-51.7		331	24.9	18	28,172	-49.7				25	28,219	-49.0		289	15.2	6	28,172	-51.5			
10	9	30,780	-46.9				18	30,720	-48.7		331	31.3							23	30,932	-40.4		279	21.4						
7							12	33,080	-47.5										13	33,436	-35.3									
5							5	35,393	-41.9																					

	JOHNSTON IS., PACIFIC AREA 1015 MB						KING SALMON, ALASKA 998 MB						+ KOROR, CAROLINE IS. 1007 MB						KOTZEBUE, ALASKA 1008 MB						LAKE CHARLES, LA. 1017 MB					
SURFACE	29	3	24.5	75	83	16.1	28	15	-10.7	75	112	3.3	29	30	26.5	85	60	10.1	29	5	-29.9	73	22	1.0	29	5	5.7	84	21	2.5
1000	29	134	23.2	76	82	18.5	28	- 7			51	1.9	29	96	25.9	85	61	12.6	29	56			120	1.4	29	140	8.1	70	27	3.5
950	29	576	19.5	78	85	20.8	28	390	- 9.3	70	151	4.9	29	546	22.6	84	64	22.3	29	436	-21.1	69	94	4.1	29	562	6.9	61	343	4.1
900	29	1,044	16.0	79	85	21.8	28	807	- 9.9	69	198	7.4	29	1,018	20.0	80	68	25.4	29	833	-19.4	70	104	6.0	29	1,006	5.7	56	295	9.3
850	29	1,528	12.6	75	82	20.6	28	1,248	-10.4	64	224	10.7	29	1,510	17.4	76	69	21.8	29	1,258	-19.4	68	99	5.6	29	1,473	4.4	43	282	14.2
800	29	2,035	10.2	61	79	19.2	28	1,713	-12.4	59	235	14.0	29	2,028	15.3	68	79	19.4	29	1,709	-20.0	65	99	5.4	29	1,965	2.8	36	277	18.5
750	29	2,572	9.9		74	17.3	28	2,203	-14.9	56	240	15.0	29	2,570	13.1	59	81	17.3	29	2,187	-21.6	61	113	4.7	29	2,486	.8	35	273	22.3
700	29	3,143	7.8		73	14.4	28	2,723	-17.6	52	240	16.1	29	3,152	10.4	53	85	18.1	29	2,692	-23.8	59	145	7.2	29	3,038	- 1.6		268	28.7
650	29	3,744	5.2		69	13.2	28	3,273	-20.6	49	242	19.2	29	3,763	7.3	47	85	21.4	29	3,226	-26.7	56	157	8.2	29	3,624	- 4.3		264	37.3
600	29	4,400	1.5		46	11.1	28	3,863	-23.7	47	241	21.4	29	4,422	3.6	47	89	22.1	29	3,805	-30.2	53	163	9.1	29	4,253	- 7.8		264	46.0
550	29	5,088	- 2.8		16	11.1	28	4,490	-27.8	48	242	24.1	29	5,121	- .3	42	92	24.1	29	4,414	-34.2	52	182	11.1	29	4,921	-12.4		264	52.6
500	29	5,845	- 7.5		356	13.6	28	5,172	-32.5	46	238	26.2	29	5,881	- 4.8		92	25.1	29	5,080	-38.4		191	13.0	29	5,646	-17.2		261	59.6
450	29	6,654	-12.8		345	18.5	28	5,904	-37.4		238	29.1	29	6,701	- 9.4	33	91	25.3	28	5,800	-43.1		186	14.2	29	6,426	-22.0		261	68.8
400	29	7,549	-17.9		325	24.1	28	6,712	-42.5		239	32.8	29	7,606	-14.8	34	96	22.0	28	6,585	-48.3		197	16.1	29	7,287	-27.0		259	80.6
350	29	8,533	-25.0		311	27.2	28	7,603	-48.0		235	37.1	29	8,603	-21.6		94	20.8	28	7,454	-53.3		208	19.6	29	8,237	-33.3		260	89.9
300	29	9,636	-32.6		305	29.9	28	8,608	-52.5		235	40.2	29	9,721	-29.9		97	19.0	28	8,437	-56.9		215	22.1	29	9,305	-39.9		260	105.5
250	29	10,895	-41.8		300	29.9	28	9,784	-52.2		237	39.0	29	10,993	-40.2		113	20.8	28	9,591	-56.4		227	28.4	29	10,532	-46.[illegible]		260	111.7
200	29	12,372	-52.8		296	31.7	28	11,234	-50.3		232	36.9	29	12,474	-52.9		115	23.7	28	11,014	-54.4		230	30.7	29	11,991	-53.0			
175	28	13,225	-59.3		290	36.7	28	12,107	-49.6		234	37.7	27	13,323	-60.1		119	27.0	28	11,870	-53.9		236	34.4	29	12,846	-55.8			
150	28	14,174	-66.4		290	32.8	28	13,117	-49.0		239	37.1	27	14,267	-67.7		116	32.2	28	12,860	-53.5		239	38.3	29	13,820	-58.8			
125	28	15,258	-73.7		291	28.9	28	14,315	-48.7		243	38.3	27	15,344	-74.9		116	33.8	28	14,033	-53.2		240	44.7	29	14,955	-62.7			
100	28	16,539	-80.1		291	18.5	27	15,783	-48.3		243	37.1	27	16,621	-79.3		112	16.3	28	15,472	-52.5		245	52.4	29	16,316	-66.5			
80	28	17,802	-78.7		302	8.0	27	17,250	-48.7		247	39.8	26	17,892	-76.4		45	6.8	28	16,916	-51.7		246	60.6	27	17,665	-66.6			
70	28	18,569	-74.0		307	4.5	27	18,129	-48.1		251	36.5	26	18,669	-71.3		1	2.5	28	17,792	-51.3		251	65.5	27	18,483	-66.1			
60	27	19,478	-69.1		272	4.5	27	19,146	-48.0		254	34.4	25	19,594	-65.2		290	6.8	28	18,786	-50.6		253	70.3	27	19,416	-63.7			
50	26	20,580	-64.2		266	8.4	27	20,349	-47.8		253	34.2	24	20,714	-61.5		283	12.2	28	19,976	-49.9		255	73.4	27	20,541	-61.1		276	7.8
40	26	21,964	-59.4		286	13.0	27	21,823	-47.0		258	34.8	22	22,117	-57.4		266	19.4	27	21,442	-49.0		256	77.3	27	21,938	-58.1		282	9.9
30	26	23,784	-55.5		282	11.8	27	23,733	-46.2		261	34.8	21	23,941	-55.7		265	29.1	25	23,333	-48.0		259	82.8	26	23,764	-55.7		351	3.9
25	26	24,955	-52.4		288	10.5	25	24,958	-45.8		264	32.4	21	25,104	-53.5		263	21.2	24	24,547	-47.1		261	80.8	26	24,930	-54.1		13	3.9
20	26	26,410	-48.9		282	12.6	21	26,452	-44.2		267	32.1	20	26,552	-50.4		257	14.6	23	26,056	-45.6		260	83.9	25	26,372	-51.4		311	4.9
15	24	28,317	-46.5		279	14.8	12	28,415	-41.9				14	28,442	-48.3		131	6.4	16	28,044	-43.0		259	90.5	21	28,259	-47.8		296	8.7
10	17	31,034	-43.3		245	7.4							6	31,093	-45.5				5	30,731	-37.6				5	30,952	-42.3			
7	5	33,439	-40.1																											

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1964

LANDER, WYO. 827 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	1,696	-9.2	62	250	2.1
1000	29	198				
950	29	600				
900	29	1,027				
850	29	1,478				
800	29	1,951	-5.7	49	311	3.7
750	29	2,452	-7.6	45	314	6.0
700	29	2,990	-10.7	44	321	14.6
650	29	3,553	-14.5	44	326	19.2
600	29	4,159	-18.5	44	329	20.4
550	29	4,798	-22.5	40	328	24.7
500	29	5,496	-27.2	41	325	26.2
450	29	6,244	-32.4	36	328	28.9
400	29	7,068	-39.0		330	31.1
350	29	7,971	-45.1		328	33.6
300	29	8,989	-50.6		324	35.5
250	29	10,163	-55.3		322	40.4
200	29	11,587	-54.3		312	35.7
175	29	12,447	-52.6		306	35.5
150	29	13,445	-51.7		304	34.2
125	29	14,624	-53.3		302	33.8
100	29	16,058	-54.0		301	27.6
80	29	17,484	-55.1		298	19.8
70	29	18,337	-55.3		300	16.1
60	29	19,321	-55.0		311	11.5
50	29	20,485	-54.9		326	9.5
40	28	21,917	-53.9		344	9.1
30	28	23,769	-52.7		18	11.3
25	28	24,948	-51.9		29	11.8
20	26	26,390	-50.9		38	16.1
15	16	28,273	-48.9		42	18.1
10						
7						
5						

LAS VEGAS, NEV. 943 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	660	3.3	31	310	4.1
1000	29	181				
950	29	601				
900	29	1,044	6.0	26	350	9.3
850	29	1,509	3.2	29	344	12.2
800	29	1,998	.1	30	348	12.6
750	29	2,511	-3.2	31	348	13.6
700	29	3,055	-5.9	31	346	14.6
650	29	3,627	-8.8		340	16.1
600	29	4,248	-12.2		332	22.1
550	29	4,902	-16.5		331	26.2
500	29	5,618	-21.1		330	29.3
450	29	6,375	-26.7		327	32.4
400	29	7,226	-33.5		323	35.9
350	29	8,150	-40.4		321	37.9
300	29	9,185	-47.6		314	41.2
250	29	10,372	-53.5		303	48.0
200	29	11,799	-55.3		293	54.8
175	29	12,653	-54.6		288	56.9
150	29	13,638	-55.6		287	55.6
125	26	14,796	-57.6		287	46.6
100	26	16,195	-60.5		291	36.5
80	25	17,584	-60.8		296	24.3
70	23	18,413	-60.5		299	18.1
60	20	19,377	-59.2		306	13.4
50	19	20,527	-57.5		341	8.9
40	19	21,941	-56.1		35	8.2
30	18	23,781	-53.9		60	12.6
25	17	24,954	-52.7		70	15.2
20	15	26,397	-50.6		72	18.6
15	12	28,283	-48.2		69	22.5
10						
7						
5						

* **LIHUE, HAWAII** 1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	36	21.3	74	50	9.5
1000	29	166	21.0	72	56	13.0
950	29	607	17.3	77	66	16.3
900	29	1,068	13.7	78	70	16.3
850	29	1,548	10.3	78	71	15.0
800	29	2,051	8.1	59	75	14.0
750	29	2,583	7.2	27	77	13.6
700	29	3,148	5.3	17	70	9.5
650	29	3,746	2.4	15	49	7.8
600	29	4,393	-1.6	16	12	8.7
550	29	5,070	-6.5	17	357	8.2
500	29	5,817	-12.0	16	345	10.9
450	29	6,605	-17.9	17	323	15.7
400	29	7,485	-24.3	19	318	21.8
350	29	8,444	-30.7	20	315	32.1
300	29	9,526	-36.6	16	310	44.1
250	29	10,770	-43.7		299	53.0
200	29	12,244	-51.7		292	58.1
175	29	13,099	-57.1		292	60.0
150	29	14,061	-63.1		291	53.8
125	29	15,165	-69.4		288	46.8
100	29	16,479	-74.3		288	30.9
80	28	17,772	-73.6		290	15.7
70	28	18,558	-70.8		291	9.3
60	28	19,476	-68.4		281	3.1
50	28	20,581	-63.6		276	1.6
40	28	21,963	-59.4		286	3.9
30	28	23,779	-55.7		13	3.3
25	28	24,945	-53.7		303	3.3
20	27	26,385	-51.1		292	7.2
15	27	28,267	-48.3		289	7.6
10	26	30,961	-43.9		251	12.0
7	21	33,389	-38.2		260	15.0
5	14	35,736	-33.4		244	12.8

LITTLE ROCK, ARK. 1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	79	1.1	79	324	2.7
1000	29	135			343	3.3
950	29	553	2.1	55	331	3.5
900	29	986	.1	58	305	6.2
850	29	1,443	-1.4	54	294	9.3
800	29	1,925	-2.9	48	294	13.4
750	29	2,434	-4.9	43	287	17.3
700	29	2,975	-7.3	43	278	21.2
650	29	3,544	-10.1	40	275	24.7
600	29	4,163	-13.8	36	273	29.3
550	29	4,814	-18.2		271	37.3
500	29	5,525	-23.1	36	266	43.5
450	29	6,278	-28.5		263	45.1
400	29	7,123	-34.3		266	53.8
350	29	8,045	-40.1		271	59.6
300	29	9,083	-45.7		271	69.3
250	29	10,285	-49.8		271	63.9
200	29	11,741	-50.9			
175	29	12,607	-52.1			
150	29	13,600	-54.6			
125	29	14,759	-57.4			
100	29	16,159	-59.9			
80	27	17,542	-60.9			
70	27	18,374	-60.7			
60	27	19,332	-60.7			
50	27	20,470	-59.1			
40	27	21,875	-57.4			
30	27	23,700	-55.8			
25	26	24,863	-54.6			
20	25	26,298	-53.4			
15	17	28,164	-50.9			
10	5	30,801	-46.4			
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MCGRATH, ALASKA 991 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	103	-18.4	63	274	2.1
1000	27	29				
950	27	417	-16.6	68	61	5.4
900	27	821	-15.6	69	82	8.2
850	27	1,254	-14.4	67	96	7.4
800	27	1,714	-15.1	67	143	5.6
750	27	2,199	-16.7	66	184	7.8
700	27	2,717	-19.3	62	197	9.5
650	27	3,263	-22.6	59	200	11.5
600	27	3,848	-26.1	57	195	11.7
550	27	4,470	-29.6	53	201	13.2
500	27	5,149	-33.7	50	202	15.7
450	27	5,876	-38.5		206	17.3
400	27	6,681	-43.8		209	20.8
350	27	7,566	-49.9		219	20.0
300	27	8,562	-54.5		225	23.1
250	27	9,730	-53.8		242	28.9
200	27	11,173	-51.3		242	33.8
175	27	12,042	-50.3		241	35.4
150	27	13,049	-49.8		245	40.6
125	27	14,241	-49.8		246	42.7
100	27	15,701	-49.6		253	45.5
80	27	17,163	-49.0		256	50.5
70	27	18,043	-48.7		258	48.2
60	26	19,051	-48.5		260	50.7
50	26	20,251	-48.4		260	52.6
40	26	21,721	-47.9		263	53.6
30	23	23,584	-47.7		267	56.1
25	23	24,789	-47.4			
20	20	26,272	-47.6			
15	9	28,255	-44.7			
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+ **MAJURO, MARSHALL IS.** 1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	3	28.6	72	70	15.0
1000	29	88	27.3	72	67	17.5
950	29	529	22.9	75	63	23.1
900	29	1,011	19.4	77	70	23.9
850	29	1,502	17.0	72	75	21.4
800	29	2,019	15.9	56	82	15.5
750	29	2,560	13.9	47	85	14.2
700	29	3,145	10.9	42	89	13.6
650	29	3,757	7.7	38	86	14.0
600	29	4,415	4.2		85	17.3
550	29	5,113	.7		79	17.9
500	29	5,879	-3.6		82	20.8
450	29	6,699	-8.6		78	22.7
400	29	7,608	-14.1		81	19.6
350	29	8,609	-20.5		84	15.5
300	29	9,733	-28.8		84	12.2
250	29	11,011	-38.8		107	10.9
200	29	12,501	-51.5		124	11.3
175	29	13,354	-58.6		130	10.1
150	29	14,306	-66.3		115	9.7
125	29	15,388	-74.4		90	12.4
100	28	16,662	-82.6		90	16.7
80	27	17,917	-76.3		126	4.9
70	27	18,698	-69.4		282	7.0
60	27	19,631	-63.6		268	14.6
50	27	20,762	-59.6		265	20.6
40	26	22,166	-57.4		271	27.2
30	25	23,996	-54.7		271	27.2
25	25	25,168	-52.8		269	23.9
20	25	26,618	-50.1		254	10.3
15	21	28,511	-47.0		97	13.8
10	13	31,212	-42.9			
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MARCUS IS., N. PACIFIC 1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	9	20.7	70	346	4.3
1000	29	159	19.4	69	341	6.2
950	29	597	15.8	73	330	7.0
900	29	1,056	12.5	70	313	8.0
850	29	1,534	10.2	60	285	8.7
800	29	2,037	8.9	44	274	11.8
750	29	2,571	7.8	32	275	15.5
700	29	3,137	6.2	27	268	20.2
650	29	3,740	3.9	20	268	27.0
600	29	4,389	.8	20	272	33.2
550	29	5,078	-2.9	21	273	38.5
500	29	5,831	-7.8	22	274	43.9
450	29	6,640	-13.1	23	273	50.3
400	29	7,531	-18.6	23	273	56.7
350	29	8,514	-25.0	22	271	61.6
300	29	9,617	-32.9	23	272	63.7
250	29	10,875	-42.1		271	66.4
200	29	12,348	-53.1		269	70.7
175	29	13,196	-59.3		267	74.0
150	28	14,147	-66.4		267	69.0
125	26	15,230	-73.3		265	62.5
100	23	16,518	-78.0		266	48.0
80	23	17,796	-76.1		263	37.3
70	22	18,572	-72.2		264	29.7
60	22	19,490	-68.2		262	22.3
50	20	20,603	-64.2		259	17.9
40	16	21,979	-58.4		254	10.9
30	15	23,809	-54.9		251	8.2
25	14	24,984	-52.7		297	6.6
20	13	26,436	-50.4		343	6.0
15	12	28,315	-49.3		302	5.2
10	11	30,998	-45.4		267	10.5
7	8	33,396	-41.6			
5	7	35,720	-35.4			
4	7	37,282	-33.2			
3	7	39,308	-32.3			

MEDFORD, OREG. 979 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	401	-2.3	91	296	.8
1000	29	232				
950	29	645	2.7	70	333	1.6
900	29	1,082	2.8	57	107	1.4
850	29	1,544	1.9	46	5	1.2
800	29	2,032	.1	41	2	7.0
750	29	2,543	-1.9	35	346	14.0
700	29	3,093	-4.7	29	348	18.5
650	29	3,667	-8.2		346	23.1
600	29	4,290	-11.9	29	342	25.3
550	29	4,944	-16.1		339	27.8
500	29	5,662	-21.2		335	30.1
450	29	6,425	-27.1		334	32.2
400	29	7,270	-33.8		327	32.1
350	29	8,192	-41.1		333	35.0
300	29	9,222	-49.3		331	34.4
250	29	10,395	-57.3		323	30.7
200	29	11,788	-60.5		313	36.1
175	29	12,626	-57.5		308	36.1
150	29	13,603	-56.1		308	36.1
125	29	14,759	-57.4		305	31.7
100	28	16,161	-58.3		308	28.9
80	28	17,563	-58.5		315	22.0
70	28	18,409	-57.3		318	17.5
60	27	19,383	-56.6		332	12.8
50	27	20,542	-55.6		3	8.5
40	27	21,968	-54.0		29	8.9
30	27	23,820	-52.7		49	14.6
25	26	24,996	-51.8		55	18.5
20	25	26,447	-50.3		57	23.1
15	25	28,334	-48.1		59	28.0
10	18	31,047	-44.0		67	34.0
7	9	33,482	-40.2			
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* **MIAMI, FLA.** 1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	4	15.5	87	322	1.0
1000	28	133	16.0	76	74	.4
950	28	570	14.4	67	224	3.1
900	28	1,025	12.5	63	240	10.7
850	28	1,504	11.3	57	247	17.1
800	28	2,010	10.1	49	249	21.0
750	28	2,541	7.6	43	248	27.2
700	28	3,111	5.1	41	252	29.5
650	28	3,709	2.3	42	255	34.6
600	28	4,357	-.9	42	256	38.9
550	28	5,036	-5.1	39	257	44.7
500	28	5,790	-9.6	35	256	51.5
450	28	6,586	-15.1	35	257	57.7
400	28	7,478	-20.9	31	258	62.5
350	28	8,450	-28.3	30	260	64.5
300	28	9,537	-36.9	30	260	68.8
250	28	10,776	-45.5		260	75.2
200	28	12,236	-54.2		263	82.2
175	28	13,083	-58.7		263	82.2
150	28	14,039	-64.0		261	75.0
125	28	15,141	-69.7		260	63.7
100	28	16,456	-74.7		262	54.4
80	26	17,755	-74.3		260	38.9
70	26	18,545	-72.0		255	29.9
60	25	19,453	-68.3		253	21.6
50	24	20,560	-63.9		262	18.8
40	24	21,941	-60.0		269	14.6
30	24	23,757	-55.7		272	14.0
25	24	24,923	-53.9		268	14.4
20	24	26,364	-51.8		268	18.5
15	23	28,246	-47.7		270	27.0
10	21	30,976	-39.7		260	36.5
7	20	33,445	-35.7		252	55.4
5	6	35,782	-33.2			
4						
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* **MIDLAND, TEXAS** 915 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	874	-1.0	69	297	1.9
1000	29	152				
950	29	566				
900	29	1,003	1.9	54	283	1.4
850	29	1,464	1.9	48	254	6.2
800	29	1,953	.7	44	275	13.4
750	29	2,469	-1.7	41	280	17.7
700	29	3,015	-4.9	39	279	21.2
650	29	3,589	-8.1	33	277	26.2
600	29	4,212	-11.8	31	276	30.9
550	29	4,869	-16.1	31	275	35.0
500	29	5,585	-21.2	27	272	41.4
450	29	6,351	-26.3	28	271	48.6
400	29	7,197	-32.1	29	271	57.7
350	29	8,129	-37.6	31	268	71.7
300	29	9,178	-43.9		268	85.7
250	29	10,388	-48.7		269	93.0
200	29	11,846	-51.5		268	87.0
175	29	12,709	-53.6		269	84.5
150	29	13,693	-57.0		266	79.4
125	29	14,838	-60.6		271	69.7
100	29	16,218	-63.1		272	59.[illegible]
80	29	17,585	-64.6		277	39.6
70	29	18,409	-63.9		274	28.0
60	29	19,349	-62.7		280	9.5
50	28	20,476	-60.8		296	7.0
40	27	21,872	-58.4		341	3.7
30	27	23,688	-56.7		43	3.5
25	26	24,845	-55.4		356	4.1
20	24	26,268	-54.0		26	4.9
15	22	28,120	-51.7		348	7.8
10	16	30,754	-47.1			
7	6	33,186	-42.7			
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MONTGOMERY, ALA. 1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	61	3.6	78	339	1.2
1000	29	134	4.5	65	360	1.6
950	29	553	4.2	62	300	3.5
900	29	991	2.5	59	285	8.7
850	29	1,452	1.0	55	280	14.4
800	29	1,939	.2	44	273	20.0
750	29	2,454	-1.8		270	26.4
700	29	3,001	-4.1		268	34.8
650	29	3,578	-7.0		266	41.8
600	29	4,203	-10.4		264	49.3
550	29	4,865	-14.5		260	56.3
500	29	5,584	-19.1		259	63.5
450	29	6,358	-24.2		260	73.0
400	29	7,210	-29.3		260	84.3
350	29	8,154	-35.1		261	93.2
300	29	9,214	-42.1		261	101.6
250	29	10,434	-47.2		262	119.7
200	29	11,890	-52.9		265	118.7
175	29	12,748	-55.2		266	110.5
150	29	13,727	-57.7			
125	29	14,868	-61.5			
100	28	16,245	-64.1			
80	27	17,606	-65.3			
70	26	18,429	-63.6			
60	25	19,364	-62.7			
50	25	20,495	-60.1		274	15.7
40	24	21,893	-58.1		291	8.2
30	23	23,713	-55.9		301	7.2
25	23	24,875	-54.8		306	5.2
20	23	26,309	-52.7		332	4.1
15	20	28,181	-49.7		296	7.6
10	10	30,867	-44.7			
7						
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NANTUCKET, MASS. 1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	14	-2.5	72	298	5.8
1000	28	63			293	8.5
950	28	466	-4.2	64	298	13.2
900	28	895	-4.5	56	292	14.0
850	28	1,345	-5.4	52	281	17.1
800	28	1,820	-7.0	51	273	19.8
750	28	2,321	-8.8	49	272	24.7
700	28	2,855	-10.9	49	272	30.3
650	28	3,418	-14.0	48	271	34.8
600	28	4,025	-17.7	48	272	41.4
550	28	4,666	-22.1	45	272	43.5
500	28	5,366	-26.6	45	271	45.6
450	28	6,111	-31.9		270	51.1
400	28	6,943	-37.4		267	57.5
350	28	7,854	-42.7		266	62.9
300	28	8,882	-47.7		262	72.1
250	28	10,079	-49.8		267	73.8
200	28	11,538	-49.8		263	69.3
175	28	12,410	-50.4		261	69.2
150	27	13,409	-51.9		263	65.3
125	27	14,586	-53.7		265	58.7
100	27	16,014	-55.3		265	48.2
80	27	17,434	-56.4		263	36.7
70	27	18,280	-55.8		264	33.6
60	27	19,263	-56.2		266	23.7
50	26	20,426	-56.0		277	16.7
40	26	21,850	-54.7		273	14.6
30	26	23,689	-54.5		302	9.7
25	24	24,862	-54.0		297	7.8
20	23	26,295	-53.1		317	7.6
15	21	28,152	-51.2		299	13.8
10	18	30,793	-46.9		283	35.0
7	16	33,178	-43.5		280	48.8
5	8	35,473	-41.1			

NASHVILLE, TENN. 994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	177	-.4	85	335	1.0
1000	29	133			42	1.9
950	29	544	-.1	68	271	4.3
900	29	976	-2.2	65	279	7.6
850	29	1,429	-4.0	63	273	11.3
800	29	1,906	-5.8	62	272	15.3
750	29	2,409	-7.6	55	279	14.4
700	29	2,945	-9.7	44	275	18.5
650	29	3,512	-12.4	37	275	19.8
600	29	4,122	-15.8		276	25.4
550	29	4,771	-19.9		271	31.1
500	29	5,472	-24.8	39	269	33.2
450	29	6,223	-30.4		263	36.7
400	29	7,058	-35.9		257	42.3
350	28	7,972	-41.6		258	52.6
300	28	9,005	-46.6		256	58.3
250	28	10,204	-50.2		258	63.9
200	27	11,662	-51.2		259	73.6
175	27	12,528	-52.2		260	69.3
150	26	13,517	-53.8			
125	26	14,680	-56.7			
100	25	16,081	-59.0			
80	24	17,472	-59.6			
70	24	18,312	-59.6			
60	23	19,273	-59.7			
50	23	20,416	-58.1			
40	21	21,831	-56.9			
30	20	23,665	-55.2			
25	19	24,833	-54.3			
20	19	26,266	-53.1			
15	17	28,132	-50.6			
10	15	30,798	-46.5			
7	12	33,165	-43.0			
5	10	35,436	-39.8			

NOME, ALASKA 1003 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	26	7	-21.5	73	33	4.9
1000	26	26			31	4.7
950	26	410	-16.9	59	92	3.9
900	26	816	-17.1	62	113	4.1
850	26	1,244	-17.6	63	133	3.9
800	26	1,698	-18.8	62	145	4.3
750	26	2,178	-20.1	59	170	4.7
700	25	2,696	-22.8	57	191	6.4
650	25	3,231	-25.7	56	190	8.2
600	25	3,813	-29.1	50	197	12.4
550	24	4,418	-32.8	49	194	13.2
500	24	5,092	-36.8		203	18.1
450	24	5,808	-41.1		194	19.6
400	24	6,608	-46.2		203	22.5
350	24	7,485	-51.6		214	28.2
300	23	8,481	-55.3		221	32.4
250	23	9,644	-54.7		220	33.4
200	23	11,081	-52.2		224	35.7
175	23	11,947	-51.1		227	40.4
150	22	12,951	-50.5		235	46.4
125	22	14,141	-49.8		236	50.3
100	22	15,604	-48.8		240	57.9
80	21	17,078	-47.6		245	64.7
70	21	17,965	-47.0		247	66.2
60	21	18,983	-46.8		251	72.3
50	20	20,188	-46.0		255	73.4
40	20	21,676	-45.2		255	73.6
30	18	23,595	-44.8		256	77.1
25	16	24,793	-44.4		260	77.7
20	14	26,288	-42.5		260	82.9
15	9	28,168	-41.3			
10						
7						
5						

NORFOLK, VA. 1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	9	1.5	76	295	5.2
1000	29	103			309	8.0
950	29	513	.9	57	304	12.4
900	29	949	-.7	55	294	14.6
850	29	1,405	-2.3	53	284	17.5
800	29	1,885	-4.1	49	275	19.0
750	29	2,392	-6.0	45	268	23.3
700	29	2,931	-8.2	40	262	29.5
650	29	3,501	-11.4		264	34.2
600	29	4,113	-15.2		262	40.4
550	29	4,762	-19.1		261	46.4
500	29	5,468	-23.6		263	51.1
450	29	6,226	-28.4		262	59.8
400	29	7,066	-34.0		258	68.2
350	29	7,990	-39.2		259	82.4
300	29	9,034	-44.2		260	88.6
250	29	10,245	-48.3		265	86.8
200	29	11,703	-51.0		267	89.6
175	29	12,571	-51.7		264	86.4
150	28	13,564	-54.1		267	76.5
125	28	14,726	-56.7		265	67.2
100	28	16,131	-59.3		265	54.0
80	27	17,525	-60.0		263	40.4
70	27	18,364	-59.6		265	32.2
60	27	19,325	-58.7		267	22.3
50	27	20,474	-57.8		270	17.9
40	26	21,887	-56.3		285	12.0
30	24	23,723	-54.7		356	6.2
25	23	24,891	-54.0		10	4.7
20	19	26,323	-52.6		40	4.3
15	10	28,190	-49.3			
10						
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NORTH PLATTE, NEBR.
915 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	848	-7.6	77	325	5.2
1000	29	149				
950	29	554				
900	29	976	-5.7	74	319	8.5
850	29	1,426	-4.6	62	322	17.5
800	29	1,901	-7.0	57	324	18.5
750	29	2,401	-9.3	52	318	18.5
700	29	2,933	-11.9	52	315	18.8
650	29	3,496	-15.0	51	313	18.8
600	29	4,098	-18.6	47	306	21.2
550	29	4,740	-22.7	41	300	22.3
500	29	5,434	-27.6	39	294	22.5
450	29	6,178	-33.0	40	297	22.5
400	29	7,001	-39.1		293	24.1
350	29	7,902	-45.8		289	25.4
300	29	8,915	-51.4		287	27.2
250	29	10,090	-54.1		291	31.9
200	29	11,524	-52.8		289	35.9
175	29	12,387	-52.0		283	36.7
150	29	13,385	-51.9		283	37.5
125	27	14,558	-53.3		283	32.4
100	27	15,989	-55.0		284	30.1
80	27	17,412	-55.8		291	26.2
70	27	18,266	-55.8		293	20.0
60	27	19,243	-56.3		295	15.5
50	25	20,406	-55.4		310	13.0
40	25	21,831	-54.6		339	10.9
30	24	23,679	-53.8		4	8.5
25	24	24,853	-53.3		18	10.1
20	23	26,286	-52.6		21	12.2
15	23	28,151	-51.1		29	14.4
10	21	30,813	-47.9		29	20.2
7	21	33,194	-44.3		16	21.0
5	18	35,450	-41.6			

* OAKLAND, CALIF.
1021 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	6	8.5	60	34	2.9
1000	29	176	10.0	52	18	5.8
950	29	599	9.1	41	13	12.0
900	29	1,048	8.3	37	15	16.7
850	29	1,519	6.8	33	4	14.0
800	29	2,015	4.5	31	354	14.6
750	29	2,535	1.6	30	350	15.9
700	29	3,091	-1.7	29	347	18.8
650	29	3,670	-5.6	28	348	20.6
600	29	4,301	-9.9	26	346	23.5
550	29	4,957	-14.3	27	342	25.1
500	29	5,683	-19.5	27	338	27.6
450	29	6,451	-25.5	28	331	29.9
400	29	7,303	-32.2	28	323	27.2
350	29	8,230	-39.9	29	321	26.2
300	29	9,266	-48.1		323	29.9
250	29	10,446	-56.0		313	30.3
200	28	11,855	-57.9		290	37.7
175	28	12,701	-56.3		291	40.2
150	28	13,682	-56.1		288	41.0
125	28	14,835	-58.7		292	36.9
100	28	16,231	-60.5		298	29.5
80	27	17,623	-61.0		304	21.2
70	27	18,452	-60.8		309	17.1
60	27	19,415	-59.3		318	13.6
50	27	20,560	-58.5		357	8.9
40	27	21,971	-56.0		34	10.1
30	26	23,303	-54.6		55	12.6
25	24	24,972	-53.4		57	15.5
20	24	26,414	-51.5		65	21.4
15	23	28,290	-49.4		70	25.6
10	21	30,080	-45.2		68	32.1
7	16	33,435	-41.6		63	40.6
5						

OKLAHOMA CITY, OKLA.
969 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	392	-.4	75	322	2.7
1000	29	139				
950	29	551	1.3	63	309	3.7
900	29	986	.4	57	290	5.4
850	29	1,443	-.9	51	294	9.7
800	29	1,926	-2.7	47	299	12.2
750	29	2,433	-5.3	45	292	15.3
700	29	2,975	-8.3	46	290	19.6
650	29	3,542	-11.6	41	288	22.9
600	29	4,156	-15.5	38	280	26.0
550	29	4,805	-19.7		278	31.3
500	29	5,510	-24.1		273	37.3
450	29	6,265	-29.6		270	40.6
400	29	7,101	-35.5		272	45.1
350	29	8,019	-41.7		271	51.7
300	29	9,051	-47.1		269	62.2
250	29	10,249	-50.6		268	74.0
200	29	11,702	-50.8		265	80.4
175	29	12,570	-51.6		266	76.9
150	29	13,565	-53.8		268	70.1
125	29	14,728	-56.7		267	61.6
100	28	16,134	-59.0		271	49.1
80	28	17,530	-60.0		272	34.8
70	28	18,368	-60.2		273	29.7
60	27	19,322	-59.9		275	20.0
50	25	20,463	-58.5		286	12.0
40	24	21,867	-56.9		330	6.6
30	22	23,694	-55.5		345	8.4
25	18	24,864	-54.4		30	6.0
20	14	26,295	-52.9		22	6.8
15	9	28,156	-50.5			
10						
7						
5						

OMAHA, NEBR.
966 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	403	-5.0	73	283	3.9
1000	29	130				
950	29	535	-3.6	70	279	5.8
900	29	963	-3.5	64	300	11.7
850	29	1,414	-5.2	59	307	13.2
800	29	1,888	-7.6	57	307	14.0
750	29	2,388	-9.9	55	309	15.3
700	29	2,919	-12.7	52	311	18.1
650	29	3,480	-15.5	48	309	19.6
600	29	4,083	-18.8	44	309	20.4
550	29	4,724	-23.0		305	22.7
500	29	5,419	-27.7	38	303	23.5
450	29	6,163	-33.1		302	24.9
400	29	6,987	-39.4		297	26.0
350	29	7,890	-45.0		294	28.9
300	29	8,908	-50.1		288	31.9
250	29	10,090	-53.1		285	36.9
200	29	11,530	-51.7		264	40.4
175	29	12,398	-51.0		283	39.6
150	29	13,400	-51.6		283	39.4
125	29	14,581	-52.6		283	38.9
100	29	16,018	-53.8		286	32.6
80	29	17,446	-55.1		292	26.6
70	29	18,297	-54.8		292	22.1
60	29	19,284	-55.0		297	18.5
50	28	20,448	-55.1		302	14.2
40	27	21,879	-54.1		322	11.5
30	26	23,729	-53.1		353	9.9
25	23	24,917	-52.5		9	10.1
20	22	26,366	-51.8		25	12.0
15	15	28,241	-49.9			
10	5	30,909	-45.1			
7						
5						

PEORIA, ILL.
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	200	-5.0	83	312	1.7
1000	28	130				
950	28	536	-2.7	62	303	7.4
900	28	964	-4.1	56	311	10.9
850	28	1,413	-6.0	52	304	13.6
800	28	1,886	-8.2	47	301	15.0
750	28	2,385	-10.5	45	298	15.9
700	28	2,913	-13.2	41	294	17.7
650	28	3,475	-15.8	40	290	20.0
600	28	4,074	-19.4	39	286	22.9
550	28	4,716	-23.0		282	24.1
500	28	5,409	-27.8		279	26.6
450	28	6,154	-33.0		275	27.2
400	28	6,976	-38.9		275	31.1
350	28	7,880	-45.0		271	35.7
300	28	8,897	-50.5		272	39.4
250	28	10,080	-52.3		272	45.8
200	28	11,526	-50.9		270	51.5
175	28	12,396	-50.5		272	51.1
150	28	13,399	-51.3		270	50.1
125	28	14,579	-52.5		271	46.0
100	28	16,015	-54.2		271	39.2
80	28	17,443	-54.8		273	29.7
70	28	18,299	-55.8		276	24.5
60	28	19,275	-56.2		277	20.8
50	28	20,436	-55.2		287	16.5
40	28	21,864	-54.1		305	13.4
30	28	23,712	-53.4		330	9.5
25	28	24,887	-53.1		352	9.9
20	27	26,318	-52.2		7	8.7
15	27	28,186	-50.2		3	12.6
10	24	30,853	-46.3		340	15.3
7	20	33,226	-44.0		312	28.0
5	8	35,525	-40.9			

PITTSBURGH, PA.
969 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	353	-5.2	76	267	3.5
1000	29	114				
950	29	517	-4.7	73	277	7.0
900	29	942	-6.4	66	287	11.3
850	29	1,388	-7.7	60	283	15.5
800	29	1,859	-8.9	55	281	18.3
750	29	2,354	-10.6	53	277	20.4
700	29	2,886	-13.3	51	276	22.7
650	29	3,444	-16.0	49	277	27.2
600	29	4,046	-19.1	47	279	28.6
550	29	4,685	-23.0	45	280	29.5
500	29	5,381	-27.4	41	280	31.7
450	29	6,124	-32.5		279	34.0
400	29	6,953	-38.0		275	38.3
350	29	7,862	-43.4		273	45.5
300	29	8,887	-48.5		269	54.0
250	29	10,079	-51.5		263	58.3
200	29	11,528	-51.0		263	62.2
175	29	12,398	-50.3		265	61.8
150	29	13,402	-51.5		266	52.1
125	29	14,579	-53.9		265	49.7
100	29	16,009	-55.1		265	44.1
80	29	17,431	-56.2		267	32.4
70	29	18,280	-56.3		268	26.4
60	29	19,258	-56.3		274	22.0
50	29	20,417	-55.8		280	16.7
40	29	21,841	-55.0		288	14.0
30	29	23,682	-54.4		309	12.4
25	28	24,850	-53.7		314	11.7
20	28	26,288	-52.8		317	11.1
15	26	28,157	-51.0		330	13.4
10	22	30,808	-47.9		307	19.6
7	20	33,189	-43.4		298	29.1
5	18	35,462	-40.5		295	37.5

PONAPE, CAROLINE IS.
+ 1004 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	39	28.0	75	67	11.7
1000	29	74	27.5	75	67	13.6
950	29	521	23.5	79	60	26.0
900	29	999	20.1	81	76	25.3
850	29	1,492	17.5	73	76	21.8
800	29	2,010	16.1	61	84	16.1
750	29	2,554	14.0	49	90	12.8
700	29	3,138	10.7	47	100	12.0
650	29	3,749	7.7	45	97	16.5
600	29	4,410	4.2		92	21.0
550	29	5,107	.3		89	25.6
500	29	5,874	-3.7		88	26.2
450	29	6,694	-8.8		88	27.0
400	29	7,605	-14.5		89	23.7
350	29	8,604	-20.9		87	19.8
300	29	9,725	-28.9		98	18.8
250	29	11,002	-39.2		110	19.4
200	28	12,489	-51.8		118	19.8
175	28	13,340	-59.1		114	23.3
150	28	14,288	-66.7		107	23.1
125	28	15,369	-74.5		89	23.9
100	28	16,639	-82.7		89	21.8
80	28	17,898	-75.8		93	4.5
70	27	18,677	-69.9		276	6.2
60	27	19,605	-64.9		270	13.4
50	27	20,727	-61.4		263	18.6
40	26	22,125	-57.5		271	25.6
30	23	23,946	-55.9		274	25.1
25	22	25,109	-53.6		269	21.6
20	19	26,546	-50.1		267	10.5
15	12	28,434	-49.2			
10	5	31,079	-46.8			
7						
5						

PORTLAND, ME.
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	20	-8.3	76	309	4.1
1000	29	54			302	6.0
950	29	458	-6.2	51	306	12.0
900	29	879	-7.1	50	315	14.0
850	29	1,323	-8.5	49	309	15.3
800	29	1,793	-9.8	48	307	16.3
750	29	2,287	-11.9	49	303	18.3
700	29	2,815	-14.1	54	292	22.1
650	29	3,369	-16.6	55	286	25.3
600	29	3,974	-19.7	52	275	28.4
550	29	4,608	-23.5	49	273	35.9
500	29	5,307	-28.1	47	269	39.4
450	29	6,045	-33.2	46	266	45.1
400	29	6,874	-39.1		266	49.7
350	29	7,778	-44.7		263	57.1
300	29	8,798	-49.4		262	60.2
250	29	9,988	-50.5		261	64.7
200	29	11,447	-48.9		264	62.5
175	29	12,324	-49.0		263	57.1
150	29	13,333	-50.2		263	56.3
125	29	14,520	-51.9		263	49.5
100	29	15,960	-53.5		263	44.1
80	28	17,389	-54.1		264	36.3
70	28	18,243	-54.2		265	31.5
60	28	19,231	-55.1		266	25.8
50	28	20,396	-54.7		270	21.0
40	28	21,827	-54.1		277	15.7
30	28	23,672	-54.2		293	12.2
25	25	24,847	-53.7		293	13.0
20	22	26,291	-52.5		322	10.1
15	18	28,151	-51.4		321	13.2
10						
7						
5						

RAPID CITY, S. DAK.
902 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	966	-5.2	72	320	7.6
1000	27	146				
950	27	554				
900	27	982			321	9.3
850	27	1,433	-3.3	52	318	20.2
800	27	1,910	-6.4	50	322	23.7
750	27	2,408	-9.3	48	325	25.3
700	27	2,943	-12.4	46	325	25.1
650	27	3,503	-15.9	44	321	24.9
600	27	4,104	-19.5	41	318	24.7
550	27	4,745	-23.6	42	319	25.1
500	27	5,436	-28.1	42	319	25.6
450	27	6,182	-33.6	40	316	27.6
400	27	6,999	-39.8		311	27.4
350	27	7,898	-46.4		313	29.5
300	27	8,909	-51.8		317	35.0
250	27	10,081	-55.0		317	33.0
200	27	11,507	-54.2		304	32.4
175	27	12,366	-52.7		298	31.1
150	27	13,363	-52.5		295	30.3
125	27	14,540	-53.0		294	30.7
100	27	15,975	-53.7		298	28.4
80	25	17,402	-54.5		300	24.1
70	25	18,260	-54.6		301	20.8
60	25	19,244	-54.4		310	17.5
50	25	20,411	-54.6		317	15.7
40	23	21,338	-54.1		335	14.2
30	21	23,679	-52.9		348	12.2
25	16	24,862	-52.1		360	10.5
20	15	26,317	-51.3		13	10.3
15	7	28,229	-48.5			
10						
7						
5						

ST. CLOUD, MINN.
975 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	316	-9.9	75	295	1.4
1000	29	117				
950	29	516	-8.5	71	291	4.5
900	29	935	-8.0	67	291	9.7
850	29	1,379	-8.9	58	303	12.0
800	29	1,847	-10.2	53	306	15.0
750	29	2,339	-12.2	50	307	16.5
700	29	2,868	-14.9	45	296	18.1
650	29	3,420	-17.8	40	305	19.6
600	29	4,020	-21.0	38	307	22.3
550	29	4,654	-25.2	43	303	22.9
500	29	5,344	-29.5	38	309	24.3
450	29	6,078	-35.0		304	26.0
400	29	6,900	-40.8		304	28.2
350	29	7,796	-47.5		302	29.7
300	29	8,803	-52.6		297	33.8
250	29	9,974	-54.3		294	35.7
200	29	11,409	-52.4		290	34.8
175	29	12,273	-52.0		285	36.3
150	29	13,274	-51.4		290	34.2
125	29	14,456	-52.4		288	32.4
100	29	15,898	-52.9		290	31.1
80	29	17,335	-53.4		292	26.2
70	29	18,193	-53.6		297	23.1
60	29	19,185	-53.8		302	21.0
50	29	20,357	-53.7		308	16.1
40	28	21,792	-53.6		312	16.1
30	28	23,645	-53.2		327	16.9
25	26	24,819	-53.2		337	16.9
20	25	26,255	-52.7		337	17.3
15	19	28,135	-50.7		346	20.2
10	7	30,794	-49.5			
7						
5						

ST. PAUL IS., ALASKA
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	10	-8.9	90	26	12.6
1000	28	-10			33	11.3
950	28	384	-11.2	84	17	12.0
900	28	800	-12.9	80	31	7.8
850	28	1,236	-13.3	71	41	3.7
800	28	1,696	-15.1	64	260	1.2
750	28	2,180	-17.8	60	244	5.8
700	28	2,695	-20.6	57	257	7.4
650	28	3,238	-24.0	53	252	7.2
600	28	3,820	-27.4	50	248	8.9
550	28	4,438	-31.0	48	240	13.4
500	28	5,112	-34.8		234	15.3
450	28	5,840	-39.5		228	19.2
400	28	6,638	-44.7		228	21.8
350	28	7,521	-50.2		216	24.9
300	28	8,518	-53.8		215	27.8
250	28	9,689	-52.9		219	31.7
200	28	11,140	-49.8		223	31.5
175	28	12,015	-48.8		223	34.0
150	28	13,030	-47.9		224	35.2
125	28	14,234	-46.9		227	38.3
100	28	15,715	-46.2		229	36.3
80	28	17,197	-46.5		233	35.0
70	28	18,090	-46.5		230	34.4
60	27	19,102	-46.3		234	32.6
50	27	20,314	-45.8		239	33.4
40	27	21,800	-45.6		241	34.4
30	27	23,719	-45.1		242	31.3
25	26	24,936	-44.7		242	30.7
20	23	26,451	-43.2		242	28.9
15	22	28,399	-41.5		239	24.7
10	14	31,100	-41.9			

SALEM, OREG.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	61	1.5	94	184	2.7
1000	29	224	3.9	75	173	1.4
950	29	641	3.7	65	250	1.7
900	29	1,080	2.5	53	280	4.1
850	29	1,541	.8	49	297	7.0
800	29	2,026	-1.2	46	311	11.7
750	29	2,537	-3.2	38	318	17.1
700	29	3,083	-5.8	34	322	20.0
650	29	3,654	-9.1	34	326	24.5
600	29	4,275	-12.8	35	324	28.2
550	29	4,929	-16.8		323	30.1
500	29	5,643	-21.7		322	33.6
450	29	6,405	-27.3		322	36.1
400	29	7,248	-34.0		322	42.3
350	29	8,169	-41.3		325	45.3
300	29	9,197	-49.3		328	42.5
250	29	10,369	-57.6		327	43.7
200	29	11,761	-60.7		318	41.4
175	29	12,597	-57.7		310	38.7
150	29	13,576	-55.5		303	37.7
125	29	14,736	-56.3		304	34.2
100	29	16,151	-57.1		308	27.8
80	28	17,563	-56.5		311	18.8
70	28	18,415	-55.9		318	16.7
60	28	19,294	-55.1		327	12.6
50	28	20,560	-54.3		340	10.5
40	28	21,994	-53.1		12	8.4
30	27	23,855	-51.5		43	12.4
25	26	25,049	-50.1		46	15.2
20	23	26,506	-48.6		48	15.5
15	14	28,350	-48.4			
10						

SALT LAKE CITY, UTAH
876 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,288	-6.4	79	150	3.9
1000	29	237				
950	29	645				
900	29	1,072				
850	29	1,522	-4.2	60	164	4.3
800	29	1,999	-5.7	57	226	3.7
750	29	2,506	-8.6	57	294	7.6
700	29	3,035	-11.5	57	320	14.0
650	29	3,602	-14.5	53	324	17.3
600	29	4,203	-17.7	47	330	20.6
550	29	4,849	-21.5	43	329	26.6
500	29	5,546	-26.0	40	332	30.3
450	29	6,301	-31.3	36	336	30.9
400	29	7,127	-37.1		335	34.8
350	29	8,038	-43.2		338	34.4
300	29	9,061	-49.7		338	39.6
250	29	10,237	-55.4		320	34.8
200	29	11,656	-55.3		310	36.5
175	29	12,513	-53.2		310	35.2
150	29	13,506	-53.6		305	37.5
125	29	14,674	-55.0		301	33.6
100	29	16,095	-56.2		296	26.2
80	29	17,507	-57.5		302	21.4
70	29	18,359	-57.2		302	16.9
60	29	19,327	-56.5		307	13.6
50	29	20,485	-55.9		320	9.1
40	29	21,909	-54.7		358	9.5
30	28	23,754	-53.7		28	11.3
25	28	24,927	-53.0		36	13.4
20	27	26,366	-52.0		43	15.5
15	22	28,245	-50.1		38	16.5
10	10	30,868	-47.6			

SAN ANTONIO, TEXAS
989 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	243	6.0	73	9	5.2
1000	29	148				
950	29	569	6.3	63	14	4.9
900	29	1,013	5.7	54	280	3.1
850	29	1,480	4.0	50	262	8.2
800	29	1,972	2.2	46	264	14.4
750	29	2,492	.4	38	263	19.4
700	29	3,043	-2.0		265	24.5
650	29	3,628	-5.1		262	32.4
600	29	4,254	-8.9		264	39.0
550	29	4,920	-13.2		264	45.5
500	29	5,644	-18.1		267	52.8
450	29	6,422	-20.9		261	61.6
400	29	7,283	-27.5		261	76.7
350	29	8,231	-33.7		262	91.3
300	29	9,297	-40.1		263	107.4
250	29	10,523	-47.0		264	110.5
200	29	11,978	-53.8		259	105.3
175	28	12,833	-56.5		258	102.6
150	28	13,804	-59.6		260	89.9
125	27	14,936	-63.1		263	76.5
100	27	16,294	-67.8		260	60.4
80	27	17,634	-68.0		257	40.8
70	26	18,450	-66.2		267	32.1
60	26	19,375	-65.2		269	21.4
50	26	20,494	-61.8		268	11.7
40	25	21,886	-59.0		281	8.0
30	25	23,702	-56.4		268	5.8
25	25	24,863	-55.3		269	8.2
20	25	26,292	-53.4		266	10.3
15	15	28,160	-50.4		270	19.8
10	6	30,828	-45.3			

SAN DIEGO, CALIF.
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	124	7.4	72	54	1.6
1000	29	148			54	2.3
950	29	580	11.8	39	354	2.7
900	29	1,029	9.8	30	358	5.6
850	29	1,501	7.2	27	354	6.2
800	29	1,998	4.7		333	6.4
750	29	2,517	2.3		322	10.5
700	29	3,076	-.6		326	15.9
650	29	3,657	-4.2		324	20.0
600	29	4,292	-8.4		318	23.5
550	29	4,951	-13.0		317	25.8
500	29	5,681	-18.0		315	27.8
450	29	6,452	-23.9		312	28.6
400	29	7,310	-30.6		303	32.6
350	29	8,245	-37.6		295	38.5
300	29	9,292	-45.2		283	49.1
250	29	10,493	-51.5		278	67.2
200	29	11,923	-56.1		275	76.7
175	29	12,773	-55.6		276	68.8
150	29	13,752	-57.2		276	58.3
125	29	14,897	-60.1		276	49.7
100	29	16,278	-63.3		279	39.2
80	29	17,647	-63.8		283	26.2
70	29	18,470	-63.6		286	20.6
60	28	19,415	-61.6		301	14.6
50	27	20,551	-59.8		329	7.8
40	27	21,953	-57.4		16	6.8
30	26	23,782	-54.9		59	9.9
25	26	24,950	-53.5		67	12.2
20	23	26,381	-52.2		66	13.4
15	21	28,256	-49.6		57	10.9
10						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

* SAN JUAN, P. R.
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	6	22.2	86	141	3.1
1000	29	136	23.0	77	113	8.2
950	29	579	20.0	75	105	14.0
900	29	1,047	17.3	67	104	12.8
850	29	1,533	14.7	62	100	11.8
800	29	2,045	12.6	48	99	8.7
750	29	2,582	11.0	34	103	5.8
700	29	3,158	8.5	21	127	3.5
650	29	3,764	6.2	19	123	5.8
600	29	4,420	3.0	17	129	6.4
550	29	5,112	- .8	17	143	7.6
500	29	5,874	- 5.9	16	138	7.2
450	29	6,683	-11.8	15	132	4.7
400	29	7,583	-18.1	15	309	2.7
350	29	8,566	-25.3	15	296	6.6
300	29	9,668	-32.6	15	283	16.3
250	29	10,928	-42.0		274	23.7
200	29	12,403	-52.8		271	30.3
175	29	13,252	-59.0		269	30.1
150	29	14,202	-65.9		277	26.0
125	29	15,291	-72.5		276	18.3
100	29	16,586	-77.2		276	11.3
80	29	17,863	-77.5		286	6.4
70	29	18,647	-73.3		295	4.9
60	27	19,545	-69.1		309	5.4
50	27	20,648	-63.7		288	10.3
40	26	22,036	-58.5		284	13.2
30	26	23,869	-53.2		291	14.8
25	25	25,052	-50.6		281	16.3
20	25	26,515	-47.6		276	21.8
15	25	28,430	-45.2		262	24.7
10	23	31,155	-41.1		232	16.9
7	16	33,614	-37.3		246	8.0
5	7	35,975	-34.7			

SANTA MONICA, CALIF.
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	38	10.9	45	33	5.1
1000	29	148	13.3	35	34	5.2
950	29	578	12.0	29	26	4.7
900	29	1,030	9.8		15	3.7
850	29	1,502	7.1		8	4.7
800	29	1,998	4.4		353	8.2
750	29	2,518	1.7		332	11.8
700	29	3,074	- 1.5		324	15.0
650	29	3,656	- 5.0		327	17.7
600	29	4,286	- 9.1		328	21.0
550	29	4,944	-13.8		322	23.1
500	29	5,671	-19.1		319	25.4
450	29	6,434	-25.1		316	28.0
400	29	7,292	-32.1		315	30.1
350	29	8,222	-39.1		309	33.2
300	29	9,263	-46.7		293	38.3
250	29	10,452	-53.7		282	53.0
200	29	11,877	-55.7		282	62.4
175	29	12,727	-55.9		281	57.7
150	29	13,705	-57.4		281	52.8
125	29	14,850	-60.0		282	44.5
100	29	16,234	-62.8		285	37.3
80	29	17,605	-63.4		291	26.0
70	29	18,427	-63.3		293	20.0
60	29	19,376	-61.7		301	15.2
50	29	20,510	-60.1		328	9.7
40	28	21,913	-57.4		8	7.6
30	27	23,736	-55.1		48	10.5
25	27	24,903	-54.2		56	13.2
20	24	26,339	-52.3		64	14.6
15	18	28,230	-49.4		66	19.6
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7						
5						

SAULT STE. MARIE, MICH.
984 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	221	-10.3	85	325	1.4
1000	29	91				
950	29	488	- 9.0	78	291	6.2
900	29	907	- 9.9	73	288	11.8
850	29	1,347	-11.1	66	297	15.3
800	29	1,811	-12.6	58	292	16.7
750	29	2,302	-14.1	51	294	21.2
700	29	2,824	-16.5	52	292	23.5
650	29	3,379	-19.2	50	292	24.7
600	29	3,969	-22.5	44	292	26.8
550	29	4,600	-26.3	42	289	29.3
500	29	5,286	-30.7	40	285	30.3
450	29	6,026	-35.6		283	34.0
400	29	6,836	-41.5		282	36.1
350	29	7,729	-48.1		283	37.9
300	29	8,731	-53.3		284	39.8
250	29	9,899	-54.6		281	40.0
200	29	11,335	-52.2		276	38.5
175	29	12,200	-51.0		279	38.5
150	29	13,205	-50.2		277	37.1
125	29	14,393	-51.0		279	32.8
100	29	15,839	-52.2		277	34.0
80	29	17,281	-52.6		277	27.8
70	29	18,147	-52.9		280	25.6
60	29	19,136	-53.5		282	23.5
50	29	20,309	-53.2		286	22.3
40	29	21,746	-53.4		295	20.4
30	29	23,600	-53.0		299	18.8
25	27	24,774	-52.9		306	21.4
20	27	26,213	-52.8		313	23.5
15	27	28,076	-51.6		317	26.2
10	24	30,711	-50.5		317	28.9
7	22	33,048	-47.3		304	43.5
5	18	35,252	-45.2		301	54.4

SHEMYA, ALASKA
997 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	38	- 2.4	74	37	13.8
1000	28	12			33	17.1
950	28	416	- 5.5	71	34	15.3
900	28	838	- 9.0	73	35	13.4
850	28	1,278	-12.5	71	37	10.9
800	28	1,738	-15.9	72	31	9.5
750	28	2,220	-19.2	67	21	8.5
700	28	2,731	-22.5	61	11	6.0
650	28	3,268	-26.1	54	18	3.5
600	28	3,847	-29.7	50	359	1.2
550	28	4,457	-33.9	48	239	1.6
500	28	5,125	-38.1		251	3.7
450	28	5,843	-42.7		227	6.6
400	28	6,630	-48.0		227	10.7
350	28	7,501	-52.1		221	15.3
300	28	8,492	-54.7		225	19.2
250	27	9,664	-52.6		233	20.8
200	26	11,106	-49.2		237	26.2
175	25	11,986	-47.7		238	27.8
150	25	13,006	-46.5		236	29.3
125	24	14,215	-45.9		236	30.3
100	23	15,704	-45.4		235	27.6
80	18	17,209	-44.8		236	29.9
70	18	18,108	-45.1		236	28.0
60	18	19,130	-45.1		235	22.5
50	18	20,349	-44.9		225	20.8
40	18	21,840	-44.9		226	20.0
30	18	23,766	-44.1		219	15.5
25	18	24,990	-43.8		215	14.0
20	18	26,489	-43.1		197	11.7
15	11	28,418	-41.9			
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7						
5						

* SHREVEPORT, LA.
1008 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	79	4.0	79	275	1.2
1000	29	144			208	.6
950	29	564	4.1	64	281	4.7
900	29	1,001	2.4	59	297	7.8
850	29	1,462	.7	51	290	13.0
800	29	1,948	- .8	44	289	17.1
750	29	2,463	- 2.4	42	283	21.8
700	29	3,008	- 4.8	40	273	27.6
650	29	3,586	- 8.0	38	271	31.7
600	29	4,206	-12.0	39	266	37.7
550	29	4,863	-16.0	39	265	43.1
500	29	5,578	-20.9	37	263	50.3
450	29	6,345	-26.2	38	262	59.8
400	29	7,192	-31.6	37	262	69.5
350	29	8,126	-37.3	33	262	83.1
300	29	9,177	-43.5		263	94.0
250	29	10,387	-48.7		264	90.9
200	28	11,849	-51.6		263	107.4
175	27	12,715	-53.4		267	99.3
150	27	13,701	-56.5		266	94.0
125	27	14,848	-59.9		263	69.2
100	26	16,232	-62.9		260	59.8
80	25	17,601	-64.2		268	43.1
70	25	18,426	-63.4		270	33.4
60	23	19,371	-62.5		277	14.6
50	23	20,502	-60.1		276	14.4
40	23	21,901	-58.1		305	6.2
30	21	23,714	-56.6		309	4.5
25	21	24,873	-55.3		327	3.5
20	21	26,301	-53.7		341	4.5
15	18	28,159	-50.6		311	5.4
10	16	30,842	-44.4		293	12.0
7	13	33,273	-38.3		294	24.3
5	7	35,570	-33.9			

SPOKANE, WASH.
937 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	722	- 3.7	83	190	3.1
1000	29	202				
950	29	608				
900	29	1,042	- .8	63	241	7.6
850	29	1,497	- 2.4	56	270	11.1
800	29	1,976	- 4.7	57	292	13.4
750	29	2,478	- 7.2	54	312	16.1
700	29	3,017	-10.1	47	317	17.9
650	29	3,580	-13.2	45	317	22.1
600	29	4,190	-16.9	44	317	27.6
550	29	4,832	-20.8	46	320	33.0
500	29	5,537	-25.5	45	325	37.1
450	29	6,283	-30.9	44	325	37.7
400	29	7,117	-37.1		321	40.0
350	29	8,028	-43.1		329	47.0
300	29	9,051	-49.8		325	49.5
250	29	10,224	-56.6		327	49.7
200	29	11,631	-58.1		319	41.8
175	29	12,475	-55.7		318	39.6
150	29	13,462	-54.0		313	35.0
125	29	14,630	-54.7		310	32.4
100	29	16,058	-54.6		309	27.0
80	29	17,487	-54.6		307	22.7
70	29	18,341	-54.3		312	18.6
60	29	19,332	-53.5		318	15.5
50	28	20,503	-53.0		323	14.6
40	28	21,943	-52.4		333	12.4
30	28	23,812	-50.7		5	14.4
25	28	25,001	-50.4		9	14.2
20	26	26,451	-49.1		14	16.7
15	20	28,342	-48.4		14	20.0
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7						
5						

SWAN ISLAND, W. I.
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	10	25.1	81	99	8.2
1000	29	112	24.5	81	91	9.7
950	29	558	21.2	81	99	11.7
900	29	1,028	18.5	76	118	10.7
850	29	1,517	16.0	68	128	9.1
800	29	2,031	13.4	63	132	6.0
750	29	2,568	10.3	58	149	4.9
700	29	3,144	8.3	38	158	4.5
650	29	3,750	6.6		173	4.1
600	29	4,407	3.6		172	4.3
550	28	5,103	.0		214	5.6
500	28	5,866	- 4.7		240	7.0
450	28	6,683	-10.5		240	9.5
400	28	7,582	-17.4		257	9.1
350	28	8,568	-25.0		284	15.3
300	28	9,670	-32.8		279	21.6
250	28	10,926	-42.7		268	31.9
200	27	12,397	-53.5		255	31.3
175	27	13,244	-59.7		256	32.1
150	27	14,191	-66.8		255	29.3
125	26	15,279	-72.5		261	21.8
100	25	16,570	-78.8		271	15.2
80	25	17,837	-78.2		258	8.4
70	25	18,613	-74.7		251	10.1
60	24	19,513	-70.5		257	12.8
50	24	20,609	-65.1		269	17.3
40	24	21,987	-59.4		272	18.1
30	24	23,815	-53.4		270	18.8
25	23	24,997	-49.9		277	20.8
20	21	26,463	-47.7		273	23.5
15	14	28,359	-47.3			
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7						
5						

TAMPA, FLA.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	8	11.2	86	66	1.6
1000	29	140	11.9	75	52	1.9
950	29	564	10.4	68	254	4.9
900	29	1,019	9.2	60	248	13.6
850	29	1,493	8.6	44	250	18.1
800	29	1,993	7.2	44	252	23.9
750	29	2,519	5.5		253	30.9
700	29	3,085	3.0		255	35.0
650	29	3,676	.0	34	257	41.8
600	29	4,319	- 3.6	35	257	46.6
550	29	4,993	- 7.5	37	257	54.2
500	29	5,739	-11.8	35	255	61.4
450	29	6,527	-17.1	36	256	70.3
400	29	7,413	-22.7	36	257	78.9
350	29	8,379	-29.5		258	86.6
300	29	9,461	-37.4		262	91.3
250	29	10,695	-46.1		262	94.4
200	29	12,148	-54.7		265	94.2
175	29	12,994	-58.4		263	101.4
150	29	13,955	-61.8		262	87.6
125	29	15,068	-67.3		261	76.0
100	29	16,397	-71.2		261	62.0
80	29	17,714	-71.1		262	49.0
70	29	18,518	-68.9		259	30.1
60	28	19,441	-65.6		270	19.8
50	28	20,557	-62.5		283	12.2
40	27	21,947	-58.6		327	6.0
30	26	23,773	-54.9		287	10.9
25	25	24,952	-53.3		287	7.0
20	23	26,397	-51.1		278	12.8
15	16	28,295	-46.8		269	21.8
10						
7						
5						

* TATOOSH IS., WASH
1021 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	31	6.1	85	214	2.5
1000	29	201	5.5	74	190	2.9
950	29	616	3.0	76	248	7.8
900	29	1,055	1.0	72	263	10.3
850	29	1,514	- .7	64	274	11.8
800	29	1,997	- 2.5	55	287	13.8
750	29	2,504	- 5.1	54	292	18.3
700	29	3,046	- 7.8	55	294	21.8
650	29	3,612	-11.2	57	295	25.1
600	29	4,229	-15.2	50	298	29.5
550	29	4,879	-19.5	51	300	32.2
500	29	5,584	-24.0	48	302	35.7
450	29	6,337	-28.9	47	302	36.3
400	29	7,178	-34.9	41	300	38.5
350	29	8,095	-42.3		294	41.4
300	29	9,120	-50.4		288	41.4
250	28	10,297	-58.6		290	39.8
200	28	11,682	-62.0		288	40.6
175	28	12,514	-59.0		289	39.6
150	28	13,488	-55.9		293	38.3
125	28	14,649	-55.8		293	34.4
100	28	16,068	-56.7		300	28.0
80	28	17,485	-55.7		301	24.9
70	27	18,334	-55.6		306	22.9
60	27	19,314	-54.5		313	20.2
50	27	20,483	-53.9		319	15.9
40	26	21,925	-52.4		321	17.3
30	26	23,793	-50.6		346	15.3
25	26	24,982	-50.0		2	14.4
20	25	26,442	-48.6		355	15.0
15	21	28,361	-47.5		25	22.5
10	17	31,040	-44.5		29	25.8
7	5	33,416	-44.0			
5						

TOPEKA, KANS.
984 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	269	- 2.2	75	287	4.5
1000	29	136				
950	29	544	- .8	62	284	6.4
900	29	976	- 2.4	58	290	9.5
850	29	1,428	- 3.9	54	303	11.5
800	29	1,905	- 6.5	52	311	11.7
750	29	2,405	- 8.9	46	302	14.0
700	29	2,939	-11.7	45	298	15.9
650	29	3,502	-14.3	40	297	18.8
600	29	4,107	-17.9		289	21.6
550	29	4,745	-22.4		288	23.3
500	29	5,446	-27.0		283	28.6
450	29	6,188	-32.3		281	31.1
400	29	7,020	-38.4		286	36.5
350	29	7,926	-43.8		282	34.6
300	29	8,949	-49.2		277	38.5
250	29	10,135	-52.3		274	46.6
200	29	11,579	-51.0		274	53.6
175	29	12,448	-51.3		274	54.6
150	29	13,448	-52.3		275	49.0
125	29	14,618	-54.2		274	44.7
100	29	16,046	-55.8		276	38.9
80	29	17,464	-56.8		277	29.7
70	29	18,309	-57.4		280	23.7
60	29	19,283	-57.3		286	18.8
50	29	20,438	-56.7		297	14.2
40	28	21,859	-55.4		319	9.9
30	27	23,701	-53.7		7	8.0
25	27	24,874	-53.3		17	9.3
20	24	26,318	-52.3		33	9.9
15	22	28,191	-49.8		41	12.6
10	20	30,865	-45.4		24	10.7
7	17	33,238	-42.9		326	14.0
5	10	35,501	-40.5			

+ TRUK, CAROLINE IS.
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	2	27.9	77	52	11.3
1000	29	86	27.1	78	58	14.0
950	29	531	23.4	83	75	22.1
900	29	1,011	20.3	83	80	23.1
850	29	1,504	17.7	80	83	21.6
800	29	2,022	15.5	73	87	19.6
750	29	2,572	13.2	64	90	16.9
700	29	3,148	10.5	58	93	15.3
650	29	3,768	7.5	48	94	18.6
600	29	4,419	4.3	41	94	22.3
550	29	5,117	.2		91	23.7
500	29	5,882	- 4.1		97	24.5
450	29	6,701	- 8.9		95	28.0
400	29	7,611	-14.5		94	27.8
350	29	8,610	-21.0		96	22.7
300	29	9,732	-29.1		107	19.8
250	29	11,008	-39.3		118	19.6
200	29	12,496	-51.8		122	22.1
175	29	13,348	-58.9		125	26.4
150	28	14,296	-66.6		121	26.6
125	28	15,379	-74.3		108	26.4
100	27	16,652	-81.5		106	22.3
80	27	17,925	-74.9		87	5.4
70	26	18,710	-69.3		271	3.1
60	26	19,642	-64.5		277	9.9
50	26	20,767	-60.5		271	16.9
40	26	22,167	-57.1		275	23.7
30	24	23,999	-54.6		275	23.1
25	23	25,171	-52.8		269	18.3
20	21	26,615	-50.3		260	11.7
15	17	28,511	-47.2		92	10.3
10						
7						
5						
4						

TUCSON, ARIZ.
925 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	789	2.8	35	166	4.9
1000	29	151				
950	29	568				
900	29	1,013	7.7	27	178	3.1
850	29	1,482	5.5	26	293	3.1
800	29	1,975	2.5	27	308	6.0
750	29	2,490	- .2	25	303	9.7
700	29	3,043	- 3.3		301	14.4
650	29	3,620	- 6.5		292	21.4
600	29	4,248	- 9.9		291	27.6
550	29	4,905	-14.1		291	33.0
500	29	5,630	-18.9		291	35.5
450	29	6,398	-24.7		291	41.6
400	29	7,253	-31.0		291	45.6
350	29	8,188	-37.1		293	48.2
300	29	9,238	-43.5		284	61.6
250	29	10,447	-49.6		280	77.1
200	29	11,895	-53.3		277	83.3
175	29	12,754	-53.8		274	73.0
150	29	13,738	-56.4		273	67.6
125	28	14,885	-60.0		276	58.9
100	28	16,266	-63.4		275	51.1
80	28	17,632	-64.2		279	41.8
70	28	18,458	-63.4		280	35.5
60	28	19,399	-62.1		284	23.1
50	28	20,532	-59.7		292	10.5
40	28	21,936	-57.2		4	3.1
30	28	23,764	-55.0		46	7.2
25	28	24,932	-53.7		56	9.7
20	28	26,372	-51.9		54	9.7
15	25	28,244	-49.6		59	11.7
10	22	30,939	-43.2		28	9.1
7	9	33,340	-41.4			
5	6	35,656	-35.7			
4						

* WAKE IS., PACIFIC AREA
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	5	24.2	71	58	10.3
1000	29	144	22.9	73	61	13.4
950	29	584	19.1	80	69	13.4
900	29	1,053	15.7	79	81	11.8
850	29	1,537	13.6	68	100	10.1
800	29	2,047	12.7	43	100	9.9
750	29	2,583	11.3	24	96	7.4
700	29	3,161	9.2	14	63	2.5
650	29	3,767	6.8	14	346	2.1
600	29	4,425	3.6	14	295	5.1
550	29	5,120	- .5	14	285	8.4
500	29	5,881	- 5.4	14	289	13.2
450	29	6,697	-10.9	14	301	17.5
400	29	7,594	-17.1	15	291	21.0
350	29	8,583	-23.5	15	284	25.1
300	29	9,692	-31.6	15	281	28.9
250	29	10,956	-40.9		284	33.0
200	29	12,436	-52.4		279	36.1
175	28	13,286	-59.2		271	35.9
150	28	14,234	-66.8		266	34.2
125	28	15,314	-74.6		264	30.1
100	28	16,587	-81.0		257	22.3
80	28	17,844	-79.1		245	11.1
70	27	18,611	-74.7		248	8.4
60	25	19,518	-69.1		251	7.4
50	25	20,624	-63.7		257	9.1
40	23	22,005	-60.0		264	9.3
30	22	23,821	-56.0		304	5.6
25	22	24,988	-53.0		308	4.1
20	21	26,440	-49.2		312	5.2
15	21	28,339	-46.9		282	8.9
10	21	31,047	-42.2		259	7.8
7	19	33,483	-38.0		239	5.1
5	12	35,801	-35.1		168	6.4
4	6	37,356	-32.2			

WALLOPS IS. VA. NASA
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	19	3	.9	78	298	3.3
1000	19	97	.2	67	314	5.4
950	19	511	1.1	56	299	11.5
900	19	943	- .3	57	291	13.2
850	19	1,400	- 2.1	59	283	14.4
800	19	1,880	- 3.7	57	280	17.1
750	19	2,389	- 5.6	53	274	21.6
700	19	2,927	- 8.1	51	271	24.7
650	19	3,497	-11.3	48	266	29.7
600	19	4,110	-14.9	46	269	37.7
550	19	4,761	-18.9	38	270	44.5
500	19	5,467	-23.4	39	269	50.7
450	19	6,223	-28.4	40	268	57.3
400	19	7,065	-34.3	38	263	66.8
350	19	7,988	-40.0		262	77.7
300	19	9,029	-45.1		260	82.8
250	19	10,233	-49.8		261	88.0
200	19	11,683	-52.3		264	83.9
175	17	12,529	-52.2		262	75.6
150	16	13,522	-53.4		266	82.8
125	16	14,689	-55.3		269	62.9
100	15	16,104	-58.2		270	52.4
80	15	17,508	-58.1		269	47.4
70	15	18,353	-58.3		270	40.0
60	15	19,320	-57.8		272	30.3
50	15	20,471	-57.2		283	23.9
40	14	21,887	-56.1		283	20.2
30	14	23,720	-55.0		293	14.0
25	14	24,886	-54.5		319	5.4
20	14	26,319	-53.2		351	6.0
15	11	28,192	-51.7		314	10.3
10	11	30,850	-47.3		320	7.4
7	6	33,203	-42.5			
5						
4						

WASHINGTON, D. C.
1002 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	84	- 3.5	75	336	4.7
1000	29	101			326	5.2
950	29	513	- 2.5	61	304	15.2
900	29	938	- 3.7	58	305	20.4
850	29	1,388	- 5.3	58	301	21.4
800	29	1,862	- 7.0	55	302	23.5
750	29	2,367	- 8.8	50	295	24.5
700	29	2,896	-11.5	46	281	23.9
650	29	3,461	-14.3	40	272	26.8
600	29	4,065	-17.5		267	31.5
550	29	4,710	-21.2		265	36.3
500	29	5,409	-25.9		265	42.3
450	29	6,160	-30.9		264	45.5
400	29	6,990	-36.3		263	50.5
350	29	7,906	-41.5		264	58.3
300	29	8,939	-46.4		263	65.9
250	29	10,139	-50.1		264	70.3
200	29	11,592	-50.9		263	72.7
175	28	12,468	-51.3		262	72.3
150	28	13,467	-52.4		263	65.3
125	28	14,639	-54.8		265	53.6
100	27	16,061	-57.0		263	47.4
80	27	17,468	-58.3		266	40.2
70	26	18,321	-58.1		267	30.1
60	26	19,278	-57.8		270	21.0
50	26	20,429	-57.1		278	17.5
40	26	21,844	-56.2		295	10.5
30	26	23,676	-54.9		315	6.4
25	24	24,846	-54.2		303	6.0
20	24	26,280	-53.3		313	8.7
15	19	28,149	-51.3		334	8.0
10	15	30,789	-47.2			
7						
5						
4						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1964

Standard pressure surface (mb.)	WINNEMUCCA, NEV. 874 MB						WINSLOW, ARIZ. 851 MB						YAKUTAT, ALASKA 1007 MB						+ YAP, CAROLINE IS. 1009 MB						YUCCA FLAT, NEV. 884 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed
SURFACE	29	1,310	- 4.8	79	41	1.4	29	1,492	- 6.0	52	250	1.9	29	12	.3	91	119	5.1	29	17	26.9	82	51	15.3	29	1,196	- 4.3	44	345	4.5
1000	29	239					29	204					29	66			139	8.0	29	94	26.2	82	57	17.9	29	210				
950	29	649					29	618					29	474	- 1.6	83	154	11.8	29	539	22.4	84	62	24.5	29	622				
900	29	1,082					29	1,049					29	906	- 4.3	83	175	14.4	29	1,016	19.4	82	68	26.4	29	1,057				
850	29	1,535	- .9	51	325	1.0	29	1,498			259	1.2	29	1,354	- 7.1	82	188	15.9	29	1,508	17.3	75	71	23.1	29	1,512	1.5	34	360	10.1
800	29	2,018	- 2.8	49	328	6.2	29	1,980	- 1.1	37	319	8.2	29	1,824	-10.1	77	197	16.1	29	2,024	14.8	68	71	18.8	29	1,999	- .6	31	359	13.4
750	29	2,526	- 5.4	47	338	12.0	29	2,489	- 4.2	38	325	11.1	28	2,313	-13.5	68	201	16.9	29	2,566	12.9	51	78	16.9	29	2,512	- 3.2	31	7	15.7
700	29	3,066	- 7.5	39	346	16.1	29	3,033	- 6.9	37	325	12.0	28	2,837	-16.6	64	210	19.6	29	3,147	10.5	39	84	18.1	29	3,055	- 5.5		359	15.7
650	29	3,640	-10.2	36	342	20.8	29	3,605	-10.0	39	319	14.0	28	3,386	-19.6	64	220	24.9	29	3,757	7.6		85	20.0	29	3,630	- 8.4		351	18.3
600	29	4,253	-13.8	33	339	24.3	29	4,221	-13.7	37	319	18.6	28	3,982	-22.7	60	225	30.7	29	4,417	4.0		86	23.3	29	4,251	-11.8		343	21.4
550	29	4,906	-17.8		336	26.4	29	4,877	-18.0		313	21.4	28	4,610	-26.6	57	228	36.5	29	5,111	- .3		88	23.5	29	4,907	-16.0		345	27.0
500	29	5,615	-22.7		333	29.5	29	5,583	-22.9		312	24.7	28	5,298	-31.0	55	229	35.9	29	5,876	- 4.6		91	24.7	29	5,623	-21.0		335	29.3
450	29	6,376	-28.2		335	30.1	29	6,339	-28.2		307	33.2	28	6,031	-36.1	56	233	45.1	29	6,693	- 9.7		92	23.5	29	6,383	-26.8		334	33.0
400	29	7,214	-34.5		338	35.4	29	7,181	-33.9		302	38.9	28	6,847	-41.8		235	49.0	29	7,600	-15.3		90	20.8	29	7,231	-33.6		318	33.0
350	29	8,134	-41.5		337	38.5	29	8,105	-40.0		297	44.5	28	7,739	-47.9		241	50.1	29	8,595	-22.1		90	19.0	29	8,154	-40.3		318	35.9
300	29	9,162	-49.1		335	38.7	29	9,143	-46.1		298	41.8	27	8,749	-52.2		245	50.5	29	9,711	-30.2		102	17.9	29	9,187	-48.1		316	38.3
250	29	10,339	-56.0		326	38.1	29	10,339	-51.3		285	58.5	27	9,924	-53.7		258	47.2	29	10,981	-40.6		115	17.1	29	10,370	-54.4		308	41.4
200	29	11,749	-56.9		316	41.2	29	11,783	-52.3		285	64.7	26	11,371	-52.8		263	43.9	29	12,462	-52.9		129	20.4	28	11,788	-55.9		295	46.0
175	29	12,599	-54.8		307	37.5	29	12,645	-52.9		284	60.4	26	12,231	-53.0		261	41.4	29	13,309	-60.1		130	23.3	27	12,650	-54.7		295	50.1
150	29	13,585	-55.3		303	40.0	28	13,630	-54.5		280	55.6	26	13,227	-52.2		258	47.2	29	14,253	-67.6		128	25.1	27	13,634	-55.4		295	48.8
125	29	14,746	-55.8		307	36.3	28	14,789	-57.7		279	51.1	26	14,409	-51.5		263	43.5	29	15,329	-75.4		119	25.3	27	14,791	-57.6		297	42.0
100	29	16,161	-57.3		301	26.4	27	16,189	-60.4		279	42.0	26	15,858	-51.1		265	44.9	29	16,599	-81.3		107	18.8	27	16,192	-60.1		299	34.0
80	29	17,569	-57.8		306	20.4	27	17,573	-61.1		282	28.7	24	17,310	-50.2		272	40.2	29	17,863	-77.1		80	6.4	27	17,582	-60.6		303	26.6
70	29	18,419	-57.4		313	15.2	27	18,407	-60.4		281	23.3	24	18,180	-51.0		271	40.2	29	18,639	-71.9		40	1.9	26	18,417	-59.5		304	18.8
60	29	19,387	-56.6		323	10.5	27	19,364	-60.0		291	17.9	24	19,182	-51.2		273	43.3	29	19,559	-66.4		283	4.7	25	19,379	-59.1		313	13.0
50	29	20,546	-55.3		354	8.2	25	20,512	-58.8		318	10.1	22	20,367	-49.6		274	46.2	29	20,675	-62.3		278	12.0	25	20,524	-58.3		334	10.7
40	29	21,974	-53.9		30	8.2	25	21,920	-56.8		357	7.2	22	21,830	-48.7		282	43.9	29	22,066	-58.2		271	19.4	25	21,936	-56.2		40	8.2
30	27	23,824	-52.6		51	11.1	24	23,753	-55.1		21	8.4	20	23,703	-48.7		279	49.7	29	23,893	-54.7		266	22.9	24	23,768	-54.4		32	11.8
25	25	25,005	-51.6		54	18.6	20	24,915	-54.0		20	8.9	18	24,883	-48.3		288	49.1	28	25,058	-53.7		265	19.0	23	24,936	-53.1		45	13.2
20	20	26,447	-50.0		67	18.3	19	26,251	-52.4		48	11.3	16	26,345	-48.0		289	56.5	28	26,500	-50.8		269	9.5	22	26,380	-51.7		39	12.8
15	14	28,355	-48.0		55	27.0	12	28,217	-49.8				13	28,276	-45.9		288	47.0	24	28,386	-48.4		114	7.8	16	28,225	-50.4		47	16.5
10	5	31,054	-46.9																14	31,067	-44.1				5	30,916	-48.3			

Note All observations scheduled at 1200, G. C T Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes Number of observations' refers to those of dynamic height only Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations Relative humidity averages are limited to those observations with temperatures warmer than 40°C Observations of wind speed and direction are sometimes lost due to limiting angles, i e , elevation angles less than 6° above the horizon, or any obstruction above the horizon

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidit data are not published for standard pressure surfaces for which less than 16 observations ar available

Relative humidity data are computed and expressed on the basis of vapor pressure over water Unless otherwise indicated, they are obtained from lithium chloride hygristors

These average values for standard pressure surfaces were obtained by rawinsondes, dynami height (geopotential) in units of 98 dynamic meter, temperature in degrees Celsius relative humidity in percent, and resultant winds in degrees and knots

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. FEBRUARY 1964

TUCSON, ARIZ.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Feb.									
1	0.88	1.00	1.11	----	----	----	1.06	0.90	0.76
2	.78	.90	1.05	----	----	----	----	----	----
3	.82	.95	----	----	----	----	----	----	----
4	.80	----	----	----	----	----	----	----	----
5	.87	.96	----	----	----	----	----	----	.85
6	----	.84	1.01	----	----	----	----	.87	.70
7	.75	.89	1.03	----	----	1.24	1.06	----	----
12	----	----	----	----	----	----	----	----	.83
13	.83	.95	----	----	----	----	----	1.04	.94
14	.78	.97	----	----	----	----	----	----	----
15	.92	1.02	----	----	----	----	1.14	----	.86
17	.79	.85	1.05	----	----	----	----	----	----
18	.88	----	----	----	----	----	----	1.01	.90
19	.89	1.01	1.17	----	----	----	----	----	----
20	.56	.90	.95	----	----	1.24	----	.97	----
21	.74	.86	1.00	----	----	----	----	----	.89
22	.92	.96	----	----	----	----	----	----	.90
24	.78	.91	1.04	----	----	----	----	.93	.83
26	----	----	----	----	----	----	----	----	.57
27	.78	.89	----	----	----	----	----	----	----
28	.78	.89	----	----	----	----	----	----	.87
29	.77	----	----	----	----	----	----	----	----
Averages	0.80	0.92	1.04	----	----	1.24	1.08	0.95	0.82

ALBUQUERQUE, N. MEX.

Date	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Feb.									
1	0.91	1.01	1.13	1.21	1.37	1.28	1.09	0.96	0.85
2	.91	1.03	1.14	1.24	1.29	----	----	----	----
5	.71	.83	1.01	1.27	1.34	1.29	1.09	.95	.86
6	----	----	----	----	----	----	----	.85	.73
7	----	----	1.11	1.31	1.32	1.34	1.19	1.07	.94
8	.87	1.01	1.13	1.28	1.35	1.30	1.16	1.04	.93
9	.89	1.05	1.18	1.32	1.39	1.29	1.11	.99	.87
10	.89	1.02	1.12	1.28	----	1.29	1.12	1.01	.90
13	.84	.97	1.11	----	1.37	1.22	1.08	.96	.87
15	.95	1.06	1.19	1.34	1.43	1.32	1.16	1.03	.92
17	.89	.99	1.15	1.29	1.39	----	1.08	.96	.82
18	.83	.96	1.08	1.25	1.37	1.28	1.08	.97	.84
19	.88	.99	1.11	1.29	1.37	1.26	1.09	.97	----
21	.85	.97	1.10	1.26	1.35	1.23	1.07	.94	.81
22	.85	.95	1.04	1.22	1.33	1.21	1.02	.89	.75
24	.81	.90	1.06	1.24	1.36	1.25	1.07	.94	.80
25	.77	.88	1.02	1.19	----	----	----	.91	.80
26	----	----	----	----	----	1.18	.98	.88	.75
27	.86	.96	1.12	1.30	1.39	1.27	1.10	.98	.86
28	.94	1.01	1.17	1.33	1.43	1.22	1.09	.96	.83
Averages	0.86	0.98	1.11	1.27	1.37	1.26	1.09	0.96	0.84

BLUE HILL OBS., MASS.

Date	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Feb.									
3	0.90	1.01	1.16	1.30	1.33	1.32	1.17	1.04	0.91
4	----	----	----	----	----	1.20	1.00	.82	.74
9	.79	.89	1.04	1.18	1.32	1.30	1.15	1.04	.93
12	----	----	1.05	1.28	1.35	1.30	1.10	.98	.87
13	.93	1.10	1.16	1.30	----	----	----	----	----
15	.87	.98	1.10	1.29	1.36	1.28	----	----	----
17	.90	1.03	1.17	1.34	1.42	1.35	1.16	.96	.86
18	.86	.95	1.11	1.30	----	----	----	----	----
20	----	----	----	----	1.33	1.27	1.06	.87	.77
22	.89	1.01	1.15	1.30	1.40	1.32	1.13	.99	.87
23	.93	1.05	1.17	1.35	1.41	1.32	1.12	1.00	.89
25	.93	1.03	1.15	1.29	----	----	----	----	----
27	.68	.78	.94	1.22	1.42	1.30	1.16	1.01	.90
28	.77	.88	1.03	1.21	1.32	----	----	----	----
29	.69	.81	.99	1.23	1.40	1.28	1.15	.98	.86
Averages	0.85	0.96	1.09	1.28	1.37	1.29	1.12	0.97	0.86

HS Slight haze
HM Moderate haze
HI Intense haze
DM Moderate dust
S Slight haze - indeterminable
M Moderate haze - indeterminable
* Values corresponding to true solar noon.

MADISON, WIS.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Feb.									
3	----	----	----	----	----	----	M 0.89	M 0.71	M 0.64
4	HI0.59	HI0.67	HM0.79	----	----	----	----	----	----
5	----	----	----	----	S 1.07	S 1.11	S .90	S .75	S .66
14	----	----	----	S 1.14	----	----	----	----	----
16	S .83	S .95	S 1.06	S 1.21	S 1.22	----	S .93	----	----
28	S .78	S .87	S 1.01	S 1.17	----	----	----	----	----
Averages	0.73	0.83	0.95	1.17	1.15	1.11	0.91	0.73	0.65

OMAHA, NEBR.

Date	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Feb.									
1	HS0.84	HS0.98	----	----	----	----	----	----	----
4	----	----	----	----	HM1.04	HM1.04	HM0.92	HM0.79	----
5	HM .82	HM .92	HS1.06	HS1.14	HS1.28	----	----	----	----
7	HM .86	----	----	----	----	----	----	----	----
13	----	----	----	----	----	HS1.28	1.09	.96	0.82
14	HS .78	----	----	HS1.16	----	----	----	----	----
17	----	----	----	----	----	HM1.20	----	----	----
19	----	HM .91	HS1.04	----	----	----	----	----	----
21	HS .84	HS .94	HS1.07	HS1.24	HS1.32	HS1.28	HS1.08	HS .88	HS .85
22	HS .81	HS .92	HS1.10	HS1.18	HS1.30	----	----	----	----
23	----	----	----	HM1.21	----	HS1.30	HS1.11	HS .97	----
24	----	----	----	HS1.21	HS1.31	HS1.23	HS1.20	HS1.11	HS1.07
26	HS .84	HS .90	HS1.08	HS1.24	HS1.24	----	HM1.04	HM .92	----
27	----	HS .91	HS1.10	HS1.28	----	HS1.22	HS1.08	HS .98	----
29	----	HS .96	HM1.08	DM1.20	----	----	----	----	----
Averages	0.83	0.93	1.08	1.21	1.25	1.22	1.07	0.95	0.91

MAUNA LOA OBS., HAWAII

Date	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Feb.									
1	1.16	1.27	1.38	1.50	HS1.58	HS1.47	HS1.35	1.22	1.15
2	1.18	1.28	1.38	1.51	HS1.60	HS1.47	1.36	1.24	1.16
3	1.15	1.24	1.35	1.48	HS1.59	HS1.46	HS1.32	HS1.22	1.13
4	1.12	1.21	1.32	1.44	HS1.58	HS1.42	1.31	1.19	1.10
5	HS1.06	HS1.16	HS1.29	HS1.45	1.56	1.43	1.30	1.19	1.12
6	1.18	1.27	1.37	1.50	1.61	1.48	1.36	1.26	1.17
7	1.19	1.29	1.39	1.51	1.63	1.51	1.39	1.29	1.20
8	1.23	1.30	1.41	1.53	1.65	1.53	1.41	1.30	1.22
9	1.24	1.32	1.42	1.54	1.66	1.54	1.42	1.32	1.24
10	1.23	1.32	1.42	1.54	1.64	1.53	1.42	1.32	1.24
11	1.19	1.29	1.39	1.53	1.64	1.53	1.39	1.30	1.21
12	1.23	1.32	1.41	1.53	1.65	----	1.33	1.23	1.15
13	1.20	1.29	----	----	----	1.50	1.38	1.28	1.19
16	1.29	1.33	1.43	1.55	1.66	1.52	1.40	1.29	1.21
17	1.18	1.28	1.38	1.51	1.60	1.48	1.37	1.28	1.20
18	1.20	1.29	1.40	1.52	----	----	----	----	----
19	1.17	1.27	1.38	1.50	1.59	1.45	1.33	1.22	1.16
20	1.13	1.23	1.35	1.47	----	----	----	----	----
21	1.13	1.22	1.34	1.47	----	----	----	----	----
22	HS1.02	HS1.11	HS1.24	HS1.39	----	----	----	----	----
24	1.06	1.14	1.28	----	----	----	----	----	----
25	1.02	1.13	1.26	1.42	----	----	----	----	----
26	HS1.07	HS1.19	HS1.31	HS1.46	1.61	1.45	1.32	1.21	1.12
27	1.11	1.20	1.32	1.47	1.62	1.48	1.34	1.23	1.15
28	1.10	1.20	1.33	1.48	1.62	1.48	1.34	1.25	1.15
29	----	----	----	----	1.61	1.45	1.33	1.21	1.13
Averages	1.15	1.25	1.36	1.49	1.62	1.43	1.36	1.25	1.17

GUAM, M. I.

Date	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observation due to cloudiness								

Langley is the unit used to denote one gram calorie per square centimeter An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No 2, page 63 of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

FEBRUARY 1964

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	405	319	192	284	---	180	453	455	458	445	152	155	---	279	485	402	485	489	482	271	515	501	425	---	509	443	551	555	463			398
AMES IOWA	259	111	233	248	268	150	237	147	98	112	301	52	324	313	102	354	210	184	253	322	368	349	345	354	171	379	305	379	336			250
ANNETTE ALASKA	14	15	30	61	42	42	45	40	11	108	11	65	11	23	76	100	16	114	22	41	154	172	162	183	104	139	34	108	31			68
APALACHICOLA FLORIDA	376	381	61	70	57	445	169	492	466	480	445	468	424	417	99	500	453	305	525	515	400	231	532	459	467	541	12	133	554			361
ARGONNE NAT. LAB.	280	179	134	284	286	148	105	322	219	299	334	99	86	365	107	383	286	121	169	306	253	393	210	407	284	390	420	424	449			267
ASTORIA OREGON	166	234	235	174	202	259	147	161	241	177	196	113	202	37	72	78	90	174	328	339	350	353	290	374	391	199	351	253	43			215
ATLANTA GEORGIA	218	319	357	341	60	112	133	440	361	353	411	223	49	463	37	236	460	125	298	449	385	459	488	422	88	306	64	196	458			286
BARROW ALASKA	3	5	5	7	9	9	9	11	14	19	30	25	31	27*	32	46	40	44	51	61	62	67	39	39	46	61	73	105	115			37*
BETHEL ALASKA	41	63	64	30	35	84	76	146	151	108	155	145	158	116	168	199	201	169	97	156	95	110	74	132	124	161	141	177	137			121
BISMARCK N.DAK.	159	233	259	226	171	235	120*	135	193	269	195	113	283	281	313	---	111	154	301	229	332*	190	250	232	358	373	316	330	284			237*
BLUE HILL MASS.	33	182	323	273	242	106	191	107	342	212	223	350	235	303	363	38	396	339	69	339	205	429	434	311	424	383	440	352	462			279
BOISE IDAHO	218	244	295	295	327	313	312	312	297	290	256	285	278	357	170	269	349	225	371	---	352	---	---	---	---	---	---	---	---			291
BOSTON MASSACHUSETTS	---	---	---	284	224	105	182	100	338	245	203	348	206	300	345	30	388	293	63	324	145	395	388	281	379	323	---	297	---			258
BROWNSVILLE TEXAS	46	37	104	204	485	462	324	463	397	436	---	246	106	90	473	297	186	525	511	69	36	531	365	287	487	313	338	386	233			301
BURLINGTON VERMONT	62	140	304	63	111	140	6	196	338	328	338	337	109	261	344	138	372	345	161	288	273	377	385	217	286	163	421	498	406			255
CANTON ISLAND P.I.	695	618	534	716	642	649	680	603	258	510	239	577	533	640	574	644	647	600	689	693	696	695	687	663	663	684	577	675*	686*			613*
CAPE HATTERAS N.C.	183	369	368	393	369	318	276	354	378	407	144	264	203	253	202	404	452	27	402	377	420	218	451	463	90	194	138	46	479			298
CARIBOU MAINE	99	79	215	194	118	262	81	95	252	299	284	290	203	172	313	164	327	327	256	161	126	249	349	249	346	148	390	363	395			235
CHARLESTON S.C.	284	416	238	417	104	402	109	451	431	447	155	418	331	488	158	472	461	102	430	492	497	411	504	459	45	397	58	77	526			337
CLEVELAND OHIO	9	33	255	327	257	8	51	104	204	259	307	235	48	164	123	172	234	74	114	151	164	185	278	269	---	---	---	---	---			168
COLUMBIA MISSOURI	314	208	301	309	95	154	190	220	202	177	381	17	380	---	66	412	277	262	38	127	434	432	355	429	277	474	416	450	403			279
DODGE CITY KANSAS	329	188	78	134	323	247	372	363	355	264	345	142	397	78	225	323	317	378	329	434	358	397	444	426	---	---	---	---	383			305
E. LANSING MICHIGAN	32	73	287	261	273	114	144	187	292	345	344	131	111	342	180	284	268	60	146	262	355	398	182	307	346	371	422	247	427			248
EL CENTRO CALIF. NPF	357	280	---	378	364	389	379	380	341	377	245	401	395	396	---	---	---	414	400	---	---	---	---	---	393	420	411	412	285			371
EL PASO TEXAS	459	458	300*	411	487	403	489	444	495	490	295	190	510	507	528	526	483	543	551	493	548	564	544	555	546	530	590	584	595			487*
ELY NEVADA	362	390	276	375	385	404	392	398	390	402	185	426	252	424	317	409	439	435	397	458	453	350	466	458	444	493	489	487	499			402
EPPLEY.NEWPORT R.I.	42	202	308	139	233	85	137	157	320	98	107	309	220	285	338	55	356	273	83	289	348	393	391	323	345	362	409	283	413			252
FAIRBANKS ALASKA	11	18	38	44	20	26	22	61	78	73	62	35	55	49	131	149	82	100	61	53	64	92	88	39	86	98	96	114	159			69
FORT WORTH TEXAS	395	389	93	39	72	356	429	431	431	430	437	29	231	257	367	468	73	474	487	---	488	487	433	308	391	228	502	527	220			338
FRESNO CALIFORNIA	77	108	312	320	320	305	335	341	357	360	366	365	375	379	281	259	386	395	406	391	390	397	389	419	333	433	435	406	430			347
GAINESVILLE FLORIDA	394	502	69	165	42	449	385	521	508	542	352	389	376	421	309	567	488	213	573	581	535	267	587	561	380	539	69	221	595			400
GLASGOW MONTANA	232	83	233	190	82	187	164	206	108	163	193	245	209	292	239	299	242	295	95	258	247	204	331	242	271	227	325	253	247			219
GRAND JUNCTION COLO.	184	352	374	365	341	379	376	384	361	377	222	330	290	285	374	334	399	396	324	456	458	375	473	428	398	477	482	510	491			379
GREAT FALLS MONTANA	99	220	207	195	97	109	214	147	170	126	93	235	143	271	198	268	154	187	149	29	133	120	292	211	306	170	339	285	333			190
GREENSBORO N.C.	282	385	388	383	309	212	238	415	348	321	177	319	115	427	115	334	472	50	298	412	433	257	466	412	47	389	224	62	510			303
GRIFFIN EXP.STA.GA.	233	342	317	294	67	145	157	518	448	504	515	274	80	562	78	360	548	146	415	563	453	573	587	570	92	449	66	296	505			350
INDIANAPOLIS INDIANA	324	315	263	359	346	100	190	366	91	268	403	210	104	429	121	410	359	112	253	354	328	446	262	485	353	463	492	373	489			313
ITHACA NEW YORK	24	133	129	239	65	26	15	182	263	232	340	301	57	141	280	81	328	228	73	162	226	357	368	189	332	155	344	285	389			205
LAKE CHARLES LA.	379	108	128	---	371	337	253	456	451	419	466	328	52	152	444	419	58	440	507	491	43	458	514	118	325	278	89	529	319			319
LAKELAND FLORIDA	330	445	53	37	180	420	171	444	474	407	240	474	371	104	319	475	397	87	406	541	520	106	546	520	255	522	---	170*	561			342*
LANDER WYOMING	267	309	327	327	139	340	322	320	259	318	147	377	260	344	323	342	395	389	145	354	401	384	398	246	467	370	468	435	447			332
LARAMIE WYOMING	103	231	304	312	203	337	215	292	239	316	230	309	309	269	374	365	246	329	199	355	350	356	408	383	409	405	385	430	345			311
LAS VEGAS NEVADA	386	379	399	405	400	404	399	404	395	403	338	431	388	---	398	262	---	425	---	441	442	412	452	448	287	472	471	476	450			406
LITTLE ROCK ARKANSAS	321	319	325	207	54	269	335	347	301	259	357	79	---	---	185	387	381	147	183	299	288	428	372	374	377	139	471	435	285			293
LOS ANGELES CALIF.WB	370	337	393	374	350	376	396	385	421	400	255	424	401	413	398	436	433	443	447	409	454	424	467	445	393	485	466	430	485			411
LOS ANGELES CALIF. U	379	350	387	379	364	384	394	396	423	412	260	419	406	419	386	465	434	447	448	433	463	441	469	436	310	480	462	456	505			414
MANHATTAN KANSAS	325	229	81	327	259	141	364	253	364	306	296	77	399	343	180	384	375	210	372	427	445	420	446	423	59	480	373	464	305			315
MATANUSKA ALASKA	39	47	27	33	16	25	25	---	78	132	49	74	70	134	168	169	161	148	40	45	32	91	52	25	68	33	94	167	197			80
MAUNA LOA OB.HAWAII	621	626	622	635	624	642	628	665	669	669	671	653	591	621	444	---	676	588	684	626	549	453	623	436	526	722	725	729	718			623
MEDFORD OREGON	121	142	272	249	280	293	289	223	297	223	144	150	256	288	118	259	311	332	151	369	354	368	380	383	392	371	388	135	246			268
MIAMI FLORIDA	328	419	314	89	275	247	365	322	320	221	443	413	495	437	491	376	324	370	307	533	516	103	550	503	319	528	443	472	485			379
MIDLAND TEXAS	353	380	35	254	395	334	426	378	424	421	407	113	365	421	459	458	---	431	454	154	332	478	444	345	465	381	491	498	482			378
NEW YORK N.Y. U	35	165	321	249	295	36	163	198	331	100	71	346	137	324	283	92	374	149	72	342	391	402	388	248	256	258	426	174	433			243
NORTH OMAHA NEBRASKA	309	82	110	311	328	259	365	140	254	167	280	81	398	269	273	398	326	109	374	388	440	376	448	428	190	446	385	463	372			302
OAK RIDGE TENNESSEE	281	324	324	317	177	72	79	348	165	53	324	145	7	316	16	133	346	64	127	220	313	195	382	373	133	46	287	134	409			210

Note. --Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

FEBRUARY 1964

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
OKLAHOMA CITY OKLA.	354	339	247	28	39	203	403	395	342	381	383	31	375	345	98	436	146	372	405	353	419	437	370	429	86	464	317	477	346			311
PHOENIX ARIZONA	383	388	396	392	397	415	416	394	413	421	104	404	448	462	465	314	469	469	474	---	467	467	426	478	412	469	494	488	319			416
PORTLAND MAINE	50	199	301	276	207	166	86	83	334	333	---	---	244	304	338	51	370	348	110	282	178	270	386	322	378	278	273	320	414			255
RAPID CITY S.DAK.	133	201	269	232	195	283	85	213	124	163	171	264	298	207	322	180	234	287	184	263	395	246	308	191	328	358	352	365	246			245
RIVERSIDE CALIFORNIA	407	428	448	432	410	478	454	434	459	473	344	499	456	490	462	478	488	505	512	535	522	500	538	508	182	539	527	499	487			465
SAINT CLOUD MINN.	234	230	261	232	269	196	288	299	187	311	243	171	319	146	360	311	317	285	278	343	363	131	378	216	370	399	232	381	362*			280*
SALT LAKE CITY UTAH	181	360	347	355	174	371	364	355	323	355	102	408	140	398	208	291	217	342	135	424	408	363	418	267	369	396	451	457	423			324
SAN ANTONIO TEXAS	235	84	46	364	432	386	446	454	479	475	282	103	370	146	531	424	164	531	525	179	276	556	530	64	360	99	538	543	217			339
SANTA MARIA CALIF.	363	363	377	374	382	369	397	389	404	393	392	415	412	425	228	432	430	437	437	433	435	442	449	448	440	463	471	217	468			403
SAULT STE MARIE MICH	59	297	---	209	294	89	136	268	306	293	334	46	205	301	227	359	124	214	318	374	389	379	231	409	---	326	378	389	395			272
SEATTLE TACOMA WASH.	116	132	196	155	162	223	205	122	130	116	202	60	226	85	67	63	63	125	288	283	257	302	233	319	318	284	336	132	62			181
SEATTLE WASH. UNIV.	146	135	174	118	126	198	185	122	136	117	167	54	135	74	56	94	56	94	28	263	228	266	259	287	300	23	311	176	46			151
SHREVEPORT LOUISIANA	---	384	276	112	201	324	378	444	435	425	448	190	59	205	422	452	---	386	413	465	344	507	504	352	---	170	74	538	246			337
SPOKANE WASHINGTON	214	149	225	227	270	183	282	212	214	199	275	191	248	220	113	137	295	177	346	300	341	343	300	334	361	377	386	233	268			256
STATE COLLEGE PENN.	53	126	337	309	284	21	97	224	282	270	372	322	96	283	259	210	377	118	129	263	399	368	421	326	330	174	439	163	455			259
STERLING VIRGINA	115	223	313	314	296	21	142	314	285	---	171	355	128	360	128	235	339	35	196	388	392	391	430	398	---	339	392	148*	454			270*
STILLWATER OKLAHOMA	364	343	277	50	42	201	382	363	335	366	358	14	386	339	98	418	228	357	344	376	413	425	404	355	48	454	355	466	347			307
SWAN ISLAND W.I.	559	562	566	547	552	522	575	425	290	546	487	590	569	599	574	595	477	613	575	272	545	526	579	607	604	628	615	---	487			539
TAMPA FLORIDA	333	429	86	56	158	433	190	440	500	402	271	469	364	94	352	489	391	68	431	537	538	108	536	514	316	528	125	188	559			341
TUCSON ARIZONA	394	387	408	407	414	428	420	404	374	401	71	329	429	458	---	---	---	464	436	435	399	480	422	481	409	433	464	464	296			404

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

FEBRUARY 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	*	*	*	*4	*	*	*	-36	-30	50	-10	22	-3	29	-1	32	-20	76	-36	28	47	-42	82	-98	-100	-54	-38	19	-11			---

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

* Instrument malfunction - data doubtful. Data reliable from 8th.

These data are of an experimental nature and are published as received from the Huntley Exp. Station. **The instrument with which they were measured has not been checked by the Weather Bureau.**

TOTAL OZONE DATA

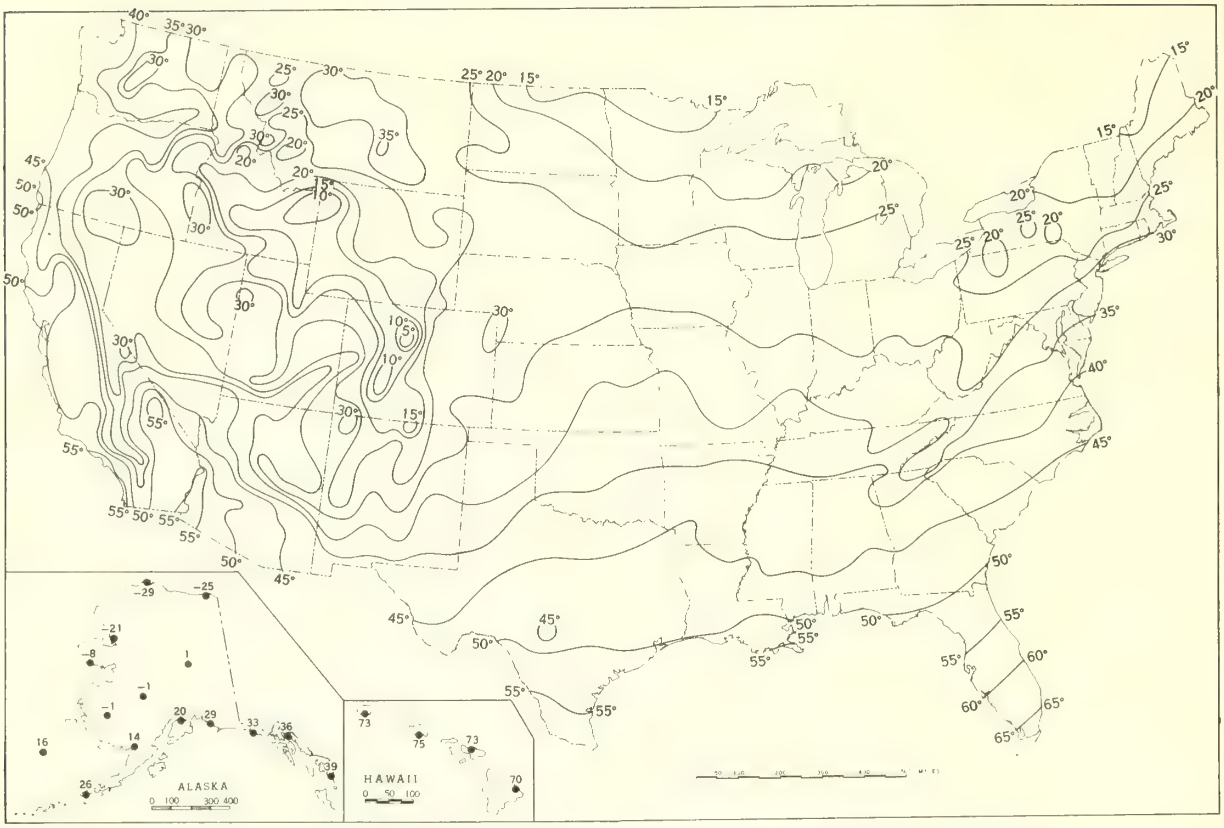
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λ s Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

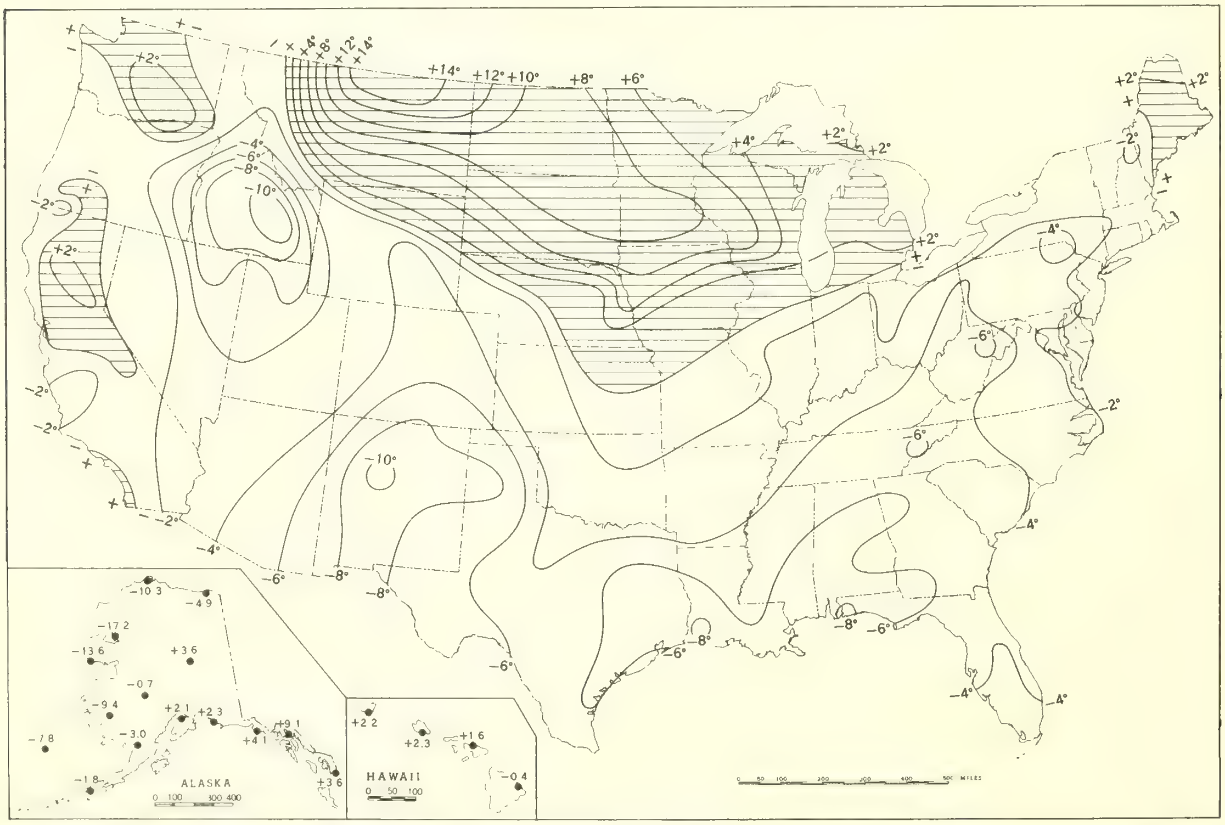
Station	Day of month																															Mean O$_3$
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Albuquerque, N. Mex.	00283	00328	-----	-----	-----	-----	-----	-----	-----	-----	03276	-----	00279	02371	00295	06344	00281	00360	00329	05372	00369	00326	05355	00325	06315	05347	00342	00336	06375			330
Bedford, Mass.	-----	-----	00428	00360	00378	05341	00383	-----	-----	00452	00412	00361	00322	00367	00335	-----	00360	00365	-----	00369	-----	-----	-----	00433	00396	00406	00424	00371	-----			382
Bismarck, N. Dak.	00383	00423	00343	00339	04378	00479	35355	35371	00450	00348	00346	36420	00389	00448	00381	00399	04389	06428	00392	04389	00366	-----	00412	00416	00462	00411	00395	00393	04436			398
Caribou, Maine	35346	-----	-----	-----	-----	-----	-----	05440	00418	00410	00454	00371	00348	32385	00456	04412	00422	00425	00393	06424	06414	05448	00431	00433	00407	-----	00468	00427	00439			417
Green Bay, Wis.	04381	05400	06417	04364	00358	02407	06503	00399	00405	00440	00354	04358	00367	00398	06432	-----	00419	00406	05407	00412	00462	00431	-----	00398	00449	00434	00418	00435	00380			409
Nashville, Tenn.	00317	00303	00322	00347	04358	04388	05408	00338	00395	04455	00357	04287	-----	00302	-----	05350	00325	06401	-----	-----	06407	00403	00402	00351	00349	05369	00359	00414	00339			362
Sterling, Va.	05324	02335	00359	00408	03345	06492	03369	00386	00376	06433	-----	00327	05304	00310	05317	00357	00333	-----	06400	00383	00410	00409	00398	00402	04361	00339	00353	04355	00361			368

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g , 350 milli-atmo-cm ozone implies an ozone layer 0 350 centimeter thick The code λ s designates the type of measurement made

Chart I. A. Average Temperature (°F.) at Surface, February 1964.



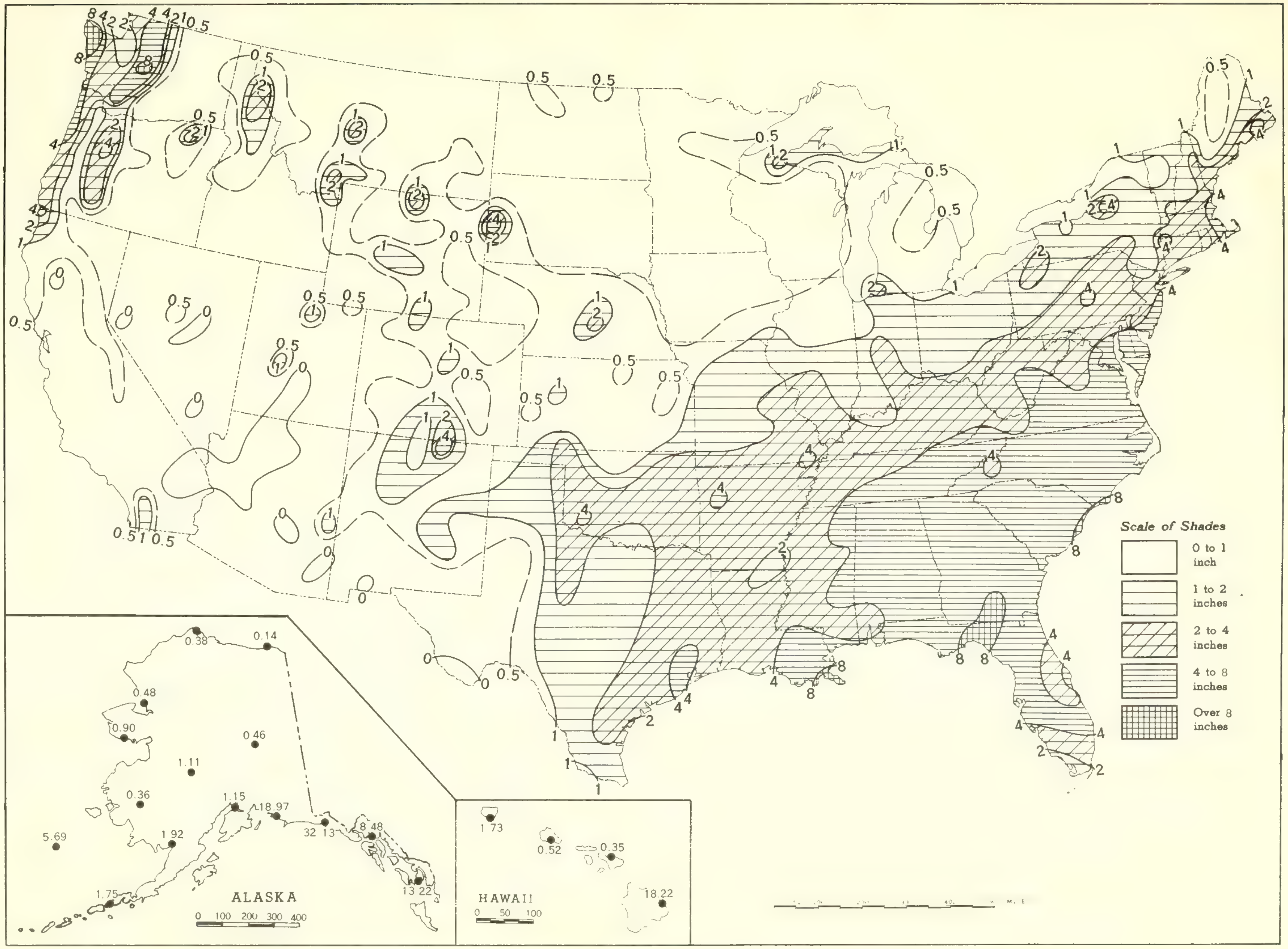
B. Departure of Average Temperature from Normal (°F.), February 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

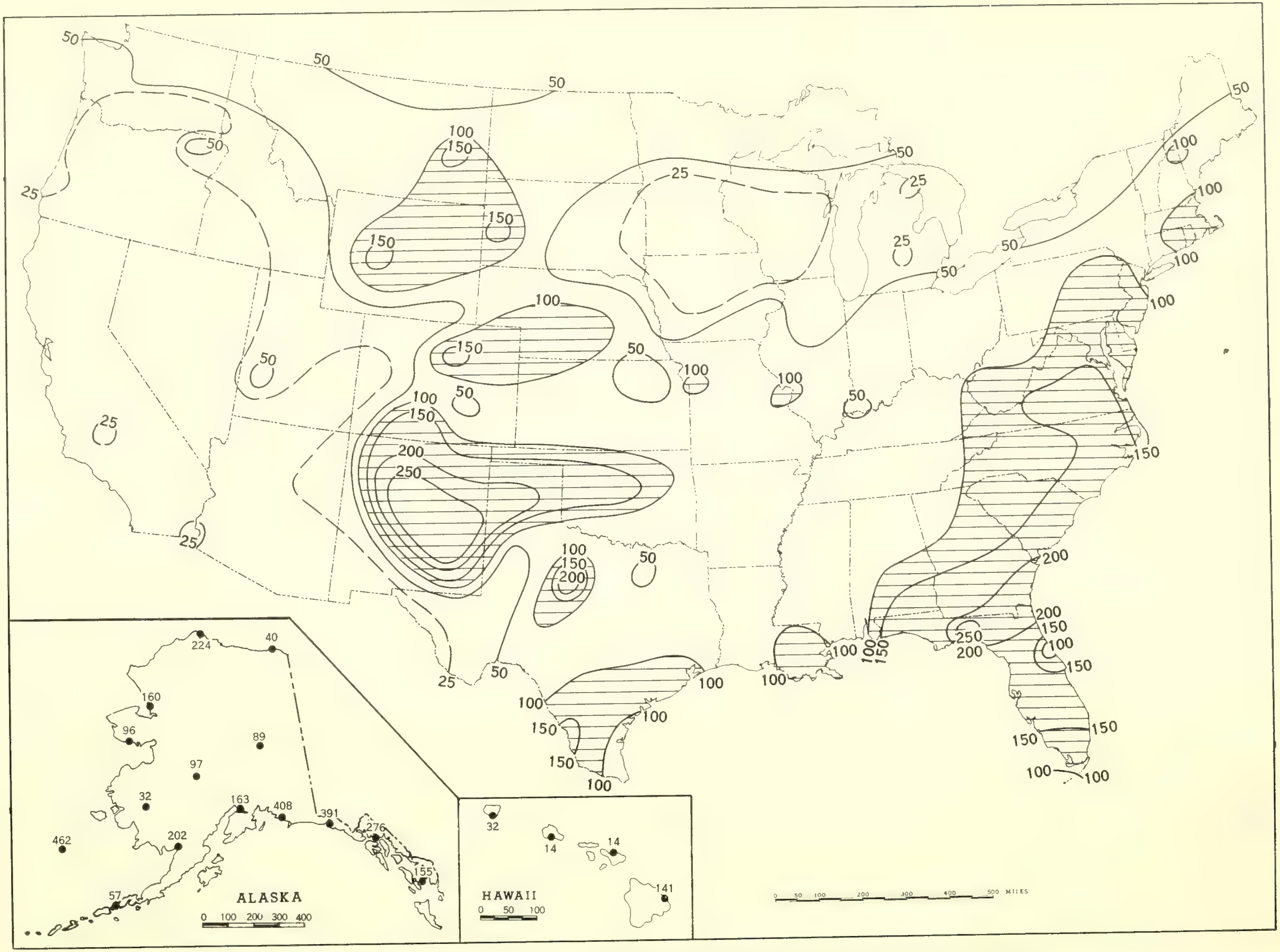
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), February 1964.



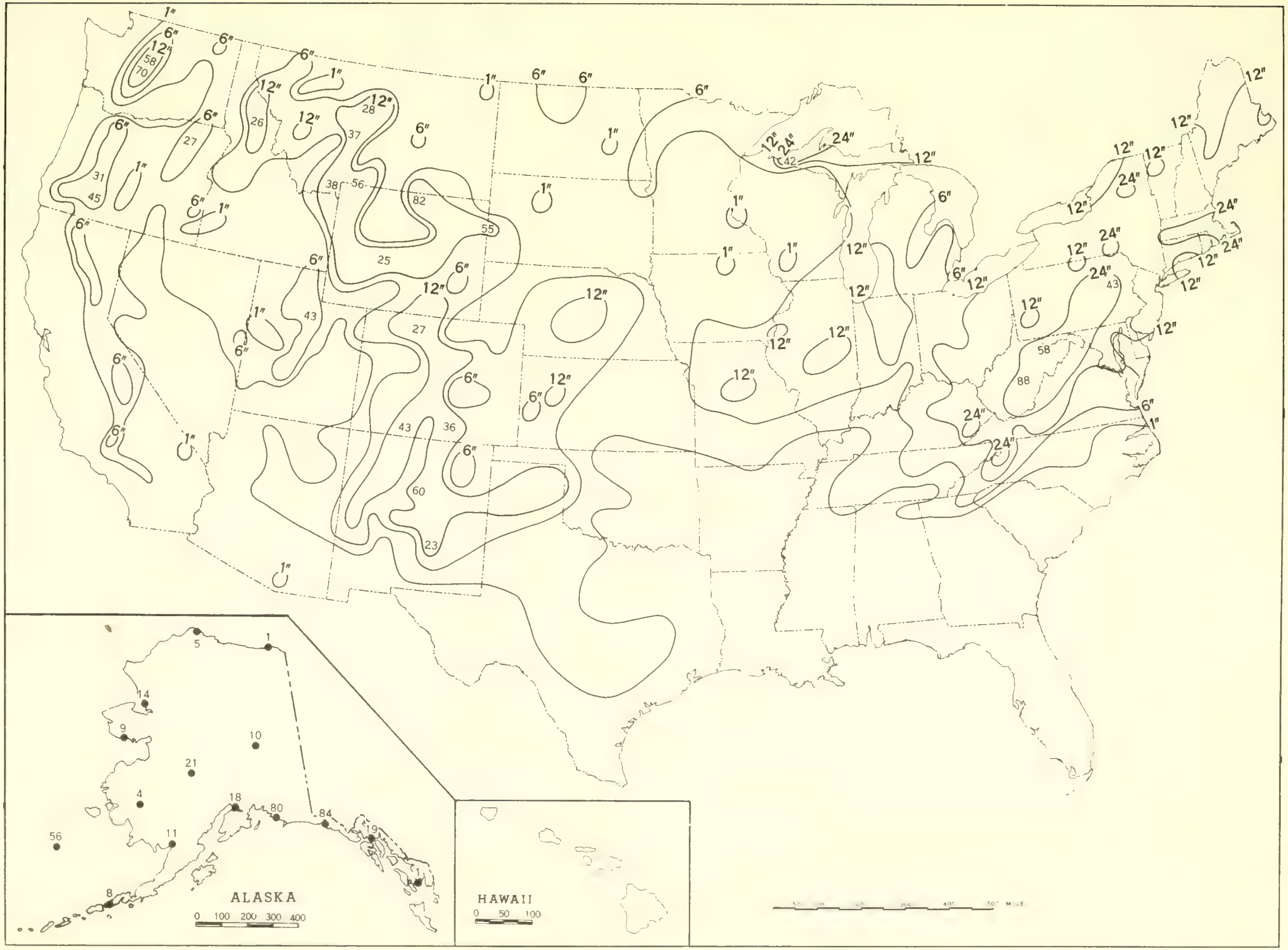
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, February 1964.



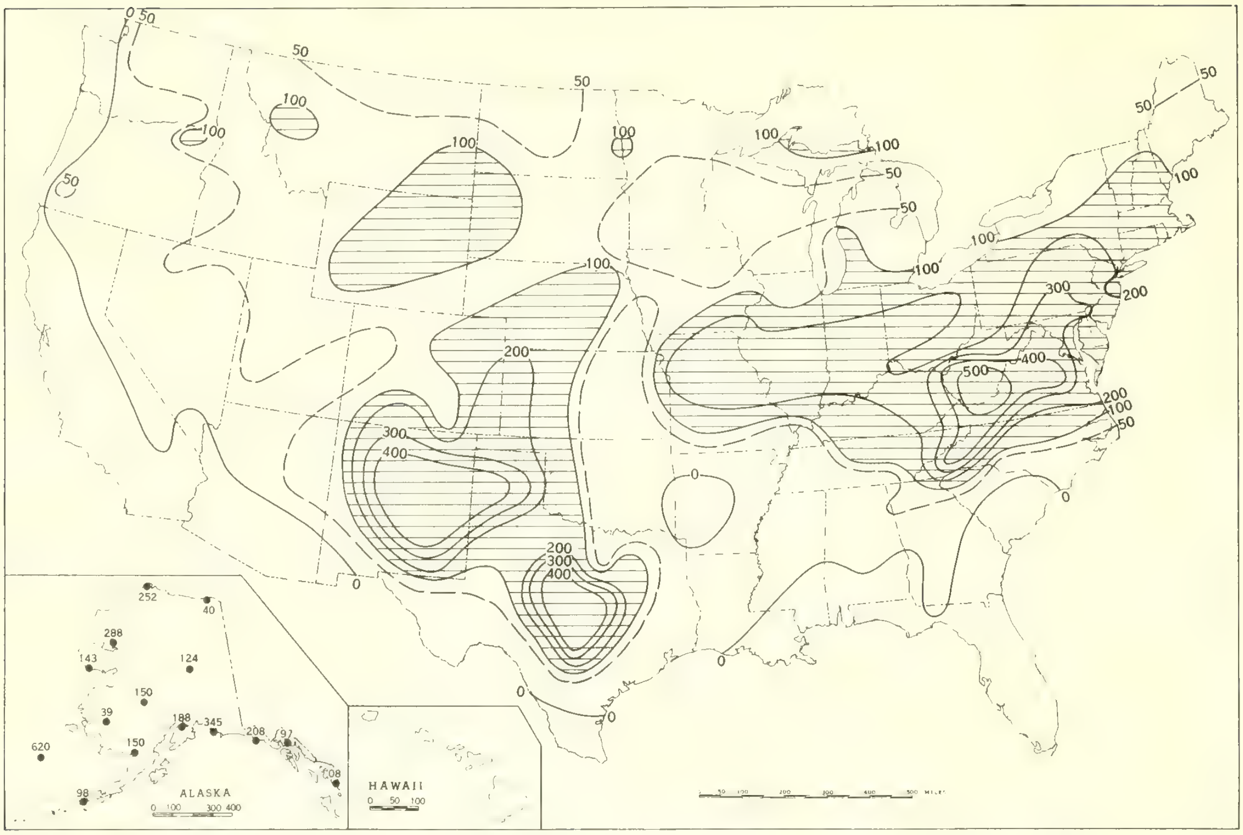
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), February 1964.

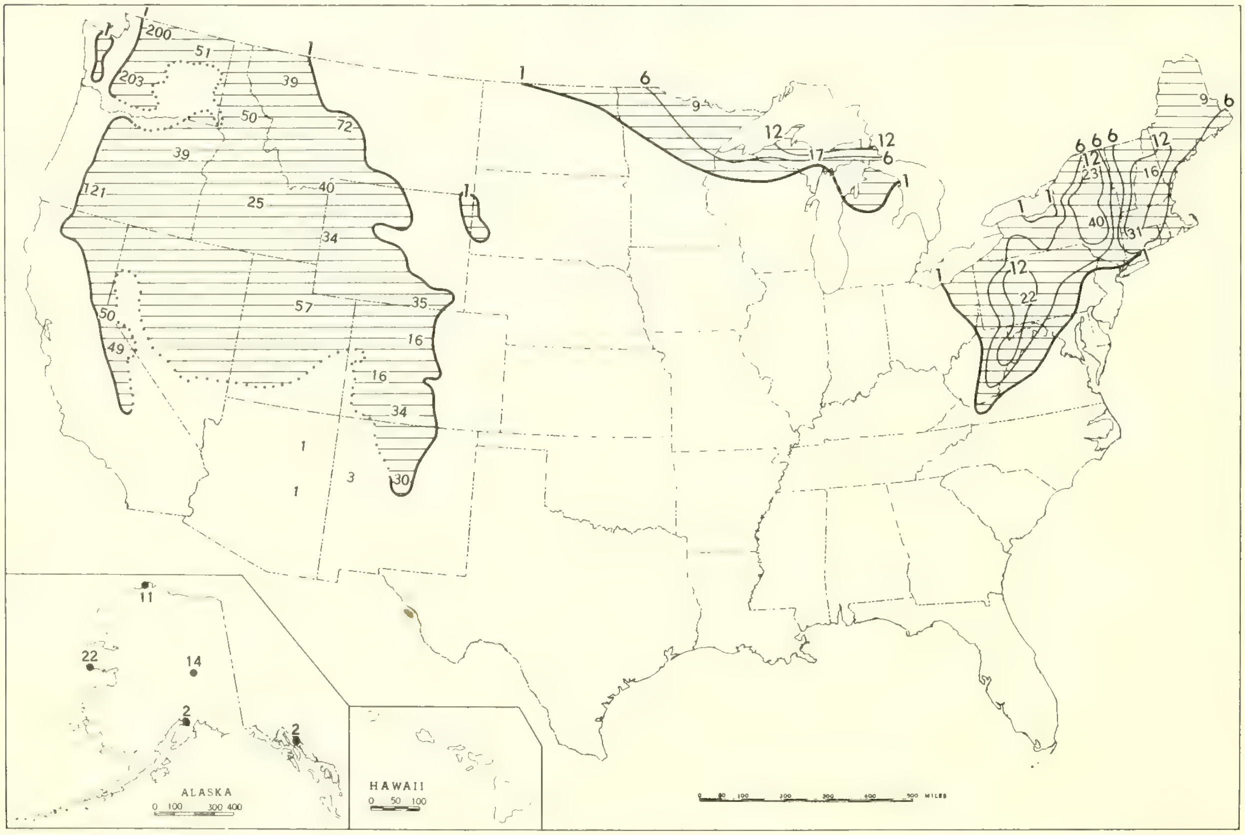


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, February 1964.

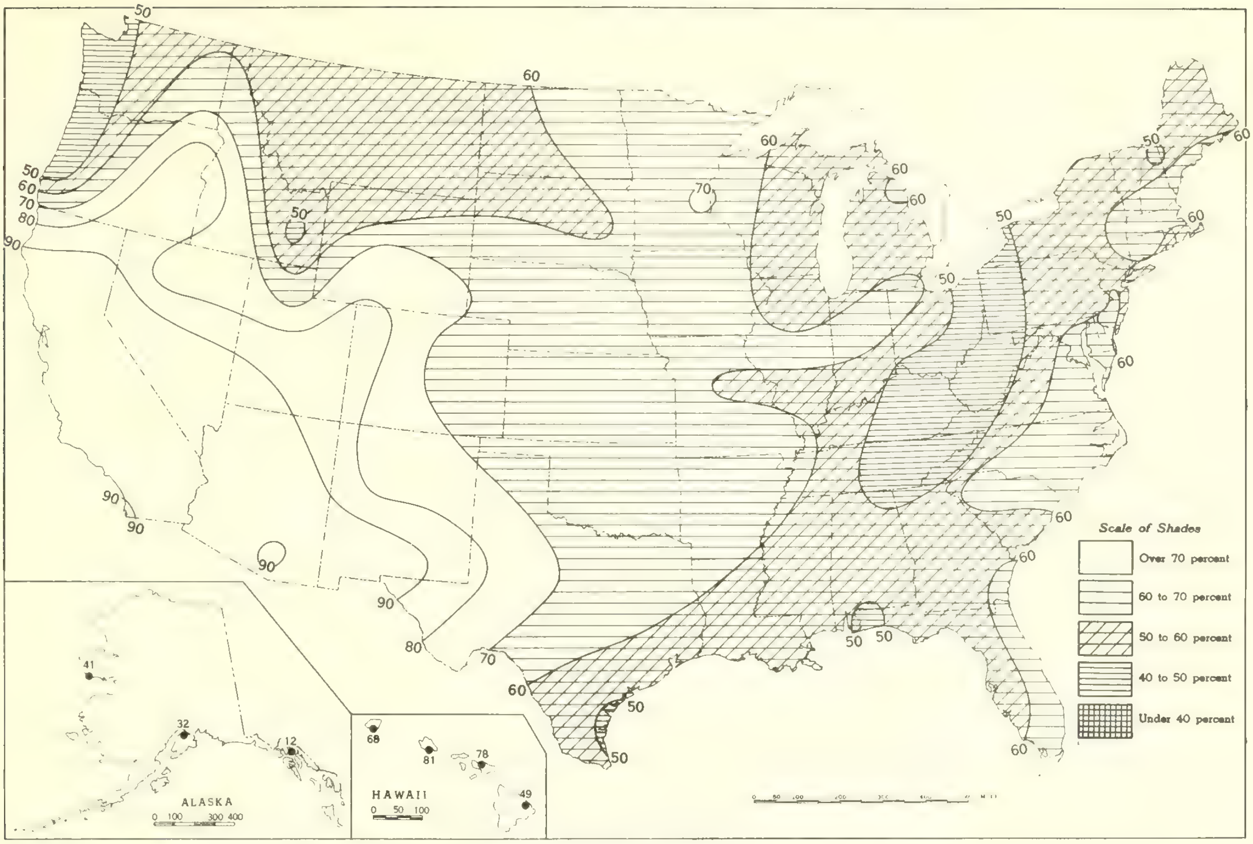


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., March 2, 1964.

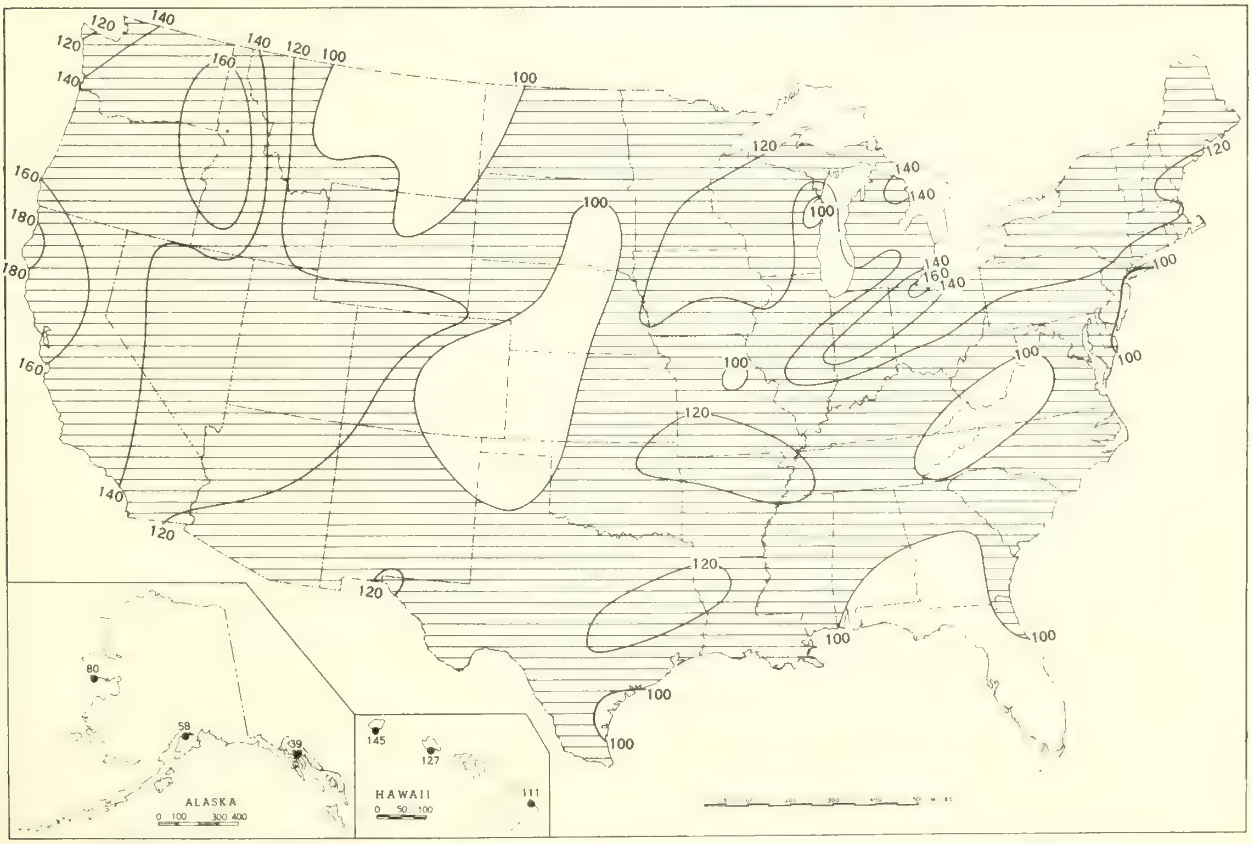


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a. m. E. S. T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, February 1964.

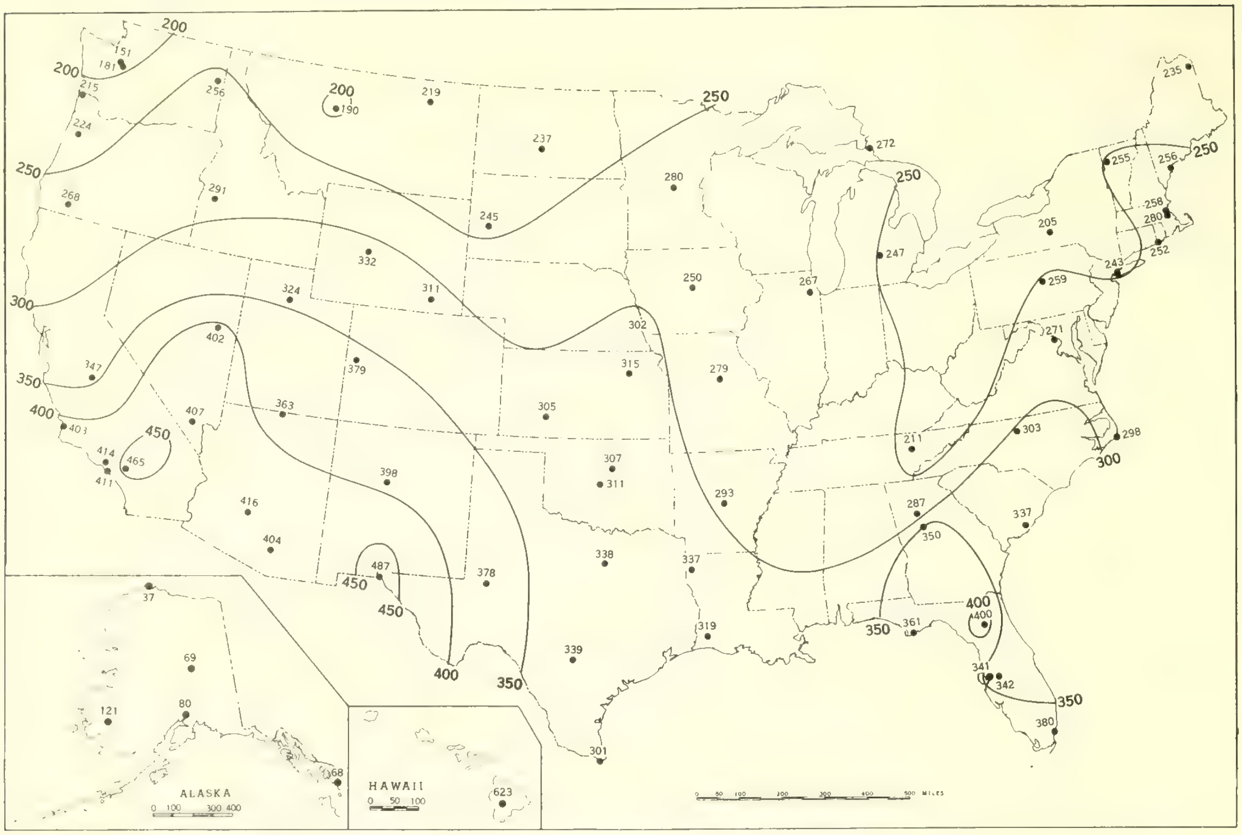


B. Percentage of Mean Monthly Sunshine, February 1964.

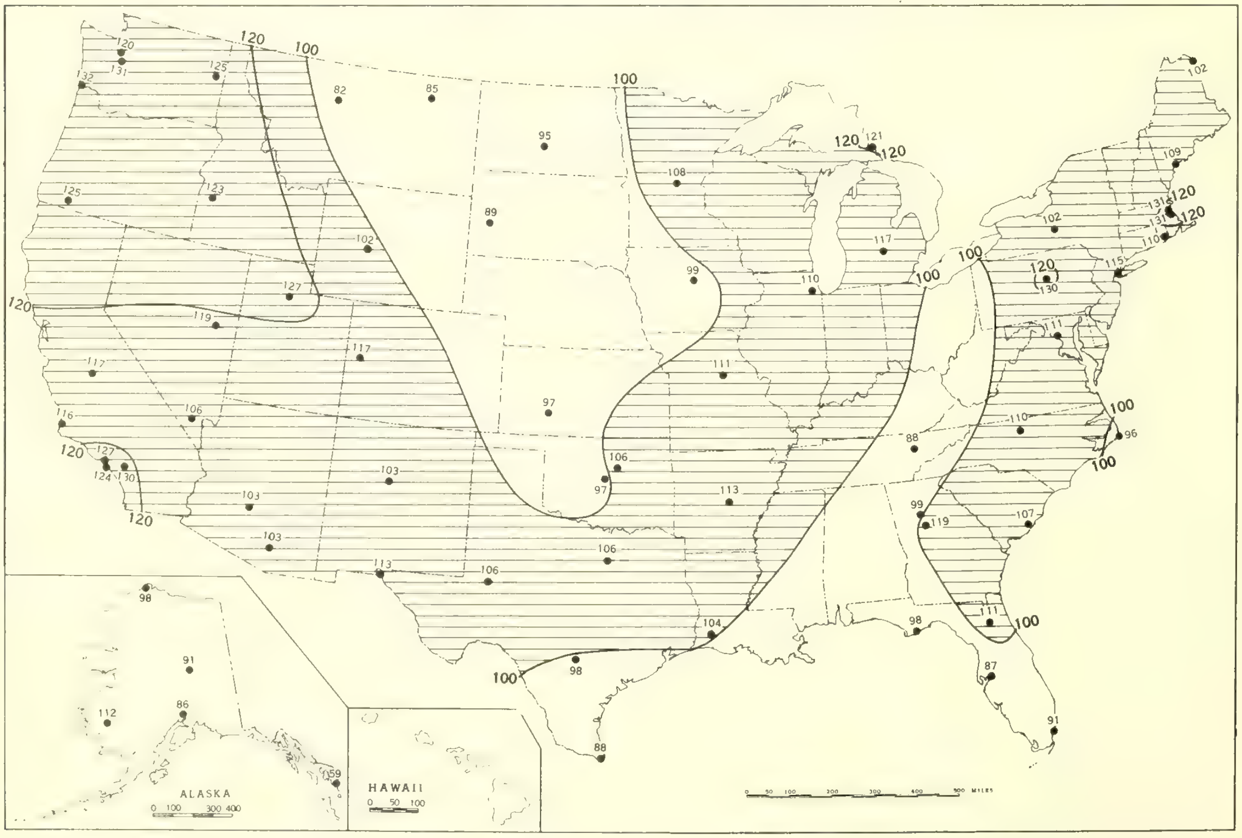


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, February 1964.

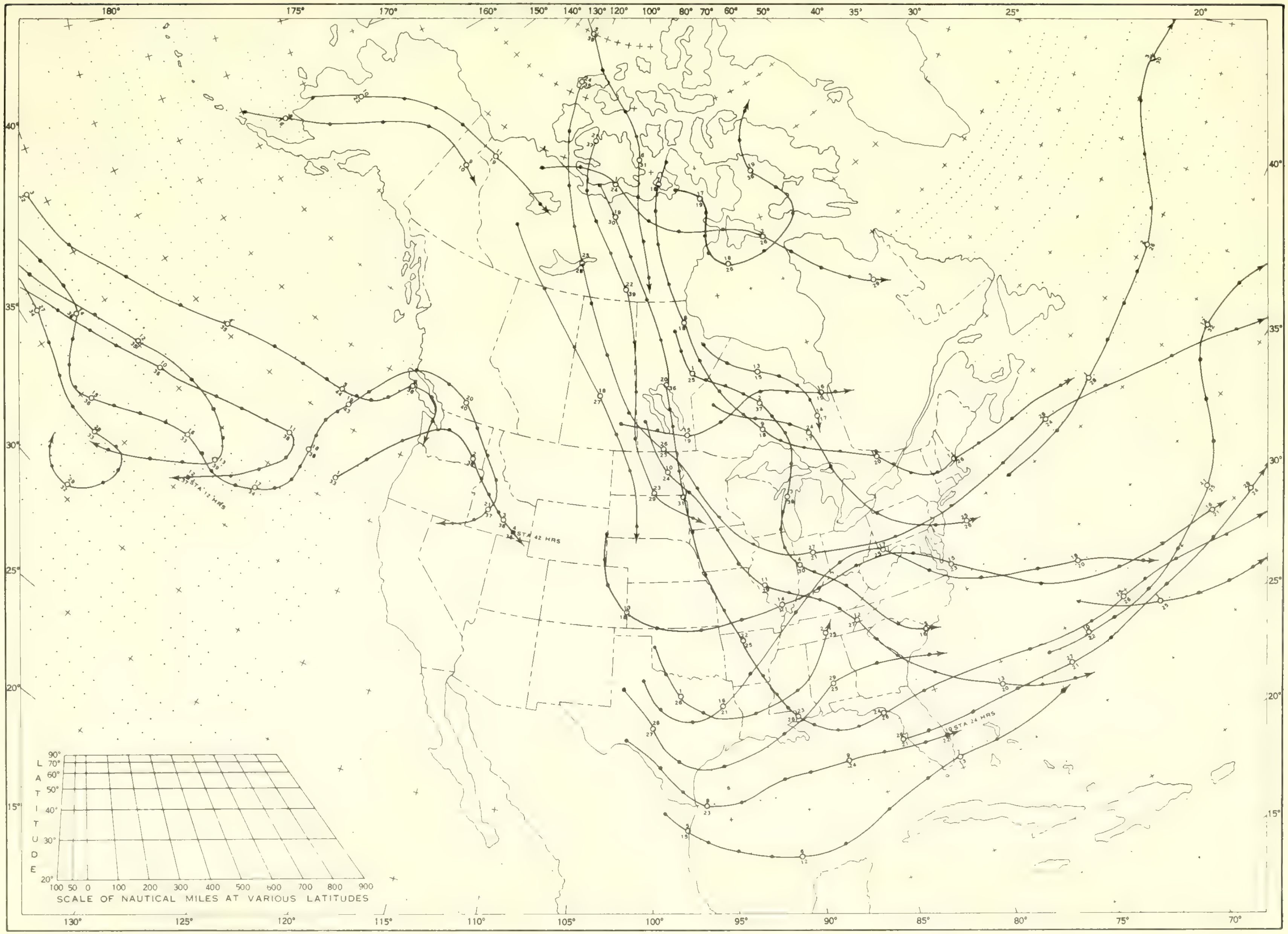


B. Percentage of Mean Daily Solar Radiation, February 1964.



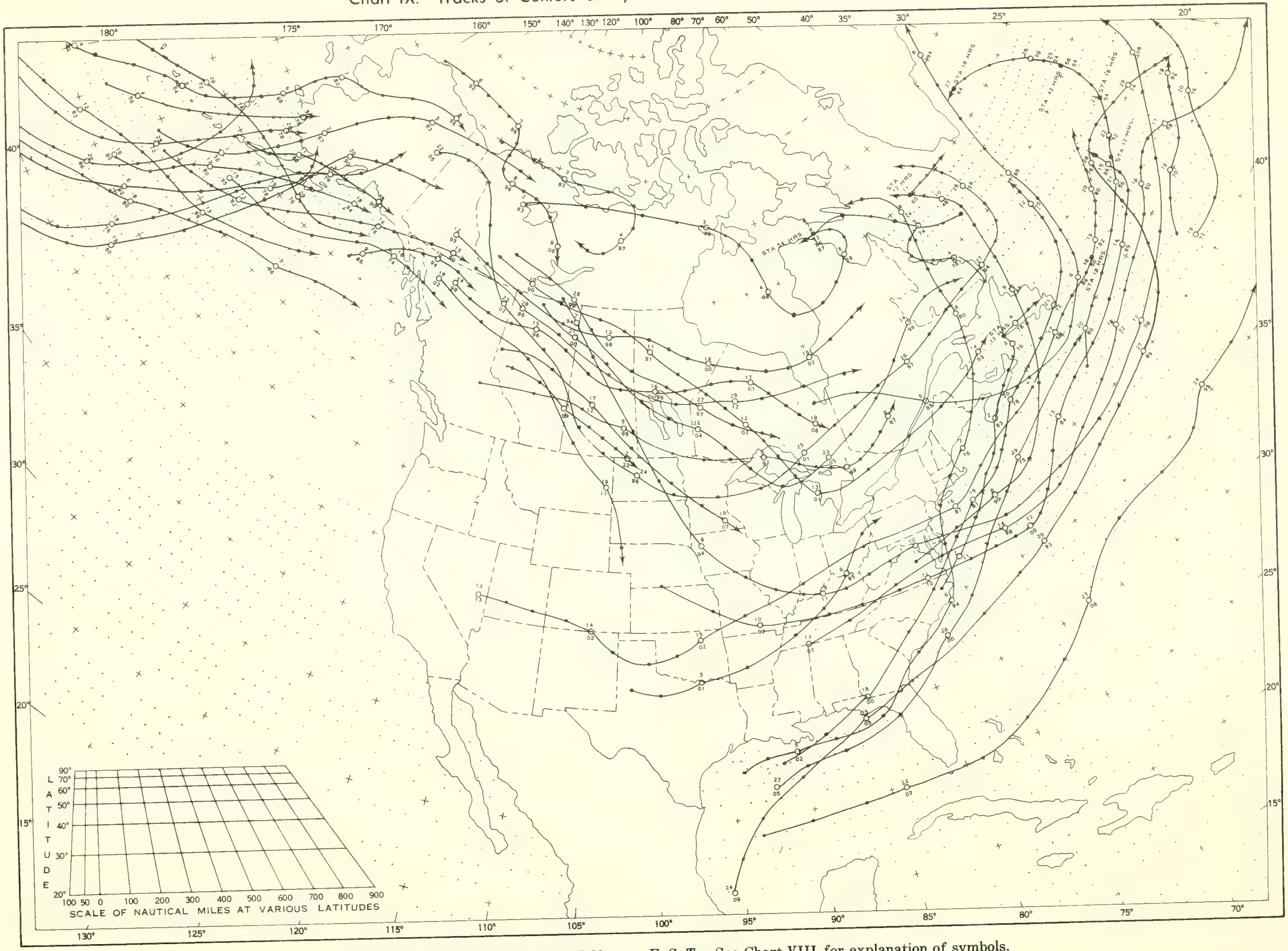
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, February 1964.



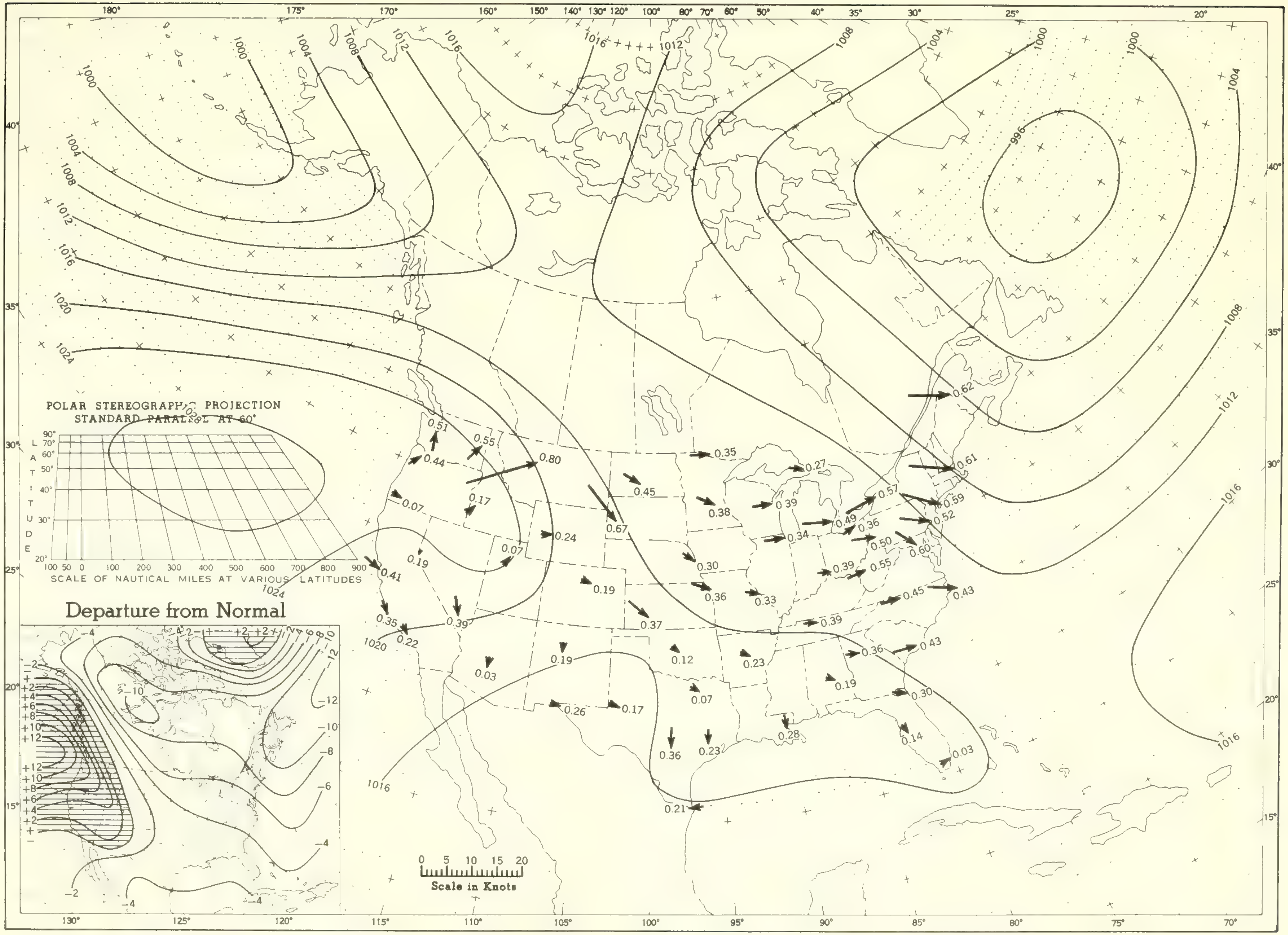
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, February 1964.



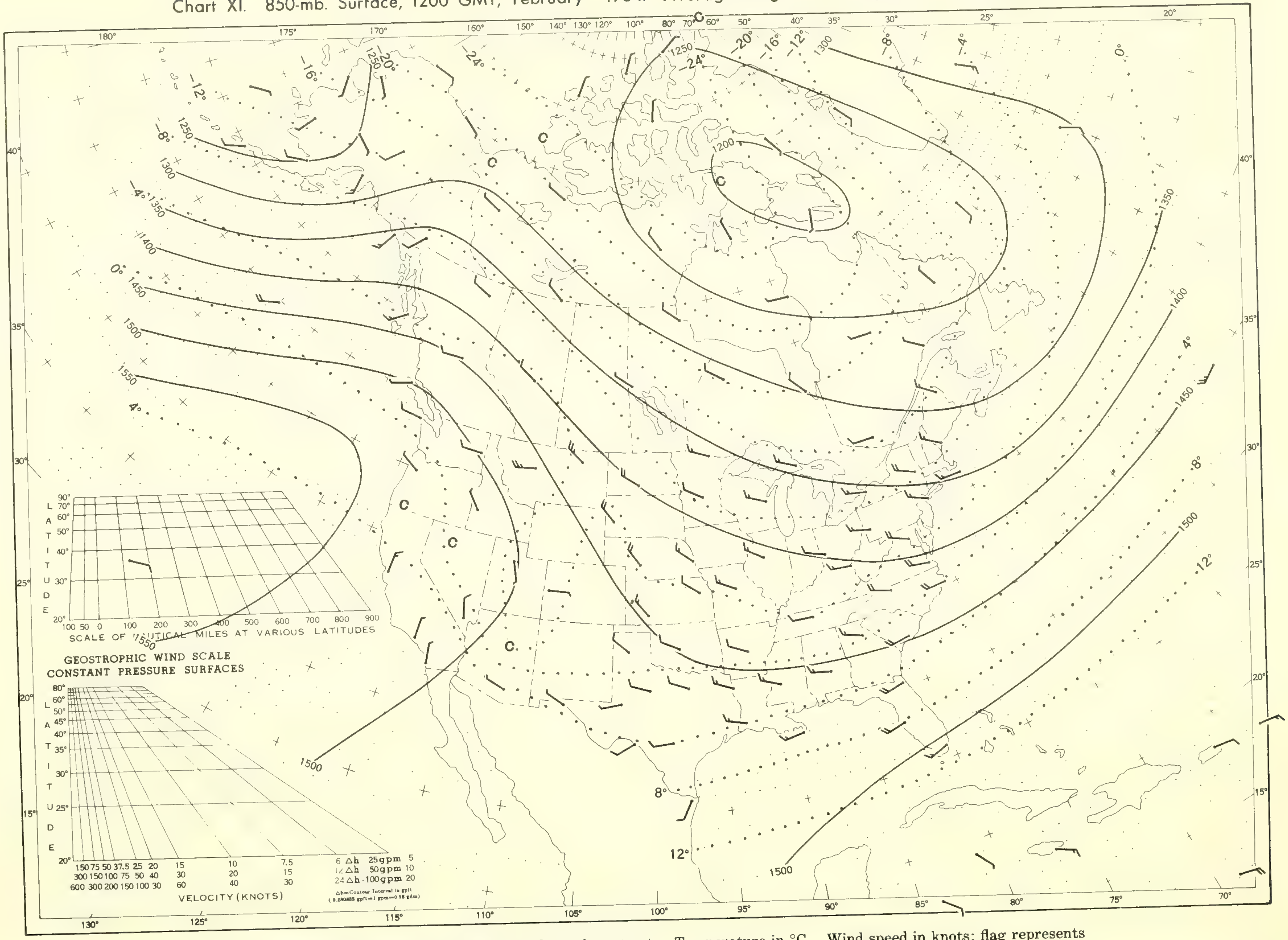
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, February 1964. Inset: Departure of Average Pressure (mb.) from Normal, February 1964.



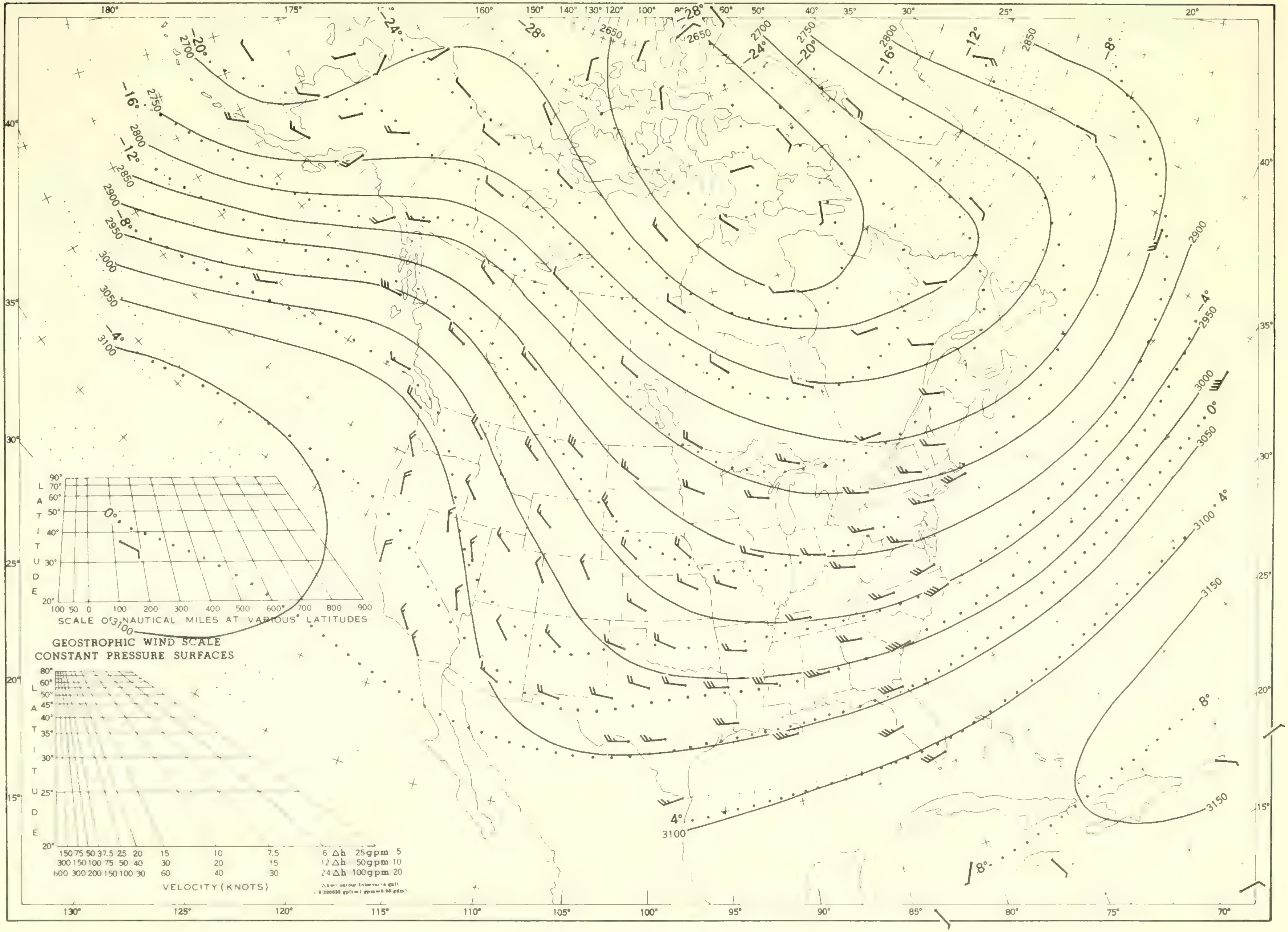
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, February 1964. Average Height and Temperature, and Resultant Winds.



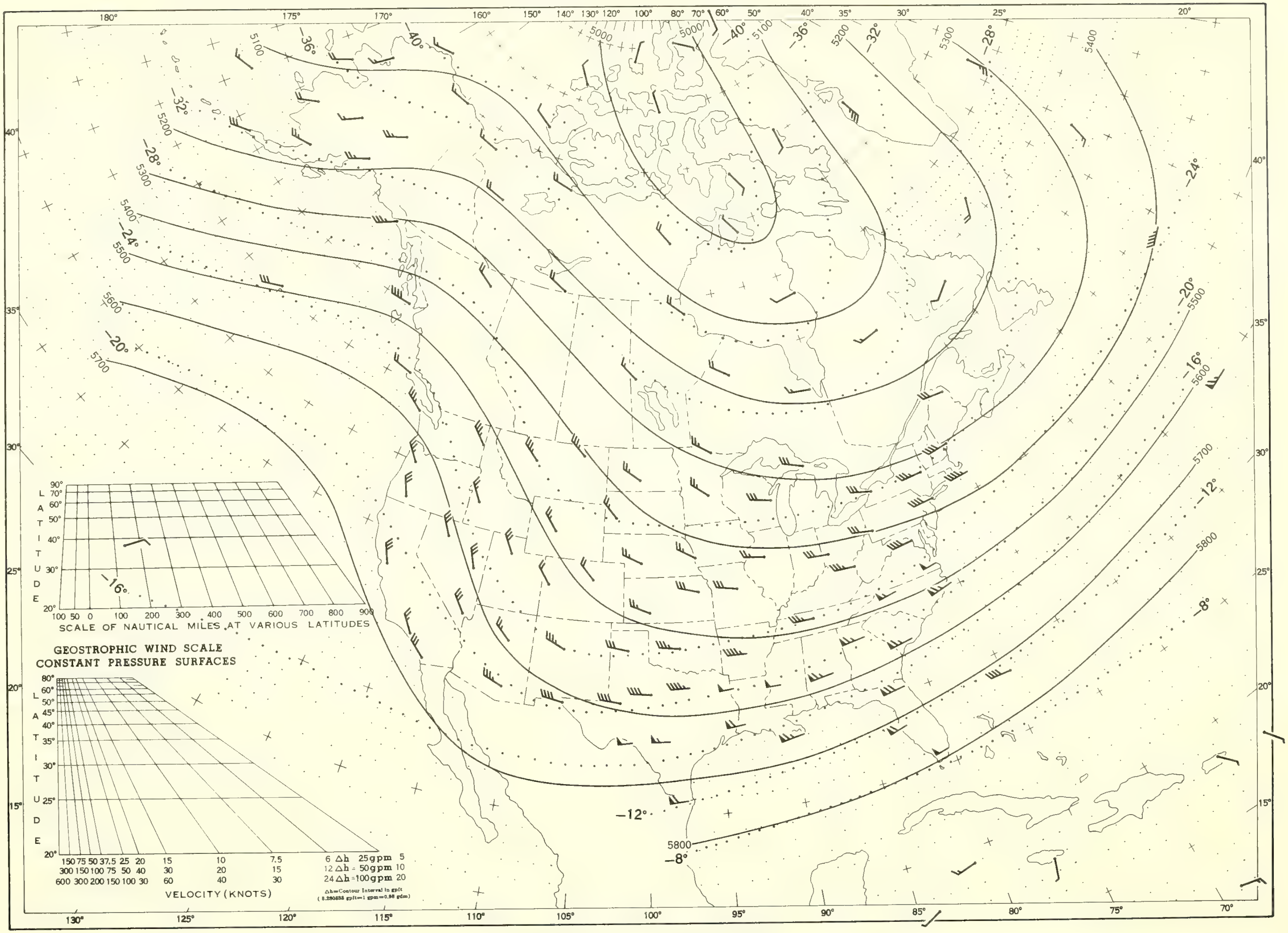
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, February 1964. Average Height and Temperature, and Resultant Winds.



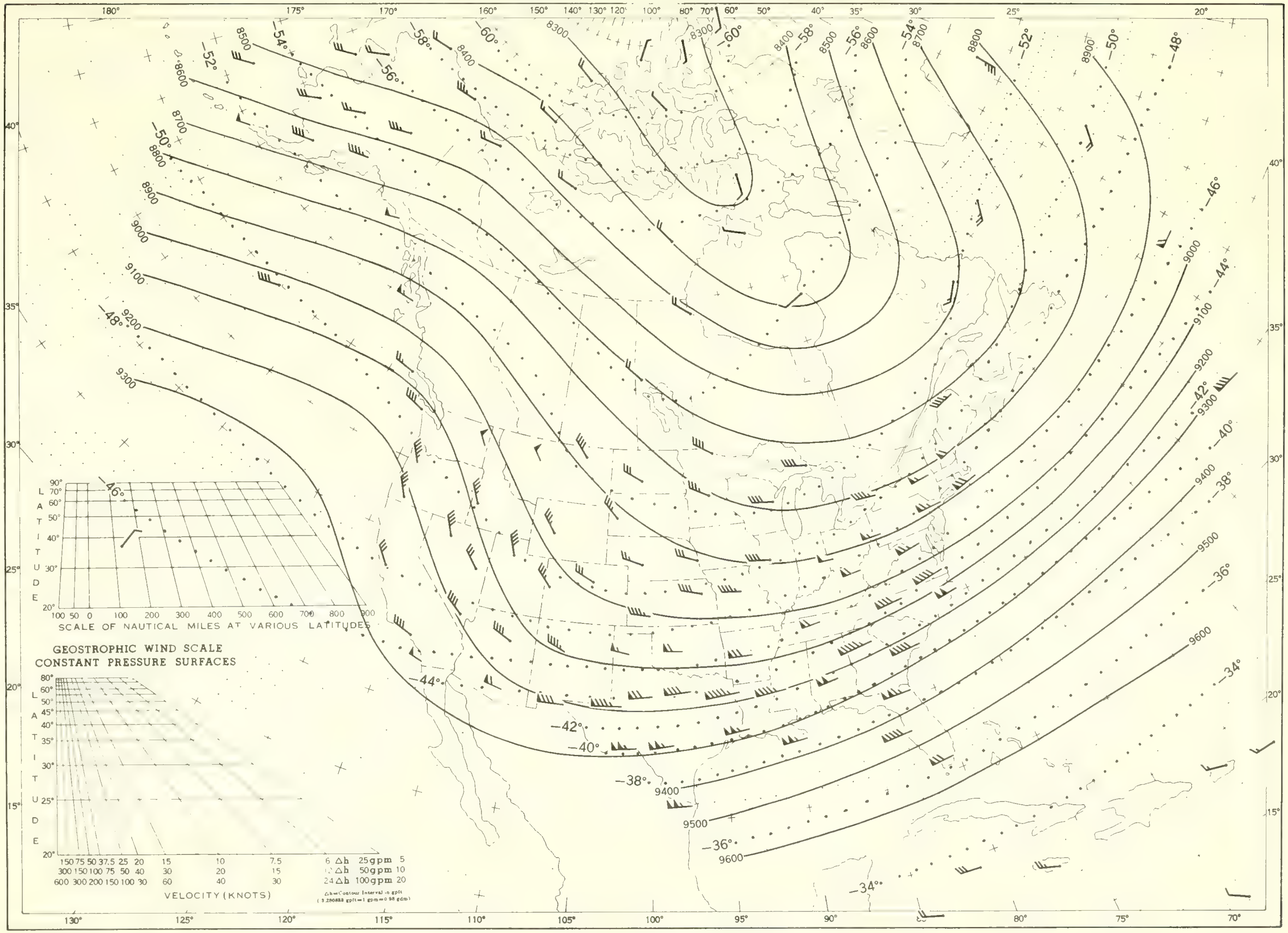
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, February 1964. Average Height and Temperature, and Resultant Winds.



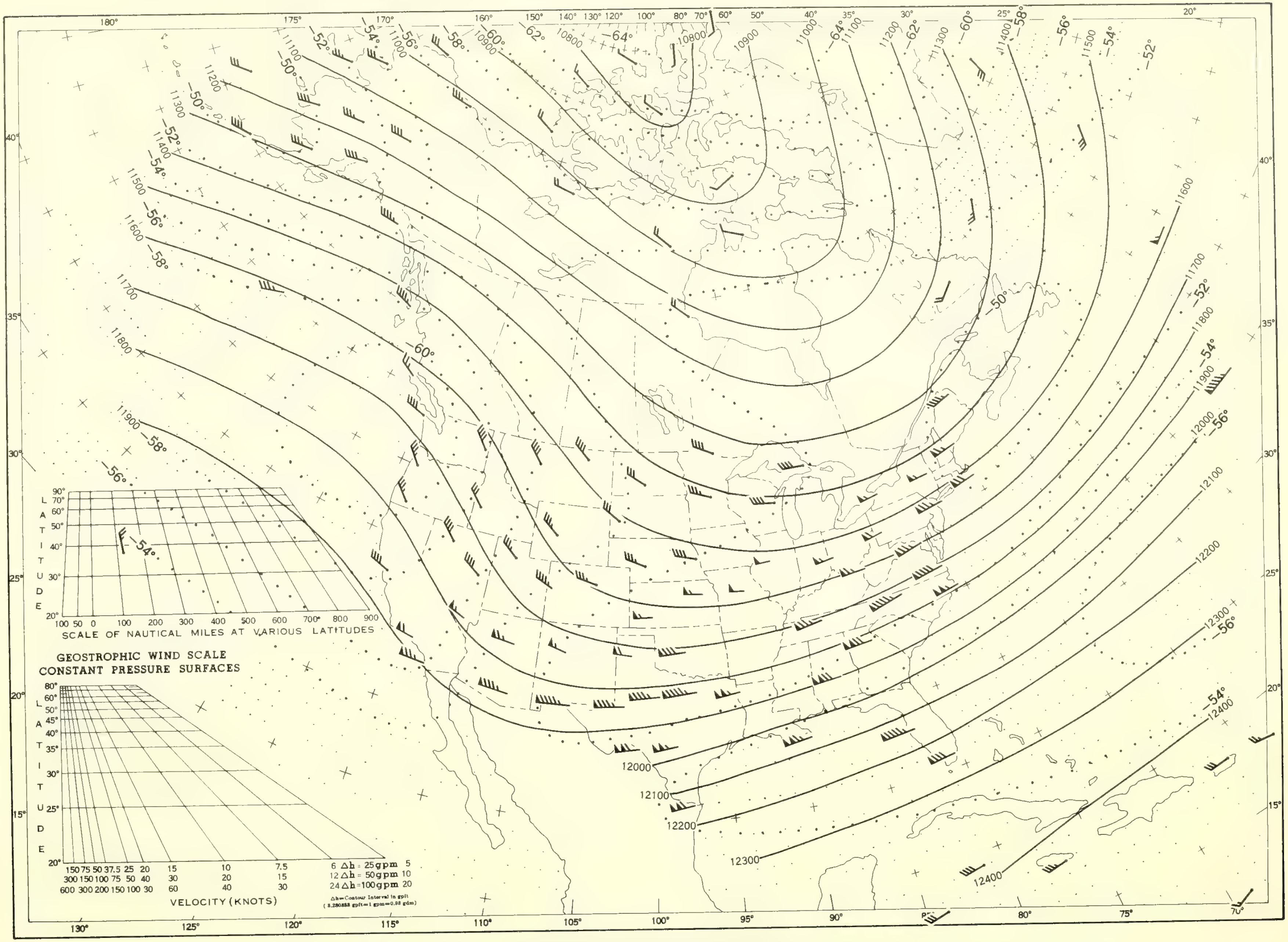
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, February 1964. Average Height and Temperature, and Resultant Winds.



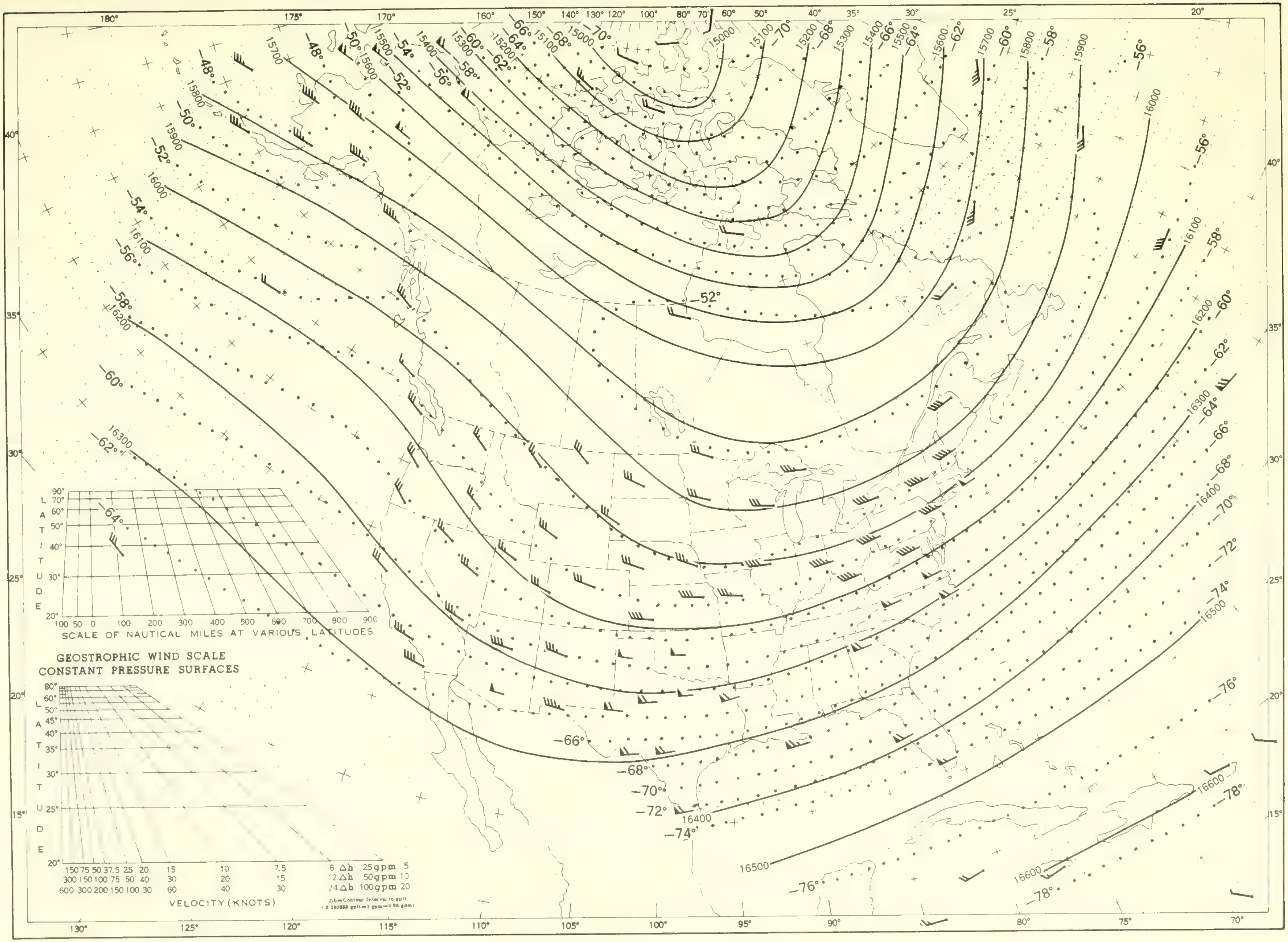
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, February 1964. Average Height and Temperature, and Resultant Winds.



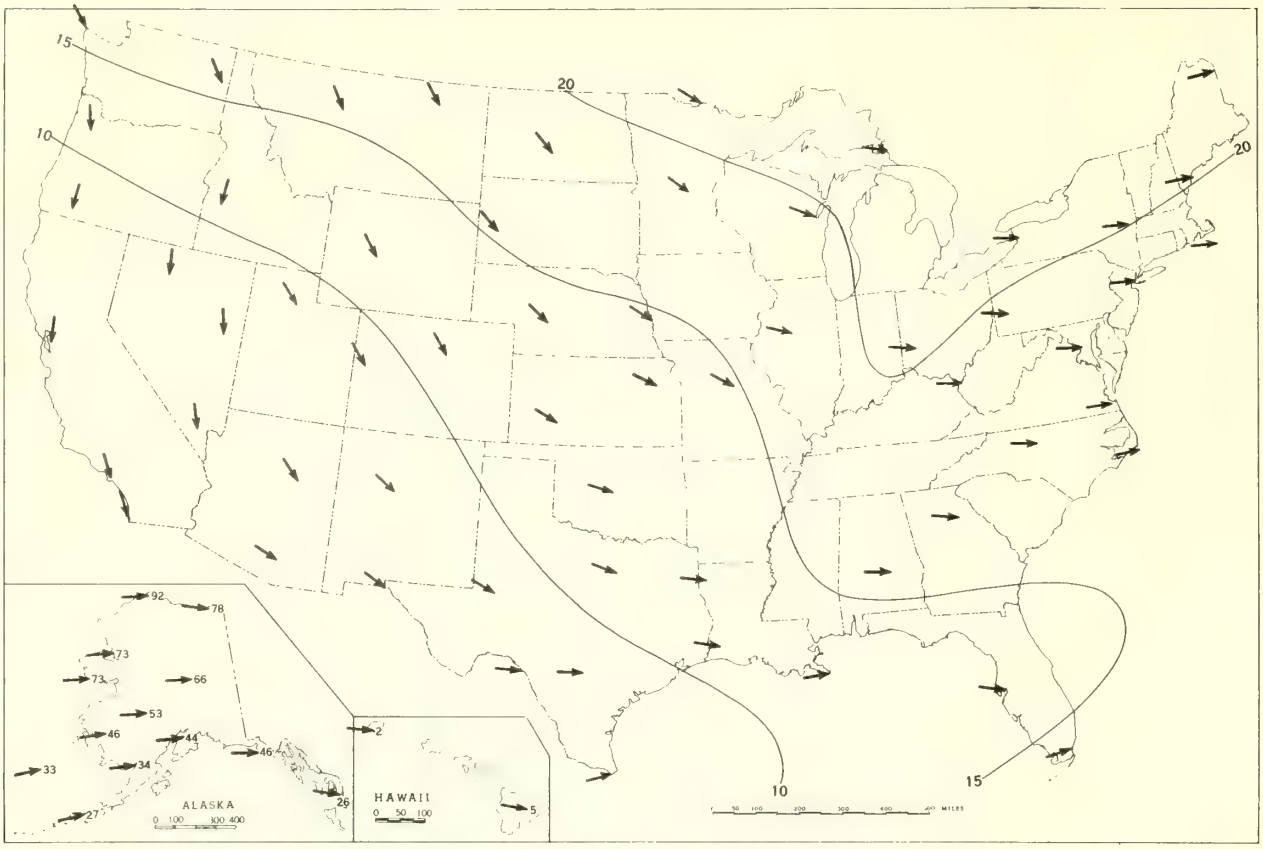
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, February 1964. Average Height and Temperature, and Resultant Winds.

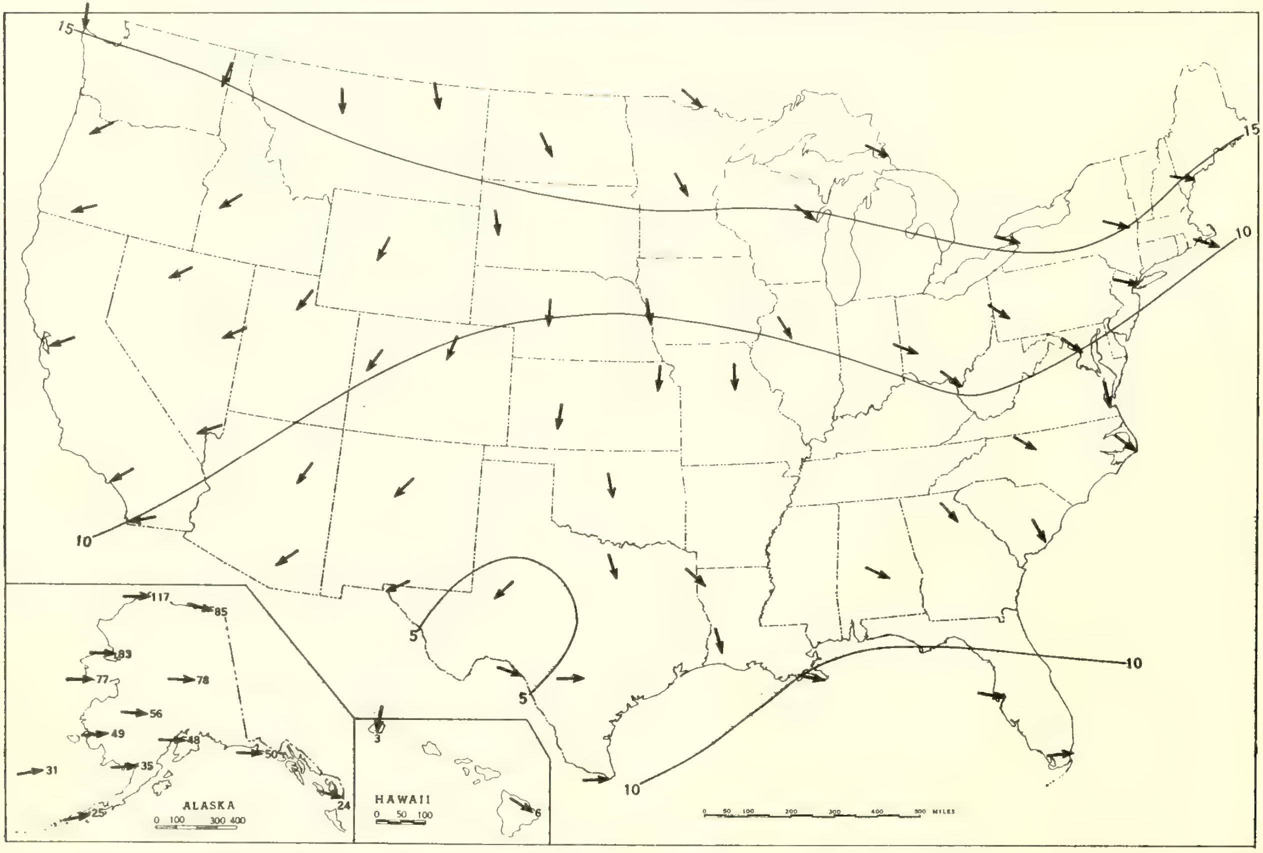


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, February 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, February 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville, N. C. -6/12/64-1850

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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MARCH 1964
Volume 15 No. 3

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 3 MARCH 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

Temperatures for the month averaged below normal over most of the western and central States and above normal over most of the eastern third of the Nation. Some parts of the Great Basin and central Rocky Mountains averaged 6° or more below normal. Heavy rains fell over the Ohio River Valley. A few monthly totals exceeded 14 inches.

At the beginning of the month, a low pressure area was centered over British Columbia, Canada. A cold front stretched southward across the coastal portion of Washington and a stationary front lay to the east across the southern edge of Canada. Fair weather predominated over most of the western and central portions of the United States and from Pennsylvania to New England. Clouds covered the area from the Great Lakes to the Gulf of Mexico. Mild temperatures prevailed over the middle and eastern States in sharp contrast to the cold temperatures in the arctic air that poured into Montana. Winds in the cold air ranged up to 40 or 50 m. p. h.

Generous rains fell over the Southeast on March 2. Several stations in Mississippi and Alabama recorded more than 2 inches on that date. Temperatures in northern Minnesota plunged to 18° below zero. Snow fell over the central and southern Rocky Mountains. Denver, Colo., received 6.3 inches and 9.8 inches fell at Flagstaff, Ariz., on the 2d and 3d. The storm responsible for this snow intensified and divided into two storms. One moved northeastward toward the upper Mississippi River Valley, leaving moderate to heavy snow in its path as well as a mixture of sleet, freezing drizzle, and freezing rain. Some parts of the northern Great Plains -- the Dakotas, Nebraska, Minnesota, and Wisconsin -- received 5 inches or more of snow. Rockford, Ill., received 7. 3 inches on the 4th and 5th. The schools closed because of heavy snow for the first time since 1918. At Moline, Ill., the strong winds on March 4 broke tree limbs and power lines.

The other storm center moved eastward from the south-central United States. At least a dozen tornadoes swept through parts of many southern States. The storms killed one person in Arkansas and injured others in Missouri, Kentucky, Tennessee, and Mississippi. Heavy rain fell over the Ohio River and Tennessee River Valleys. In western Kentucky, 24-hour totals ranged up to more than 5 inches.

Heavy snow, up to 7 inches, fell over parts of Oklahoma. Quincy, Ill., received 8 inches. On March 4, the wind reached 70 m.p.h. at Chicago, Ill., 76 m.p.h. at Cleveland, Ohio, and 80 m.p.h. at Milwaukee, Wis. Although the temperatures dropped to below zero in the northern portions of Minnesota, they climbed to the upper 80's in southern Florida.

Early on March 7, a cold front stretched from a storm centered over northern Lake Michigan, southwestward to Texas. Heavy thunderstorms occurred along the front. Cairo, Ill., received 4. 29 inches of rain on March 8.

Violent weather extended from Texas to New England on March 9. Heavy rains caused substantial rises in the rivers in southeastern Missouri and through the Ohio River system. Snow fell over parts of Oklahoma and north-central Texas. Snow with 40 m.p.h. winds reached the Dallas-Ft. Worth area. Tornadoes occurred over the lower Mississippi River Valley.

By March 10, the intense storm was moving across the Ohio River Valley. The Ohio River was in flood. Heavy snow fell from northern Indiana to western New York. Freezing rain and sleet occurred from southwestern New York and Pennsylvania to southern Massachusetts. Rochester and Syracuse, N. Y., received more than 10 inches of snow from this storm -- the heaviest snowstorm of the season. Portland, Maine, received almost 16 inches of snow from March 9 to 12.

By March 11, another storm was intensifying over southern British Columbia, Canada. Winds reached 45 to 55 m.p.h. along our northern Pacific coast. Rain fell along the coast and snow fell in the higher elevations.

On March 13, a huge high pressure area was centered over the eastern United States. Warm, humid, Gulf air poured northward across eastern Texas, Louisiana, and Mississippi. This produced fog and low clouds over eastern Texas. Temperatures rose to the 70's in central and southern Missouri and to the 80's in parts of Texas. Abilene, Texas, registered 86° on the 13th.

A cold front pushed southeastward on the 14th, causing rains and some thunderstorms over the eastern half of the Nation. Chattanooga, Tenn., received one of the larger amounts on the 14th, 3. 63 inches.

A huge high pressure area lay behind the front. Skies cleared following the frontal passage and fair weather predominated over most of the Nation at midmonth. Arctic air began moving southward from Canada, however, and freezing temperatures, strong northerly winds, scattered snow, and blowing dust were noted over Montana, the Dakotas, Minnesota, and Wisconsin. Pleasant weather prevailed over most of the rest of the Country.

The cold northerly winds continued, causing falling temperatures and blowing dust over the northern Great Plains on the 16th. Meanwhile, stronger winds, with gusts up to 70 m. p. h. warmed the Far Southwest. These were the Santa Ana winds which occasionally blow over the southwestern deserts. The temperature on Tuesday, March 17, rose to 88° at Los Angeles, Calif. In contrast, International Falls, Minn., registered a minimum temperature of 15° below zero on that date.

A new storm developed over the central Great Plains. Thundershowers occurred over Texas and nearby States. Snow fell over Montana, the Dakotas, Nebraska, and Kansas. Winds over western Kansas and central Nebraska increased to 50 m.p.h. The visibility became reduced due to blowing snow. Blizzard conditions prevailed from eastern Colorado and western Kansas to Minnesota. Another disturbance in northeastern Arkansas produced rain from Missouri and central Illinois to Kentucky and Tennessee. A third storm produced rains along the Gulf and over northern Florida. As the storms moved eastward, it brought snow or rain to the eastern half of the

Nation. Baltimore, Md., received 11.5 inches of snow on March 21 and 22.

Another storm developed in the Far West. It caused snow in Nevada, Utah, Idaho, and Montana. Salt Lake City, Utah, received 11.5 inches on the 22d. To the south, winds, gusting to 50 m.p.h., raised clouds of dust over parts of New Mexico and Texas.

The arctic air moving into Montana dropped the temperature at Cutbank to 11° below zero on March 23. In some places the temperature dropped 46° in 24 hours. Lewiston, Mont., registered 20° below zero on Tuesday morning, March 24. Thunderstorms, with sleet, freezing rain, and hail, occurred in northeastern Kansas and northwestern Missouri. Sleet and freezing rain fell in southern Iowa. Heavy snow fell in parts of the Rocky Mountains. Flagstaff, Ariz., received 24.9 inches from the 22d to 24th. Tornadoes struck Missouri, Kentucky, Mississippi, and Alabama.

The frigid temperatures continued to grip the northern Great Plains. At Bismarck, N. Dak., the mean daily temperatures were from 20° to 31° below normal from the 24th to 29th. The arctic air continued southward and most stations in the southeastern States registered their coldest temperatures for the month on the last 2 days.

Along the Pacific coast, March 1964 was the windiest March of record. The winds at Olympia, Wash., caused extensive minor damage to roofs, signs, and windows. At Los Angeles, Calif., the wind speed averaged 11.0 m.p.h., exceeding the average for any previous month of record. Salt Lake City, Utah, recorded the coldest March of record. At Cheyenne, Wyo., the arctic air which moved in on the 22d caused some losses of newborn calves and lambs. Denver, Colo., reported that the snowpack in the mountains, which had been below average, was near normal at the end of March. Rapid City, at the foot of the Black Hills in South Dakota, reported mostly mild temperatures except unseasonably cold from the 22d to the 29th. Kansas was windy. Winds at Concordia reached 30 m.p.h. on 10 days and 40 m.p.h. on 20 days. Topeka added "abundant sunshine" to their notes on the March weather.

Tulsa reported two major snowstorms during the month and three outbreaks of cold air during the last half. Texas reported the usual variety of weather -- some windy days with blowing dust, a number of grass fires, some cold outbreaks, numerous thunderstorms, and a few tornadoes.

From Minnesota came a report that the snow hampered traffic, but Fargo, N. Dak., stated that the snow during the last half of March would benefit agriculture.

The ice storm at Burlington, Iowa, on the 24th and 25th damaged trees and powerlines. The strong winds on the 4th broke limbs and powerlines in the Moline, Ill., area. Ft. Wayne, Ind., set a new snowfall record for March with a total of 19.5 inches. The storm of March 9 to 13 accounted for 17.4 inches of snow at Ft. Wayne. The snow blocked numerous roads on the 9th and 10th. In the northeast, the first half of the month was mild, the last half cool. It was especially mild at Milton, Mass., from the 1st to the 9th.

Heavy rains set new records in the Ohio River Valley. At Cincinnati, Ohio, the monthly total, 11.49 inches, set a new record for March. At Cleveland, Ohio, the strong winds -- with gusts to 76 m.p.h. -- on the 5th caused extensive minor damage. The rains ended the prolonged dry spell at Mansfield, Ohio. Glaze at Toledo, Ohio, on the 5th, accompanied by strong winds, caused extensive minor damage.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Chatom 3N	89	26	2 Stations	19	30	Madison	14.14	Coden	3.27
Alaska	Annette WBAP	55	29	Lake Chandalar	-62	14	Little Port Walter	18.35	5 Stations	T
Arizona	Winkleman 6S	95	31	2 Stations	-13	9+	Keams Canyon	8.77	2 Stations	.00
Arkansas	2 Stations	84	14+	Gravette	4	10	Saint Francis	13.51	Fayetteville Exp. Station	2.73
California	do	94	31+	White Mountain 2	-35	10	Gasquet Ranger Station	10.75	3 Stations	.00
Colorado	Eversoll Ranch	81	31	Antero Reservoir	-36	9	Redstone	D 6.25	Brandon	.00
Connecticut	Hartford WBAP	76	25	Mansfield Hollow Dam	5	7	Norfolk 2 SW	3.96	Wigwam Reservoir	1.92
Delaware	2 Stations	78	10	2 Stations	19	1	Selbyville	4.98	Newark University Farm	1.63
Florida	do	94	15+	Fountain 3SSE	25	31	Inverness	8.18	Perrine	.00
Georgia	Folkston 9 SW	87	4	Blairsville Exp. Station	16	30	Adairsville	15.64	Folkston 9SW	1.11
Hawaii	2 Stations	86	21+	Mauna Loa Slope Obs.	25	20+	Kipa, Hawaii	36.45	Pohakea Bridge, Maui	.46
Idaho	do	81	31+	Island Park Dam	-23	3	Burke 2ENE	8.07	Chilly Barton Flat	.11
Illinois	3 Stations	75	25+	Chicago O'Hare AP	2	30	Elizabethtown	16.17	Illinois City Dam 16	1.76
Indiana	Shoals Hwy. Bridge 50	77	25	Albion 5E	8	18	Charlestown Ord. Plant	16.47	Auburn 2SSE	1.65
Iowa	Glenwood 2N	74	2	Saratoga 2E	-8	27	Keokuk Lock and Dam 19	3.82	Woodard 7N	.55
Kansas	Aetna 2S	86	13	Sabetha Lake	3	26	Pittsburg	3.36	Richfield 10WSW	.00
Kentucky	Dema	81	4	McKee	3	1	Sebree	17.82	Jeremiah	3.68
Louisiana	Catfish Point	88	20	2 Stations	26	1	Franklinton	12.95	Burrwood WB	3.35
Maine	Bridgton 1NNW	62	3	Squa Pan Dam	-18	12	Farmington	4.21	Ripogenus Dam	1.47
Maryland	Waldorf Police Brks.	80	9	Oakland 1SE	-4	1	Snow Hill	4.84	Laurel 3W	1.93
Massachusetts	4 Stations	74	25	South Egremont	5	1	Ashburnham	4.33	Camp Wellfleet	1.40
Michigan	Detroit WBAP City	71	24	Ironwood	-18	27	Hillsdale	4.17	Saginaw Consumers Pwr. Co.	.42
Minnesota	Winona	63	3	3 Stations	-24	28+	Litchfield	2.49	Drayton 2NE	.20
Mississippi	Stoneville Exp. Station	88	18	2 Stations	20	30	Bruce	12.99	Gulfport Naval Center	3.52
Missouri	2 Stations	79	16+	3 Stations	2	26+	New Madrid Power Plant	14.40	Unionville	1.20
Montana	4 Stations	78	31	Cascade 20SSE	-29	24	Troy 18N	4.66	Whitewater	.04
Nebraska	2 Stations	80	31	3 Stations	-7	26	Oconto 6SW	2.59	Hay Springs 12S	.05
Nevada	do	91	31+	Charleston	-28	7	Adaven	2.08	2 Stations	.00
New Hampshire	Epping	64	3	First Conn Lake	-12	18	Lincoln	6.24	Windham	2.84
New Jersey	4 Stations	77	25+	Sussex	3	1	Cape May 3W	4.17	Hammonton 2NNE	.99
New Mexico	2 Stations	85	31+	Eagle Nest 1S	-25	9	Pinos Altos	2.55	4 Stations	.00
New York	N. Y. Westerleigh Stat. Is.	76	25	Stillwater Reservoir	-8	31	Piseco	8.22	Dannemora	1.33
North Carolina	4 Stations	83	10+	2 Stations	6	30	Lake Toxaway 2SW	12.50	Hatteras	.76
North Dakota	Watford City 14S	76	31	Powers Lake 1N	-30	29	Leeds	2.24	7 Stations	.09
Ohio	Ironton	76	24	2 Stations	4	19+	Higginsport	15.88	Montpelier	2.94
Oklahoma	Altus	88	13	Grove 1E	5	10	Bear Mountain Tower	8.91	Hooker	.00
Oregon	Pelton Dam	81	30	Fort Klamath 7SW	-2	7	Valsetz	13.67	Adel 1S	.08
Pennsylvania	3 Stations	76	26+	Coudersport 3NW	0	19	Coudersport 6E	6.72	Graterford 1E	.91
Puerto Rico	Mayaguez	96	11	Cayey 1E	50	27	Jajome Alto	4.54	Rio Canas	.00
Rhode Island	Providence WBAP	73	25	Greenville	17	31	Block Island WBAP	2.99	Providence WBAP	2.26
South Carolina	Ridgeland 2SE	85	15	Caesars Head	12	30	Long Creek 1N	12.61	Summerville 2WNW	3.19
South Dakota	3 Stations	78	31	Deerfield 5NW	-20	7	Salem	3.19	Gettysburg 14W	.02
Tennessee	Sevierville 1SE	84	4	Mountain City 2	2	31	Union City	13.23	Watauga Dam	3.94
Texas	2 Stations	98	10+	Lipscomb	8	26	Negley	7.00	11 Stations	.00
Utah	La Verkin	89	29	2 Stations	-30	8+	Silver Lake Brighton	7.36	Mexican Hat Mill	.05
Vermont	Bennington 2NNW	67	5	Newport	-1	18	Manchester Center	7.63	Saint Albans Bay	2.50
Virginia	8 Stations	82	10+	Burkes Garden	2	30	Pennington Gap	6.11	Stewarts Draft	.82
Washington	Kosmos	80	29	Mount Spokane Summit	-11	23	Aberdeen 20NNE	18.88	2 Stations	.01
West Virginia	White Sulphur Springs	81	25	Bayard	3	1	Wheeling Warwood Dam 12	6.38	Wardensville R M Farm	1.45
Wisconsin	2 Stations	68	2	2 Stations	-15	30+	Clinton 2N	4.19	Port Wing	.28
Wyoming	Redbird	78	31	Bondurant 3NW	-34	8	Alpine 2S	3.80	Morrisey	.00

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation							Wind					No. of days (sunrise to sunset)				
																			No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	992.4	1018.1	65	42	53.9	- 0.6	80	8	25	30	0	5	41	66	9.44	3.44	3.39	12	7	0.0	0	9.4	15	43	S	4	9	8	14	6.2	62
HUNTSVILLE	605	994.0	1017.8	64	41	52.4	0.6	79	8+	25	30	0	5	37	60	10.75	5.18	5.10	10	5	0.0	0	10.2	14	40*	18	4	12	4	15	5.9	
MOBILE	211	1015.2	1017.4	70	49	59.4	- 0.9	79	28+	35	22	0	0	48	70	4.23	- 3.00	1.78	11	3	0.0	0	12.8	14	35*	20	2	5	9	17	6.9	
MONTGOMERY	195	1009.7	1018.1	69	46	57.2	1.2	83	8	31	30	0	2	44	65	5.01	- 1.15	2.39	9	5	0.0	0	10.4	18	43	S	4	7	8	16	6.5	57
ALASKA												B																				
ANCHORAGE	90	1005.0	1010.1	26	9	17.3	- 6.0	43	31	-13	15	0	31	4	63	1.07	0.56	0.46	10	0	15.1	9	6.0	36	23*	36	16				5.6	56
ANNETTE	110	1005.6	1009.7	42	32	36.7	- 1.1	55	29	21	23	0	22	30	81	11.06	1.51	2.08	24	0	9.3	2	9.9	14	35*	15	16	2	3	26	8.5	
BARROW	22	1022.1	1022.8	-18	-29	-23.3	- 8.7	0	19	-45	13	0	31	-30	69	T	- 0.11	T	0	0	T	11	11.1	9	26*	8	27+	20	6	5	3.0	
BARTER ISLAND	39	1020.8	1022.8	-16	-30	-22.6	- 7.7	13	23	-45	10+	0	31	-29	71	T	- 0.20	T	0	0	T	10	13.2	27	48*	27	14	23	3	5	2.5	
BETHEL	125	1010.2	1013.2	14	- 7	3.1	- 8.5	35	25	-39	14	0	31	- 2	75	0.83	- 0.20	0.36	11	0	10.3	9	12.4	2	33*	7	6	11	7	13	5.6	
COLD BAY	94	1006.1	1009.9	34	24	29.3	0.5	48	24	10	16	0	26	23	79	1.32	- 0.43	0.41	13	0	7.3	3	17.7	36	52*	24	25	2	8	21	8.3	
CORDOVA	40	1004.5	1006.7	34	12	23.0	- 6.1	44	31	-11	15	0	31	18	81	3.33	- 0.51	1.30	14	0	33.0	24	4.3	13	21*	12	27	11	6	14	5.6	
FAIRBANKS	436	998.2	1016.5	14	-18	- 2.2	-11.1	37	30	-46	15	0	31	-10	68	0.18	- 0.22	0.07	5	0	3.5	16	4.5	2	16*	7	20	14	7	10	4.8	
JUNEAU	17	1008.1	1008.9	34	23	28.8	- 1.6	46	30	5	12	0	26	24	83	4.38	1.11	0.76	21	0	38.9	16	9.4	12	31*	12	28	5	2	24	8.2	33
KING SALMON	43	1009.4	1010.8	25	8	16.2	- 3.3	40	29+	-24	14	0	31	9	72	1.03	0.07	0.47	14	0	4.6	4	12.1	36	30*	22	25+	9	4	18	6.1	
KOTZEBUE	10	1018.1	1018.6	- 1	-20	-10.2	- 8.1	23	26	-37	15+	0	31	-17	70	0.02	- 0.26	0.02	1	0	0.8	25	10.6	10	30*	30	12	14	10	7	4.1	
MC GRATH	334	1001.3	1014.8	16	-14	1.1	- 7.2	37	31	-48	14	0	31	-10	58	0.86	- 0.07	0.39	11	0	17.1	26	4.3	1	17*	1	16+	11	7	13	5.5	
NOME	13	1015.0	1015.6	10	-13	- 1.5	- 9.4	29	25	-38	13	0	31	- 7	74	0.74	- 0.14	0.32	9	0	7.4	27	9.9	9	44*	8	6	15	8	8	4.2	57
ST. PAUL ISLAND	22	1008.6	1009.7	28	18	22.9	- 1.3	37	28	- 2	3+	0	31	21	90	2.65	1.59	0.57	20	0	18.1	32	20.1	6	49*	9	5	4	4	23	8.1	
SHEMYA	122	1002.1	1005.9	35	30	32.3	- 0.1	40	22	23	3	0	27	27	82	1.36	- 1.21	0.21	18	0	9.6	4	21.9	18	52*	36	5	0	8	23	8.6	
YAKUTAT	28	1006.4	1007.5	35	21	27.8	- 3.6	44	4	5	22	0	27	23	81	7.85	- 0.84	2.11	21	0	57.0	34	5.7	9	29*	7	15	2	6	23	8.2	
ARIZONA																																
FLAGSTAFF	6993	785.9	1014.6	45	16	30.5	- 5.1	63	30	- 4	8	0	31	16	58	3.08	1.63	1.10	9	0	38.5	22	8.9	20	26*	18	2	12	7	12	4.9	
PHOENIX	1117	974.0	1013.5	71	42	56.5	- 2.5	89	31	29	9	0	2	30	41	0.37	- 0.29	0.19	4	0	0.0	0	7.1	12	39Y	WSW	7	12	12	7	4.4	87
PRESCOTT	5014	844.2	1014.6	56	27	41.2	- 4.3	74	30	17	8	0	27	19	47	0.70	- 0.03	0.37	5	0	7.7	3	10.4	19	42	SW	22	13	8	10	4.7	80
TUCSON	2584	924.3	1013.1	68	41	54.8	- 3.2	87	30	29	9+	0	3	23	36	0.81	0.28	0.63	5	0	5.7	5	10.0	16	40	S	22	14	9	8	4.3	84
WINSLOW	4880	848.6	1015.3	58	25	41.5	- 4.1	77	31	11	9	0	29	16	44	0.49	0.10	0.43	5	0	3.9	2	10.7	23	41*	21	23	10	13	8	5.0	
YUMA	199	1008.6	1013.9	77	47	61.6	- 3.9	89	30	35	9	0	0	25	30	T	- 0.24	T	0	0	0.0	0	7.9	30	37	E	17	17	6	8	3.6	95
ARKANSAS																																
FORT SMITH	449	998.3	1015.6	64	36	50.1	- 1.0	76	31	23	26	0	11	37	67	6.08	2.61	3.39	9	4	T	0	8.6	7	33	E	19+	10	10	11	5.4	59
LITTLE ROCK	257	1002.8	1016.2	67	39	52.7	0.9	81	14	24	30	0	5	39	63	8.22	3.41	2.75	13	8	T	0	10.1	13	38	W	21	11	7	13	5.3	63
TEXARKANA	361	1002.1	1015.8	68	43	55.4	0.5	78	8	29	26	0	3	44	71	4.03	- 0.71	1.31	10	6	0.0	0	7.7	15								
CALIFORNIA																																
BAKERSFIELD	494	999.2	1017.3	67	42	54.8	- 2.1	89	29	34	8+	0	0	35	53	0.57	- 0.49	0.15	8	0	0.0	0	6.5	10	25*	17	30	13	9	9	4.6	
BISHOP	4108	872.3		62	27	44.5	- 3.1	76	30	16	24	0	24			0.03	- 0.52	0.03	1	0	0.6	1						14	9	8	4.7	
BLUE CANYON	5280	837.0		44	29	36.4	- 3.1	60	17	19	2	0	21			7.61	- 0.84	1.85	11	0	54.5	40	7.9		29*	18	20	9	9	13	6.2	
BURBANK	699	989.6	1015.8	67	44	55.4	- 2.5	83	29	36	9	0	0	35	53	2.18	0.02	1.19	5	0	0.0	0	8.4	16	36*	2	16	18	5	8	3.9	
EUREKA U	43	1018.1		51	41	45.7	- 3.0	61	30	34	7	0	0			5.91	0.66	1.41	15	1	0.0	0	7.3	N#	33	N	18	6	8	17	7.0	61
FRESNO	326	1005.0	1017.0	65	38	51.3	- 3.7	82	29	29	8	0	4	37	63	1.27	- 0.69	0.42	8	2	0.0	0	7.0	32	41	NW	2	16	4	11	4.5	78
LONG BEACH	34	1014.9	1016.5	67	45	55.9	- 0.8	87	17	33	8	0	0	41	66	1.08	- 0.29	0.55	6	0	0.0	0	7.8	27	29*	27	23+	15	9	7	4.1	
LOS ANGELES	97	1012.9	1016.8	65	47	55.9	- 1.1	88	17	39	8	0	0	40	62	1.20	- 0.59	0.75	6	1	0.0	0	11.0	27	40Y	4	16	15	9	7	4.1	
LOS ANGELES U	312			67	50	58.6	- 0.8	84	17	43	8	0	0			1.79	- 0.47	1.12	6	1	0.0	0	8.0		47	NW	16	17	9	5	3.5	80
MT SHASTA R	3544	892.2		50	27	38.8	- 2.4	69	29	19	25+	0	29			2.30	- 2.16	1.13	10	0	28.9	12						7	7	17	6.2	
OAKLAND	3	1017.9	1018.4	58	47	52.8	- 0.8	74	18	43	7	0	0	43	71	1.94	- 0.48	0.57	8	0	0.0	0	9.8	29	29*	2	16	12	9	10	5.2	
POINT ARGUELLO R	367	1003.6		59	40	49.4	- 2.6	75	16	33	25+	0	0			2.46	0.50	1.06	8	0	0.0	0	9.0		29*	32	2	13	7	11	4.8	
RED BLUFF	341	1004.5	1017.5	64	40	52.1	- 2.0	79	16	31	2	0	1	31	52	1.67	- 1.03	0.54	7	3	0.0	0	10.3	34	40	SE	11+	9	7	15	5.9	74
SACRAMENTO	17	1016.3	1017.9	65	40	52.3	- 1.1	80	30	31	2	0	2	39	67	1.36	- 1.00	0.55	6	0	0.0	0	8.9	34	36	NW	18	13	7	11	5.2	77
SACRAMENTO U	23			65	42	53.4	- 0.8	80	30+	32	7	0	1			0.83	- 1.63	0.28	6		0.0	0										
SANDBERG R	4517	860.9		49	32	40.9	- 4.1	68	30+	22	3	0	18			1.61	0.17	1.28	9	0	6.4	2			49*	35	15	13	5	13	5.1	
SAN DIEGO	13	1013.2	1016.5	66	50	57.8	- 1.2	85	17	42	8	0	0	42	60	0.97	- 0.60	0.44	7	1	0.0	0	8.5	29	34	NW	2	15	8	8	4.2	72
SAN FRANCISCO	8	1018.6	1018.7	61	43	51.9	- 1.4	74	19	36	7	0	0	41	70	1.95	- 0.74	0.54	8	0	0.0	0	11.8	27	39	W	4	12	7	12	5.1	
SAN FRANCISCO U	52			59	47	53.2	- 1.5	75	16	43	24+	0	0			2.12	- 0.81	0.63	10	0	0.0	0	8.5	W#	29	SW	1					84
SANTA CATALINA	1568	959.8		60	48	53.8	- 0.7	78	17	41	24+	0	0			1.29	- 0.66	0.63	6	0	T	0						14	8	9	4.5	
SANTA MARIA	238	1009.3	1018.3	64	36	49.7	- 3.6	83	16	25	8	0	8	39	74	2.38	0.32	1.04	8	2	0.0	0	9.3	30	32*	29	13	17	8	6	3.7	
STOCKTON	28	1016.3	1018.0	65	38	51.7	- 2.0	80	17	31	25+	0	5	37	64	0.94	- 1.11	0.51	8	0	0.0	0	8.4	29	35*	33	15	12	7	12	5.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	765.6		43	7	25.0	- 7.1	63	31	-20	4	0	31			0.41	0.15	0.17	8	0	8.6	4						13	11	7	4.5	
COLORADO SPRINGS	6173	804.9	1014.1	43	19	30.9	- 5.3	69	31	- 1	9	0	29	13	52	1.08	0.47	0.59	7	0	20.5	11	11.3	3	37*	30	15	10	7	14	5.8	
DENVER	5283	832.3	1012.8	45	21	33.0	- 3.4	68	31	4	4	0	30	16	56	1.38	0.17	0.52	10	0	18.4	6	8.8	18	31	SW	22	9	11	11	5.7	71
GRAND JUNCTION	4849	856.7	1014.9	49	25	37.0	- 4.5	72	31	10	14	0	29	16	47	0.70	- 0.05	0.31	7	0	8.0	3	6.3	13	38	S	22	9	7	15	6.1	60
PUEBLO	4639	852.0	1013.8	49	19	33.9	- 6.2	74	31	-10	9	0	30	16	52	1.11	0.59	0.58	7	0	15.7	9	11.5	35	47	SW	22	13	7	11	5.0	91
CONNECTICUT																																
BRIDGEPORT	7	1015.1	1016.0	47	31	39.1	1.6	63	25	21	31	0	17	29	72	2.00	- 2.25	0.55	11	2	0.4	T	14.9	31	40*	21	5	6	11	14	6.3	
HARTFORD	169	1008.2	1014.4	47	28	37.7	1.7	76	25	20	7	0	24	25	64	3.63	- 0.17	1.49	13	1	4.1	3	8.8	31	32	SW	25	7	7	17	6.8	63
NEW HAVEN	6	1014.0		47	30	38.5	1.6	62	25	22	31	0	26			2.39	- 2.23	1.01	11	0	0.9	1	8.9		34	NW	18	6	9	16	6.6	60
DELAWARE																																
WILMINGTON	78	1012.7	1016.0	54	33	43.1	1.8	76	10+	21	31	0	16	31	65	2.20	- 1.82	1.42	12	1	9.5	5	12.0	31	42*	30	10	7	6	18	6.5	
DIST.OF COLUMBIA																																
WASHINGTON U	72			57	37	47.0		78	9	24	31	0	4			2.54	- 0.82	1.05	10		0.0	0										
WASH NATL AP	14	1011.2	1015.8	59	37	47.5	2.7	80	9	23	31	0	6	32	59	2.53	- 0.68	1.05	10	0	6.2	2	11.7	20	43	SW	10	8	8	15	6.4	59
FLORIDA																																
APALACHICOLA U	13	1016.2		66	54	59.8	- 1.2	76	20	41	31	0	0			3.45	- 1.07	1.79	9	2	0.0	0	8.6					10	4	17	6.5	53
DAYTONA BEACH	31	1017.4	1019.4	74	54	64.2	0.4	88	15+	39	31	0	0	54	73	4.84	1.28	1.34	8	2	0.0	0	9.6	36	24*	18	9	6	7	18	6.7	
FORT MYERS	13	1017.4		82	61	71.9	3.7	88	7	45	31	0	0			2.12	- 0.50	1.98	5	2	0.0	0	10.7		23*	18	26+	6	17	8	5.7	
JACKSONVILLE	24	1016.6	1018.5	74	52	62.8	0.6	87	15	32	31	0	1	50	68	1.76	- 1.73	1.12	6	1	0.0	0	9.8	18	43	W	3	8	5	18	6.2	64
KEY WEST	5	1016.8	1018.1	81	71	75.9	3.4	86	16+	63	31	0	0	67	76	1.67	- 0.10	0.78	5	2	0.0	0	11.9	15	28	N	30	11	11	9	5.1	75
LAKELAND U	214			78	58	67.6	1.1	86	3	41	31	0	0			3.34	- 0.91	1.49	7	0	0.0	0	8.4					4	15	12	6.3	54
MIAMI BEACH	9			78	70	73.6	2.0	85	17	56	22	0	0			0.44	- 1.51	0.28	4		0.0	0	14.9					5	17	9	5.8	65
MIAMI	7	1017.1	1018.5	81	68	74.6	4.1	90	5	53	31	1	0	65	74	0.50	- 1.77	0.34	3	0	0.0	0	9.0	9	22*	35	30	2	18	11	6.5	
ORLANDO	106	1014.2	1019.1	79	57	68.1	2.2	88	15+	42	31	0	0	56	71	4.65	1.24	2.15	7	4	0.0	0	10.7	18	32*	32	26	5	13	13	6.4	
PENSACOLA	13			68	49	58.3	- 2.7	77	18+	36	26	0	0			4.68	- 1.36	1.80	11	4	0.0	0	8.8	36	42	SE	19					48
TALLAHASSEE	58	1016.0	1018.9	72	49	60.2	- 0.4	81	15	29	31	0	2	49	70	4.06	- 1.12	1.66	10	5	0.0	0	10.9	18	48*	27	15	9	7	15	6.4	
TAMPA	19	1016.6	1018.4	79	57	68.0	2.0	87	8	39	31	0	0	57	70	3.92	0.17	2.23	7	1	0.0	0	12.5	18	28*	29	26	5	11	15	6.9	73
WEST PALM BEACH	15	1017.5	1018.6	81	64	72.4	2.5	91	10+	50	31	2	0	63	76	1.82	- 1.62	0.78	6	1	0.0	0	10.9	14	31*	33	30	5	18	8	6.0	
GEORGIA																																
ATHENS	803	988.6	1018.0	64	40	52.1	0.5	78	4	24	30	0	4	39	66	10.90	5.80	4.41	15	6	0.0	0	8.8	29	30*	20	10	8	8	15	6.0	
ATLANTA	1005	975.6	1018.2	62	40	51.2	- 0.7	78	4	23	30	0	4	38	67	9.51	4.14	3.38	15	6	0.0	0	9.4	27	35	NW	30+	8	6	17	6.3	61
AUGUSTA	143	1011.1	1018.2	69	43	56.0	1.1	84	4	26	31	0	3	41	63	5.56	1.39	2.83	13	1	0.0	0	8.8	29	30*	21	5	9	6	16	6.2	
COLUMBUS	385	1003.5		69	43	55.6	0.3	81	14+	28	31	0	5			5.56	- 0.45	1.84	12	5	0.0	0	10.6		37*	18	4	8	6	17	6.5	
MACON	356	1004.6	1018.5	69	45	56.9	0.0	81	14	28	31	0	2	42	62	3.79	- 1.15	1.56	11	4	0.0	0	9.5	18	32	SW	10	9	7	15	6.3	66
ROME	637	994.6		63	37	49.8	- 0.6	81	8+	23	30+	0	13			13.46	7.59	5.85	13	4	0.0	0						10	6	15	5.8	
SAVANNAH	48	1016.0	1018.7	70	47	58.4	0.1	85	15	29	31	0	1	46	68	2.71	- 1.26	1.41	10	3	0.0	0	11.8	18	34	N	15	9	4	18	6.3	64
THOMASVILLE U	283			71	50	60.3	- 0.1	79	14	34	31	0	0			4.95	- 0.31	1.53	11	6	0.0	0										
HAWAII																																
HILO	31	1015.7	1017.6	78	64	70.8	0.2	83	17	61	25+	0	0	64	83	19.58	4.88	3.59	27	5	0.0	0	8.9	25	30*	12	17	0	5	26	8.5	27
HONOLULU	7	1017.0	1017.2	82	68	74.7	1.9	84	19+	62	20	0	0	61	64	5.21	2.32	3.35	15	4	0.0	0	9.4	6	30	E	9	5	12	14	6.8	82
KAHULUI	44	1013.6	1016.4	82	65	73.2	1.0	85	21	61	25+	0	0	62	71	0.60	- 1.62	0.21	10	2	0.0	0	9.8	7	38	NE	9	8	12	11	5.7	71
LIHUE	115	1012.5	1018.1	80	67	73.2	2.2	85	17	59	20	0	0	64	74	10.16	5.60	4.98	22	5	0.0	0	12.0	6	28	NE	10	3	10	18	7.5	37
IDAHO																																
BOISE	2838	922.4	1016.9	47	29	37.6	- 4.1	74	31	21	8+	0	27	27	71	0.64	- 0.68	0.24	9	2	2.6	1	8.3	14	30	SE	20	3	7	21	7.5	60
IDAHO FALLS 42NW R	4790			31	2	16.6	-12.7	50	31	-14	8	0	31			0.46	0.00	0.22	6													
IDAHO FALLS 46W R	4933	845.2		34	5	19.1	-10.9	54	31	-14	3	0	31			0.81	0.19	0.43	9	0	9.9	12	5.8		36A	SW	12					
LEWISTON	1413	962.5		51	32	41.8	- 0.8	76	30	23	7	0	18			0.55	- 0.63	0.20	8	0	4.1	3						4	6	21	8.2	
POCATELLO	4444	861.2	1017.9	37	19	27.8	- 8.0	66	31	- 1	7	0	31	21	76	0.78	- 0.24	0.19	15	0	9.3	13	12.0	25	37	SW	5	5	7	19	7.5	52
ILLINOIS																																
CAIRO U	314	1002.5		58	39	48.4	0.2	74	14	22	30	0	4			12.67	7.88	6.58	13	9	T	T	11.4		60	NW	4	10	8	13	5.8	55
CHICAGO O HARE	658	989.4	1014.7	43	25	33.7	- 1.0	66	16	2	30	0	26	24	68	3.45	0.77	1.24	15	0	19.8	7	13.0	29	54*	1	4	4	11	16	7.2	
CHICAGO MIDWAY	610	991.7	1015.3	44	28	35.9	- 0.4	67	16	12	30	0	25	25	65	3.81	1.07	1.21	14	0	18.4	7	13.6	18	39	N	4	2	13	16	7.2	60

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
MOLINE	582	992.7	1015.5	43	26	34.4	- 1.0	62	13	13	30+	0	28	26	73	4.02	1.63	1.41	14	3	13.9	5	12.5	29	36	N	4	6	10	15	6.8	50
PEORIA	652	993.3	1016.2	45	27	36.0	- 1.6	64	16+	15	30+	0	24	28	73	3.77	0.92	1.11	11	5	7.9	3	11.2	18	38	NW	5+	4	10	17	7.2	55
ROCKFORD	728	986.6	1014.5	41	23	32.3	- 1.7	59	16	10	30	0	29	24	73	3.64	1.18	1.44	15	3	22.7	7	12.4	18	30*	29	17+	9	8	14	6.3	
SPRINGFIELD	588	991.5	1015.3	47	29	38.3	- 1.9	66	13	17	30	0	23	30	74	4.00	1.12	1.67	15	3	6.3	3	14.4	31	42	S	6	5	7	19	7.4	53
INDIANA																																
EVANSVILLE	381	999.9	1016.2	57	34	45.4	0.1	75	24	22	30	0	17	35	69	12.84	8.53	5.63	13	9	T	T	9.3	30	43	SW	4	9	7	15	6.1	59
FORT WAYNE	791	982.9	1015.1	46	26	36.0	- 0.3	69	24	10	10	0	23	28	75	4.74	1.96	1.33	15	6	19.5	11	12.0	27	52	SW	5	5	8	18	7.2	49
INDIANAPOLIS	793	984.6	1015.2	51	30	40.6	1.7	73	24	15	18	0	18	31	72	7.20	3.79	2.88	12	7	4.1	3	12.5	30	51	SW	5	6	7	18	7.1	50
SOUTH BEND	768	985.6	1014.5	44	27	35.8	0.9	67	16	16	18	0	24	27	73	5.01	2.27	0.97	21	2	22.7	4	12.7	23	37*	30	5	3	6	22	7.8	
IOWA																																
BURLINGTON	694	989.7	1016.0	45	27	35.7	- 1.6	68	13	12	26	0	28	26	72	2.85	0.14	1.07	11	3	10.4	5	13.7	32	43	NW	29	4	10	17	7.1	55
DES MOINES	948	983.7	1016.1	41	20	30.4	- 5.1	68	2	- 1	26	0	29	21	72	1.25	- 0.84	0.62	9	0	10.1	4	14.1	33	35	NW	29	7	9	15	6.7	63
DUBUQUE	1065	989.1		40	22	30.6	- 1.3	61	2	4	30	0	30			2.41	- 0.35	0.52	13	1	16.2	5			33*	21	23	6	9	16	7.0	
SIOUX CITY	1095	973.5	1016.0	42	19	30.8	- 2.3	63	12	3	26	0	29	19	64	1.59	0.13	1.07	9	0	9.7	5	13.1	33	38	NW	16+	11	4	16	6.1	68
WATERLOO	868	981.8	1015.0	39	18	28.4	- 9.6	69	2	- 5	27	0	29	20	74	1.24	- 0.81	0.40	9	1	11.5	6	12.6	32	42*	32	29	5	10	16	6.9	
KANSAS																																
CONCORDIA	1470	963.5	1014.6	51	24	37.9	- 1.9	76	31	10	26	0	26	22	57	1.14	- 0.35	0.86	4	0	4.5	2	15.4	34	45	S	12	13	6	12	5.5	72
DODGE CITY	2594	924.9	1014.1	56	26	40.8	- 1.0	80	31	12	26	0	26	21	53	0.77	- 0.39	0.69	4	0	2.6	1	13.8	35	45	NW	20	10	8	13	5.8	77
GOODLAND	3645	884.2	1013.9	49	20	34.7	- 1.8	75	31	8	25	0	30	19	61	0.56	- 0.50	0.27	9	0	6.4	2	15.4	35	53*	35	20	10	11	10	5.3	
TOPEKA	877	978.6	1015.3	53	27	40.0	- 1.7	75	13	12	26	0	24	24	60	1.73	- 0.28	0.67	7	3	2.9	1	15.2	36	56	SW	25	12	8	11	5.4	71
WICHITA	1321	964.6	1014.3	56	29	42.1	- 2.4	75	13	13	26	0	25	26	58	0.89	- 0.75	0.66	7	2	T	T	14.8	18	49	SW	12	11	8	12	5.6	63
KENTUCKY																																
COVINGTON	869	982.8	1015.2	54	32	43.1	2.5	72	24	14	18	0	17	31	68	12.18	8.39	5.21	14	4	1.3	T	11.5	20	37*	23	5	4	9	18	7.2	
LEXINGTON	979	980.5	1016.2	56	34	45.3	2.1	73	24	17	30+	0	13	32	64	10.06	5.31	3.54	13	5	0.3	T	11.7	20	35*	22	10	5	9	17	7.0	
LOUISVILLE	474	996.4	1015.8	56	35	45.3	2.0	74	24	20	30+	0	14	33	65	14.91	10.32	6.97	13	6	0.2		11.1	18	48	W	5	7	9	15	6.5	49
LOUISIANA																																
ALEXANDRIA	92	1012.3	1017.1	70	43	56.4	- 2.0	80	8	32	27+	0	2	46	71	5.67	0.70	2.80	9	5	0.0	0	7.3	18	31*	31	4	9	5	17	6.4	
BATON ROUGE	64	1013.7	1017.0	72	49	60.5	- 0.2	84	8	37	31	0	0	48	67	8.73	3.82	4.18	11	8	0.0	0	9.8	12	35*	13	19	5	9	17	6.8	
LAKE CHARLES	14	1015.1	1016.6	69	49	58.7	- 2.4	77	20	35	10	0	0	50	76	4.02	- 0.22	2.15	8	2	0.0	0	11.1	18	28*	22	25	6	10	15	6.3	
NEW ORLEANS	3	1015.0	1017.3	72	49	60.5	- 0.9	82	14+	36	31+	0	0	54	79	5.45	0.11	2.49	8	4	0.0	0	9.4	16	33*	15	2	6	10	15	6.9	
NEW ORLEANS AUDUBON	6	1010.2		70	52	61.1	- 1.0	80	14+	42	31+	0	0			6.33	0.42	3.88	8	6	0.0	0	6.2		20	NW	19	8	9	14	6.3	61
SHREVEPORT	252	1006.9	1016.5	68	46	56.8	0.2	79	8	32	10	0	1	44	66	4.24	0.09	1.40	9	5	0.0	0	12.5	16	41*	29	9	11	7	13	5.6	61
MAINE																																
CARIBOU	624	988.3		33	15	24.1	1.3	50	3	- 6	12	0	30			3.12	0.74	0.87	12	0	24.7	10						4	13	14	6.6	
PORTLAND	61	1009.5	1013.7	41	23	31.9	0.5	55	25	4	12	0	28	23	71	3.64	- 0.70	1.18	11	1	21.2	11	10.7	34	34	SW	27	8	7	16	6.6	53
MARYLAND																																
BALTIMORE	146	1011.0	1015.8	56	33	44.4	1.3	79	9	20	31	0	17	31	63	2.98	- 0.84	1.81	12	0	13.2	7	10.2	29	57	NW	10	9	9	13	6.0	56
BALTIMORE U	14			57	37	47.0	2.3	79	9	24	31	0	5			3.08	- 0.86	1.90	10													
MASSACHUSETTS																																
BLUE HILL OBS R	629	988.8		45	28	36.6	1.8	72	25	16	11	0	23			3.66	- 0.88	1.88	13		8.3	12	16.1	NW	52	SW	5					55
BOSTON	15	1009.3	1014.2	46	32	38.7	1.0	72	25	19	11	0	19	26	65	3.48	- 0.74	1.46	12	0	7.7	4	13.7	31	35	29	16	10	5	16	5.9	62
NANTUCKET	43	1013.8	1014.5	43	30	36.6	0.5	51	4	23	12+	0	20	29	75	2.06	- 2.48	0.69	10	1	2.2	9	14.7	23	45	N	18	9	8	14	6.1	61
PITTSFIELD	1170			43	23	33.0	2.3	63	25+	13	31	0	29			3.30	0.08	1.34	14		11.7	16										
WORCESTER	986	976.0	1013.5	44	27	35.2	2.4	70	25	16	31	0	26	23	65	3.65	- 0.46	1.25	10	1	6.0	17	12.0	28	37*	29	6	10	5	16	6.3	
MICHIGAN																																
ALPENA	689	991.5		37	17	26.9	1.2	58	2	0	6	0	29			1.91	- 0.11	0.88	11	0	16.2	6	9.5	NW#	35	NE	26	3	10	18	7.2	63
DETROIT	619	987.3	1014.7	45	28	36.1	1.3	71	24	13	18	0	22	27	72	2.62	0.20	0.97	16	2	9.2	3	13.4	29	45	SW	5	3	10	18	7.5	45
DETROIT M WAYNE CO	633	990.8	1015.0	44	25	34.3	- 0.6	69	24	10	11+	0	26	25	72	2.98	0.57	1.11	14	2	11.5	3	9.5	28				2	11	18	7.4	
DETROIT WILLOW RUN	711	985.3	1014.6	43	26	34.4	- 0.9	68	24	13	18	0	25	27	78	2.99	0.59	1.03	12	1	10.1	3	12.8	21	44*	24	5	4	10	17	7.3	
FLINT	766	986.0	1015.1	44	24	34.1	3.5	67	24	8	11	0	27	24	67	2.05	- 0.09	0.81	14	1	10.2	2	12.3	27	39*	22	5	2	9	20	7.9	
GRAND RAPIDS	689	988.0	1014.4	43	26	34.5	2.1	61	16	12	18+	0	27	27	78	3.54	1.26	1.41	15	2	16.5	2	11.9	27	42	SW	7	2	8	21	7.9	37

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

MARCH 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	852	981.4	1014.3	44	25	34.5	2.1	65	24	11	18+	0	28	26	75	2.79	0.39	1.03	15	1	12.8	3	8.5	29	40	SW	5	2	8	21	7.7	57
MARQUETTE U	677	987.3		33	18	25.4	- 1.3	57	2	4	17	0	29			1.74	- 0.17	0.51	16	0	18.2	21	9.2	NW#	29	S	13	2	7	22	8.1	56
MUSKEGON	627	991.2	1014.9	42	27	34.4	1.5	56	14	12	17	0	25	27	76	2.56	0.51	0.63	17	2	21.1	3	14.6	29	36*	32	5	2	7	22	8.2	
SAULT STE MARIE	721	991.1	1014.7	31	14	22.6	- 1.2	46	2	- 4	6	0	31	16	77	2.38	0.57	0.75	15	0	34.7	26	12.0	30	37*	30	15	2	9	20	7.8	55
MINNESOTA																																
DULUTH	1426	972.9	1015.9	30	10	19.8	- 1.5	46	13	-11	17	0	30	9	62	1.10	- 0.52	0.48	9	0	13.5	14	11.7	9	42	W	14	6	13	12	6.3	65
INTERNATIONAL FALLS	1179	972.7	1015.9	29	2	15.2	- 4.2	52	13	-15	17+	0	30	7	66	0.65	- 0.38	0.26	9	0	6.7	13	11.6	30	33*	29	16	9	12	10	5.8	
MINNEAPOLIS	822	981.1	1015.9	35	17	25.8	- 1.6	52	13+	1	7	0	30	15	65	1.35	- 0.18	0.78	8	0	9.7	4	11.7	33	35	W	24+	6	11	14	6.6	63
ROCHESTER	1297	977.5	1015.9	34	17	25.6	- 2.3	58	2	2	27	0	30	18	73	0.94	- 0.70	0.27	12	2	13.1	3	14.8	32	35*	31	16	4	10	17	7.0	
ST CLOUD	1034	976.4		33	11	21.8	- 3.8	53	13	- 8	7	0	30			1.22	- 0.06	0.69	9	0	15.3	8						6	12	13	6.3	
MISSISSIPPI																																
JACKSON	305	1004.6	1016.9	69	43	56.3		81	20+	30	30+	0	2	45	69	10.92		3.87	13	8	T	0	11.3	14	38*	14	3	10	7	14	6.1	
MERIDIAN	292	1003.8	1018.0	69	42	55.8	- 0.7	80	25+	28	6	0	4	43	68	9.11	2.79	3.35	11	5	0.0	0	8.8	18	29*	18	4	8	8	15	6.6	
VICKSBURG U	234	1007.1		68	47	57.5	- 0.1	82	8	31	30	0	1			7.53	1.80	3.48	13	5	T	T	10.4		37	SW	9	14	7	10	5.5	63
MISSOURI																																
COLUMBIA	778	985.5	1014.6	51	30	40.7	- 1.2	74	13	13	26	0	21	28	64	3.66	1.01	1.24	12	4	5.1	5	13.8	32	59	NW	29	8	6	17	6.5	52
KANSAS CITY	742	979.0	1014.8	53	31	41.8	- 1.5	73	13	10	26	0	20	26	59	3.20	0.71	1.00	10	4	5.3	3	11.2	18	34	SW	6	10	7	14	5.9	66
ST JOSEPH	809	979.8		50	26	37.8	- 2.4	72	13	9	26	0	25			2.03	- 0.30	0.69	8	4	3.1	1	11.9	18	29*	30	29	13	7	11	5.3	
ST LOUIS	535	994.1	1015.6	52	32	42.3	- 0.3	75	24	18	30+	0	13	27	59	3.84	0.76	1.37	13	3	8.2	6	12.5	30	40	S	6	6	14	11	6.3	57
ST LOUIS RFC	465			53	34	43.3	- 1.0	73	24	17	26	0	11			3.77	0.58	1.46	10		5.2	5										
SPRINGFIELD	1265	966.5	1015.0	56	30	43.0	- 1.0	73	13	10	10	0	18	30	64	3.85	1.01	1.17	9	3	3.6	3	12.9	16	34	NW	29+	13	6	12	5.4	64
MONTANA																																
BILLINGS	3567	887.0	1014.0	43	20	31.8	- 1.9	73	31	-11	24	0	27	14	54	1.38	0.33	0.96	10	0	15.9	10	13.1	24	34	NW	15+	2	12	17	7.6	66
GLASGOW	2277	938.8		36	12	24.1	- 2.6	69	31	-13	24	0	31			0.61	0.05	0.40	7	0	3.6	2						3	11	17	7.5	
GREAT FALLS	3662	884.4	1016.2	37	17	26.9	- 3.8	70	31	-17	24	0	28	15	62	1.74	0.82	0.58	10	0	17.4	8	15.5	23	43	SW	1	0	10	21	8.0	64
HAVRE	2582	923.1		40	15	27.1	0.2	74	31	-16	24	0	29			0.20	- 0.40	0.07	8	0	3.5	2	10.5	SW#	52	SW	1	2	10	19	7.6	53
HELENA	3893	869.6	1015.7	40	20	29.9	- 1.5	70	31	-10	24+	0	27	15	56	0.51	- 0.19	0.34	8	0	7.4	3	10.3	27	33	W	15	0	11	20	8.1	68
KALISPELL	2965	908.4		39	17	27.9	- 3.9	60	31	- 4	24	0	30			1.26	0.30	0.52	16	0	13.3	15	8.7					3	6	22	8.0	
MILES CITY	2629		1015.1	41	16	28.3	- 2.6	75	31	-13	24	0	31	17	66	0.93	0.28	0.40	8	0	11.1	4	11.7	32	40*	31	15					
MISSOULA	3190	899.3	1016.5	38	19	28.5	- 5.2	66	31	- 2	24	0	30	20	71	0.67	- 0.06	0.22	12	0	11.1	8	7.6	13	28	E	22+	2	7	22	8.4	48
NEBRASKA																																
GRAND ISLAND	1841	947.0	1015.2	47	23	34.6	- 1.1	74	31	2	26	0	28	20	60	1.64	0.37	1.39	7	0	4.2	2	13.7	35	32*	35	20	10	6	15	5.8	
LINCOLN U	1150			47	24	35.3	- 2.8	71	2	6	26	0	26			1.29	- 0.44	0.81	5	0	4.1	2	12.1	NW#	45	SW	12	10	8	13	5.9	60
NORFOLK	1544	957.9		42	19	30.1	- 3.2	60	12	- 1	26	0	29			1.50	- 0.09	1.15	7	0	6.0	3						11	7	13	5.8	
NORTH PLATTE	2779	912.2	1013.9	46	19	32.3	- 2.7	75	31	0	26	0	31	18	62	1.26	0.28	0.97	6	0	5.4	2	12.2	36	46	SE	23	11	7	13	6.0	63
OMAHA	978	973.8	1015.6	46	22	33.7	- 3.2	69	2	4	26	0	29	19	59	1.58	0.13	0.69	10	0	10.5	3	11.8	33	34	N	20	10	6	15	6.0	62
OMAHA N OMAHA AP	1323	965.6		44	21	32.3	- 2.4	64	15+	1	26	0	29			1.50	0.04	0.78	10	0	9.0	3						8	8	15	6.2	
SCOTTSBLUFF	3950	875.1	1014.8	44	17	30.7	- 4.6	75	31	7	25	0	31	17	61	0.38	- 0.48	0.13	9	0	5.6	2	14.1	30	43*	30	5	5	11	15	6.7	
VALENTINE	2587	921.1		42	16	28.9	- 2.4	72	31	1	26	0	31			0.30	- 0.71	0.14	4	0	5.0	2	11.8	N#	52	NW	23	8	8	15	6.1	74
NEVADA																																
ELKO	5075	842.9	1017.4	42	17	29.5	- 6.1	70	31	1	8	0	30	20	68	0.97	0.14	0.44	9	0	12.3	5	6.6	27	29*	24	12	4	9	18	7.3	
ELY	6257	805.4	1015.6	42	14	27.9	- 5.6	65	31+	- 1	3	0	30	18	71	1.24	0.39	0.46	12	0	17.4	5	10.0	19	40	S	31	4	12	15	6.8	74
LAS VEGAS	2162	948.3	1015.0	66	39	52.3	- 2.5	85	30	27	9	0	6	15	26	0.02	- 0.33	0.01	2	0	0.0	0	11.1	24	37*	36	5	15	10	6	4.1	84
RENO	4404	861.3	1017.2	53	22	37.7	- 3.8	74	30	1	8	0	31	19	49	0.72	0.04	0.34	7	0	9.2	4	7.8	29	47	SE	11	7	10	14	6.5	93
WINNEMUCCA	4299	866.6		50	22	36.1	- 1.9	76	31	2	3	0	29			0.89	0.08	0.45	7	1	9.6	4	8.9	18	37	W	31	4	9	18	7.1	55
NEW HAMPSHIRE																																
CONCORD	339	1002.7	1013.9	44	24	33.6	1.9	59	5+	13	13	0	29	23	68	3.01	- 0.25	1.31	8	0	15.8	9	8.7	32	38*	31	19	9	7	15	6.2	55
MT WASHINGTON OBS	6262	794.4		21	5	13.0	1.3	41	5	-10	31	0	31			8.55	2.81	2.04	22	1	40.0	8	37.7	W#	113Y	W	27	1	10	20	8.0	28
NEW JERSEY																																
ATLANTIC CITY	58	1014.0	1016.2	53	34	43.1	2.0	71	25	23	31	0	15	31	67	2.80	- 1.11	1.84	10	3	3.4	2	12.0	20	44*	30	26	7	7	17	6.5	55
ATLANTIC CITY U	10			49	36	42.6	1.5	64	10	23	31	0	7			2.65	- 1.36	1.65	10				16.8		54*	W	26					
NEWARK	11	1014.3	1015.6	52	34	42.6	1.1	75	5	22	31	0	13	27	59	2.27	- 1.82	0.57	13	1	4.0	4	12.3	31	35*	31	18	7	7	17	6.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
TRENTON U	56	1007.2		52	34	42.9	2.2	75	5	22	31	0	12			1.57	-2.27	0.47	11	3	2.3	2	10.9	NW#	40	SW	5	8	10	13	6.1	58
NEW MEXICO																																
ALBUQUERQUE	5310	844.6	1012.6	56	27	41.5	-4.3	73	31	15	9	0	25	14	38	0.13	-0.35	0.08	3	1	1.3	1	9.3	35	52	SW	22	15	9	7	4.3	71
CLAYTON	4969	840.6		55	23	38.6	-2.3	78	31	12	25	0	28			0.08	-0.55	0.08	1	0	1.2	1						15	8	8	4.3	
RATON	6379	799.4		52	17	34.7	-3.4	72	31	2	9	0	31			0.22	-0.30	0.16	4	0	2.4	1						14	12	5	4.4	
ROSWELL	3619	889.6		68	29	48.6	-0.9	84	31	16	10	0	23			0.15	-0.35	0.07	3	0	0.9	1	10.5		34	SE	22	20	6	5	3.5	72
SILVER CITY	5373	832.6		60	30	44.8	0.0	76	30	15	9	0	20			0.33	-0.12	0.20	3	0	1.3	1						18	7	6	3.8	
NEW YORK																																
ALBANY	277	1011.6	1015.2	43	26	34.9	1.9	71	5	17	31	0	27	24	67	2.93	0.21	1.53	12	2	7.3	6	10.9	28	34	W	27+	5	9	17	7.3	48
BINGHAMTON	1590	953.6	1013.8	39	25	31.9	0.6	59	5	10	31	0	29	25	78	4.56	1.67	1.95	17	1	12.0	10	12.3	30	47	SW	5	2	4	25	8.2	39
BUFFALO	705	985.4	1014.3	42	26	34.0	2.5	60	24	17	19+	0	26	26	76	3.72	0.48	1.21	16	4	12.8	8	12.1	26	56	SW	5	2	8	21	8.0	41
NEW YORK U	132	1004.1		51	35	43.1	2.6	75	25	22	31	0	9			2.57	-1.44	0.61	13	1	6.0	2	10.4	W#	36	NE	10	8	13	10	5.5	57
NEW YORK LA GUARDIA	19	1013.1	1015.3	50	36	42.8	2.0	74	25	24	31	0	8	30	65	2.14	-2.09	0.53	14	0	3.2	3	13.1	31	34	NE	21+	5	12	14	6.4	
ROCHESTER	543	995.4	1015.1	43	26	34.4	2.1	65	24	16	31	0	26	25	70	2.89	-0.12	0.96	15	3	16.1	10	11.7	25	54	W	5	3	9	19	7.6	48
SCHENECTADY	217			43	26	34.8	1.1	69	5	12	1	0	25			2.76	-0.11	1.40	8	3	8.2	8						16	7	8	4.4	
SYRACUSE	417	992.1	1014.5	45	26	35.1	2.5	66	5	13	12	0	27	25	69	3.83	0.23	1.33	16	3	15.2	10	11.8	27	45	W	5	2	8	21	7.9	48
NORTH CAROLINA																																
ASHEVILLE U	2203	937.0		58	35	46.3	0.1	74	8	15	30	0	13			5.13	1.39	1.29	14	1	0.1	T	10.8	NW#	33	NW	30	13	5	13	5.3	60
CAPE HATTERAS R	7	1016.6	1017.5	61	43	52.1	1.1	72	8	27	1	0	5	44	73	1.11	-3.05	0.43	8	0	0.0	0	11.4	24	40	SSW	10	10	10	11	5.8	56
CHARLOTTE	735	989.0	1017.5	63	39	51.0	1.0	81	4	21	31	0	7	37	62	4.18	-0.21	2.10	12	1	T	0	8.9	18	34	SW	5	12	6	13	5.1	63
GREENSBORO	891	985.0	1017.4	61	37	48.7	1.3	75	9	20	31	0	10	34	61	2.75	-0.94	1.03	11	0	T	0	9.8	20	42	NW	30	13	6	12	5.0	60
RALEIGH	433	1003.0	1017.1	63	38	50.6	1.1	80	9	23	31	0	8	37	64	2.93	-0.42	1.16	12	0	T	T	9.8	22	35*	30	30	13	7	11	5.1	67
WILMINGTON	30	1015.5	1018.5	64	44	54.2	0.0	77	3	25	31	0	2	44	71	2.89	-1.14	1.31	11	1	0.0	0	10.2	22	39	NW	30	11	9	11	5.5	60
WINSTON SALEM	967	981.3	1017.0	61	39	50.4	2.1	73	9+	23	31	0	7	35	60	3.13	-0.88	1.36	9	0	0.2	0	9.9	23	29*	33	30	13	6	12	5.0	
NORTH DAKOTA																																
BISMARCK	1647	953.3	1016.2	36	10	22.8	-3.4	58	12	-13	26+	0	31	10	60	0.52	-0.26	0.36	5	0	5.8	4	11.2	36	42	NW	13	4	15	12	6.8	72
FARGO	900	980.6	1016.6	33	8	20.8	-3.5	56	12	-11	26	0	29	11	67	0.92	0.17	0.43	6	0	8.4	6	12.9	34	42	NW	23	3	16	12	6.4	69
WILLISTON	1899	945.3		34	9	21.3	-3.0	71	31	-20	25	0	31			0.94	0.23	0.47	10	0	9.5	6	10.8	N#	45	W	1	11	8	12	5.7	65
OHIO																																
AKRON	1209	976.4	1015.2	47	28	37.4	0.5	67	24	10	18	0	23	29	75	8.83	5.51	3.29	19	6	6.6	4	11.8	25	40*	22	5	4	11	16	7.2	
CINCINNATI OBS	761			54	34	44.2	1.5	73	24	16	18	0	13			11.49	7.60	4.63	12	5	0.7	T	8.5	S#	38	SW	5					43
CINCINNATI U	553	992.0		56	36	45.6	1.3	75	24	18	18	0	10			11.95	8.02	4.97	12		0.6	0										
CLEVELAND	777	986.1	1014.6	45	29	37.1	1.7	67	24	16	18	0	23	29	76	5.21	2.08	2.03	18	5	8.5	3	12.2	20	48	SW	5	3	9	19	7.7	42
COLUMBUS	812	985.2	1015.7	51	31	41.1	2.2	70	24	13	18	0	18	31	69	9.59	6.43	3.40	17	7	2.9	1	11.1	18	45	SW	5	5	9	17	7.1	53
COLUMBUS U	724			51	33	41.8	1.3	70	24	14	18	0	13			10.14	7.26	3.72	16	6	4.2	1										
DAYTON	997	982.0	1015.2	51	31	41.0	2.1	68	24	13	18	0	18	32	74	7.65	4.53	2.87	12	6	4.0	1	13.8	20	43	S	5	6	9	16	7.0	49
MANSFIELD	1296			46	27	36.6	1.4	66	24	10	18	0	23			7.04	3.26	2.45	18	5	8.3	2						4	6	21	7.5	
TOLEDO	676	988.8	1014.8	45	25	35.0	-0.2	70	24	11	11	0	24	27	75	4.88	2.62	1.56	15	3	11.6	6	11.0	22	34	SW	26+	6	8	17	7.0	56
YOUNGSTOWN	1178	971.5	1015.0	46	27	36.5	1.2	65	24	10	18	0	22	27	72	6.20	2.85	2.04	17	4	8.2	3	11.5	24	35*	26	16	3	5	23	8.0	
OKLAHOMA																																
OKLAHOMA CITY	1280	970.2	1014.4	60	34	47.1	-1.4	80	31	18	26	0	15	30	59	1.30	-0.67	0.65	6	0	1.5	T	15.2	15	43	SW	6	12	7	12	5.3	67
TULSA	676	989.9	1015.0	61	33	46.9	-1.2	78	24	18	26	0	13	31	61	3.96	1.53	1.61	10	1	8.8	4	12.8	18	35	SSW	13	12	8	11	5.3	61
OREGON																																
ASTORIA	8	1016.3	1016.9	51	37	44.3	-0.2	73	29	27	24	0	4	39	83	7.41	-1.51	0.74	22	2	T	0	9.7	27	44*	19	11	2	4	25	8.6	
BURNS U	4151	870.9		46	23	34.1	-3.3	65	31	13	3	0	30			0.85	-0.12	0.18	15	0	8.6	3						6	8	17	7.1	
EUGENE	361	1005.1		54	37	45.1	-0.9	71	30+	29	19	0	4			4.53	0.21	1.10	19	0	T	0	8.1		29*	19	11	1	6	24	8.2	
MEACHAM	4050			37	25	31.1	-2.2	58	30	15	24	0	28			4.38	0.42	0.66	24	0	37.4	45						1	6	24	8.7	
MEDFORD	1298	970.7	1019.3	55	32	43.6	-0.7	79	30	25	25	0	16	34	75	2.71	0.93	0.62	16	0	0.8	T	4.6	36	25*	31	4	2	7	22	8.1	
PENDLETON	1482	961.6	1016.1	53	34	43.5	-1.6	79	30	24	24	0	10	29	60	0.66	-0.54	0.24	10	0	0.5	T	12.6	26	39*	26	4	4	5	22	7.6	
PORTLAND	21	1012.1	1017.9	52	36	43.9	-2.2	74	29	29	19	0	7	36	76	2.28	-1.55	0.53	18	0	T	0	9.8	20	34	SE	11	3	2	26	8.4	38
PORTLAND U	30			54	40	47.1	-0.6	77	29	34	24	0	0			3.21	-1.57	0.52	16		T	0										
ROSEBURG	505	1000.2		56	36	46.2	-0.4	78	29	29	19	0	4			3.74	0.32				T	0	4.5	S#	32	S	11					
SALEM	195	1011.1	1018.5	52	35	43.7	-1.6	71	29	26	19	0	9	39	85	3.55	-1.13	0.69	20	0	T	0	9.5	18	35*	19	11	3	6	22	7.9	

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
OREGON																																
SEXTON SUMMIT R	3836	883.3		43	29	35.6	- 3.0	66	30	22	5	0	25			3.35	- 0.12	0.73	17	0	36.4	19	9.1					2	7	22	8.2	
PACIFIC AREA																																
CANTON ISLAND	11	1008.4	1008.8	89	79	83.9	0.8	90	10+	77	30+	13	0	74	75	0.64	- 1.85	0.31	9	0	0.0	0	11.7	7	25*	8	7	16	12	3	4.2	
ENIWETOK	16	1010.9		86	78	81.9	0.6	87	27+	76	29+	0	0			0.13	- 1.73	0.08	6		0.0	0	14.9									
TAGUAC GUAM R	361	999.4		84	72	77.8	- 1.0	86	27+	64	9	0	0			4.44	1.80	2.19	16		0.0	0	8.3		23	E	2					71
JOHNSTON	7	1013.5	1014.2	80	73	76.2	- 1.0	81	26+	68	28+	0	0	68	76	3.76	1.42	1.84	13	2	0.0	0	14.4	10	49	SE	11	10	16	5	5.0	74
KOROR R	94	1007.7	1010.4	87	76	81.3	0.6	90	16	73	20+	1	0	76	86	6.98	- 0.65	2.68	19	0	0.0	0	8.5	6	24	NE	10	0	0	31	9.9	82
KWAJALEIN	8	1010.2	1010.2	86	77	81.5	1.0	88	10+	74	25+	0	0	73	79	3.44	- 3.02	1.37	9	0	0.0	0	15.8	6	28*	8	17	4	9	18	7.5	
PONAPE R	123	1004.8	1009.1	86	76	80.9	0.3	88	30+	71	24	0	0	74	79	14.03	- 0.52	3.92	20	0	0.0	0	9.9	4	23	NE	5	1	2	28	9.1	53
TRUK MOEN ISLAND	5	1008.8	1009.0	86	78	81.7	0.9	88	30	74	22+	0	0	73	74	2.44	- 5.31	1.89	14	0	0.0	0	13.3	4	21	NE	21	0	4	27	8.9	60
WAKE	11	1013.5	1013.7	83	74	78.3	0.5	85	25+	70	21	0	0	67	71	1.08	- 0.39	0.35	10	0	0.0	0	11.9	4	26*	5	22+	14	9	8	4.9	
YAP R	53	1008.9	1009.9	86	76	80.7	- 0.3	88	29+	73	28+	0	0	75	84	4.01	- 1.37	1.05	18	0	0.0	0	12.8	4	31	22	19	0	0	31	10.0	64
PENNSYLVANIA																																
ALLENTOWN	376	1001.3	1015.8	50	28	39.1	1.5	72	25+	13	1	0	23	27	67	1.95	- 1.84	0.73	12	1	6.8	4	11.9	29	43*	32	18	5	9	17	6.8	
ERIE	732	988.1	1014.9	45	28	36.6	3.0	66	24	18	19	0	24	29	76	3.81	0.93	1.27	16	4	7.4	2	16.0	26	46*	22	5	6	5	20	7.5	
HARRISBURG	335	1001.9	1016.1	51	30	40.5	0.2	75	25	12	1	0	18	28	65	2.94	- 0.49	1.29	13	2	9.0	7	10.1	29	42	W	26	6	8	17	6.8	53
PHILADELPHIA	5	1010.9	1015.8	53	32	42.7	1.7	73	5	22	31	0	18	30	64	1.94	- 1.86	1.11	12	1	5.1	3	10.7	29	42	SW	5	6	8	17	6.6	54
PITTSBURGH	1137	984.1	1015.0	50	30	40.0	3.2	67	24	13	18	0	18	29	67	4.96	1.64	2.00	17	3	6.1	2	12.6	31	40*	23	5	2	8	21	8.2	45
PITTSBURGH U	749			52	33	42.5	2.1	70	24	15	18	0	14			5.10	1.58	2.14	15		4.7											45
READING U	266	1003.4		52	33	42.5	1.2	74	5	21	31	0	15			2.13	- 1.65	1.31	13	1	6.1	5	12.5	NW#	59	SE	10	7	8	16	6.6	46
SCRANTON	940	980.4	1015.2	46	28	36.9	0.7	67	5	16	31	0	25	25	63	3.54	0.72	2.20	12	1	9.7	8	9.1	32	34	SW	5	4	9	18	7.5	49
WILLIAMSPORT	527	996.5	1015.9	49	29	38.5	1.1	67	25+	9	1	0	21	26	65	3.87	0.14	2.52	14	1	0.9	10	10.3	27	35*	23	5	4	5	22	7.6	
RHODE ISLAND																																
BLOCK ISLAND	110	1009.7		43	31	37.0	0.3	50	29+	22	31	0	18			2.99	- 1.08	1.38	8	1	1.9	2						9	10	12	5.7	
PROVIDENCE	55	1008.1	1014.3	47	28	37.8	0.8	73	25	22	31+	0	23	25	64	2.26	- 1.88	0.87	10	2	2.5	2	12.4	30	40*	21	5	8	9	14	5.9	57
SOUTH CAROLINA																																
CHARLESTON	41	1016.4	1018.5	69	46	57.6	0.9	81	9	27	31	0	2	46	70	4.40	0.47	1.59	10	1	0.0	0	10.3	20	47Y	NW	30	9	7	15	6.1	75
CHARLESTON U	9			65	50	57.5	0.0	75	12	35	31	0	0			3.95	0.33	1.81	8	0	0.0	0	11.0		39	NW	30					
COLUMBIA	217	1004.7	1017.9	67	43	54.8	0.4	83	4	25	31	0	2	40	64	6.16	1.90	2.23	12	2	0.0	0	7.5	18	32*	31	30	11	5	15	5.5	69
FLORENCE	146	1012.0	1017.9	67	43	54.9	0.2	81	9	24	31	0	2	41	65	3.67	0.03	1.45	10	0	0.0	0	8.6	18	31*	32	30	12	7	12	5.4	
GNVLE SPARTANBURG	957	980.4	1017.9	64	40	51.9	0.5	80	4	24	31	0	3	37	62	7.11	2.36	2.73	13	2	0.0	0	9.1	4	36	SW	10	13	6	12	5.2	65
SOUTH DAKOTA																																
HURON	1282	967.1	1016.0	39	13	25.9	- 2.8	61	15	-12	7	0	31	15	65	1.06	- 0.05	0.68	7	0	12.8	5	13.2	12	43	NW	23	7	10	14	6.4	63
RAPID CITY	3165	897.7	1015.1	42	18	29.9	- 1.2	75	31	1	24	0	29	16	63	0.63	- 0.38	0.39	8	0	5.7	3	13.0	34	45	N	23+	4	12	15	7.0	70
SIOUX FALLS	1420	962.5	1015.9	38	15	26.6	- 3.5	59	12	- 6	7	0	30	18	73	2.12	0.58	1.48	7	0	9.1	4	12.5	35	37*	25	23	8	8	15	6.6	
TENNESSEE																																
BRISTOL	1507	961.5	1016.9	57	32	44.7	- 1.3	79	4	15	30	0	17	33	66	4.66	0.68	1.68	14	1	0.5	T	6.7	27	32*	24	10	10	3	18	6.3	
CHATTANOOGA	670	990.0	1018.1	62	39	50.2	- 1.0	79	4	24	30	0	7	36	65	10.44	4.80	4.09	12	5	0.0	0	9.7	18	54	SW	4	11	5	15	6.2	54
KNOXVILLE	950	981.6	1017.8	59	36	47.7	- 1.9	78	4	22	30	0	10	33	63	5.75	1.02	2.36	13	4	T	T	9.2	24	56	SW	10	10	5	16	5.9	54
MEMPHIS	263	1001.5	1016.5	64	40	51.7	0.6	79	14	23	30	0	5	39	65	7.34	2.27	3.03	12	7	T	T	11.3	18	40	SW	4	12	6	13	5.3	63
MEMPHIS U				62	42	52.1	0.3	76	8	25	30	0	3			8.23	3.33	3.38	12		T	T										
NASHVILLE	577	996.3	1016.6	60	38	49.0	- 0.1	74	24+	21	30	0	9	37	67	5.92	0.73	1.44	10	6	T	T	11.5	18	42	W	4	9	6	16	6.1	51
OAK RIDGE	905	983.1		60	35	47.5	0.0	77	4	22	30	0	13			6.32	0.73	2.51	15	5	T	T	6.3		43Y		9	12	1	18	6.1	
TEXAS																																
ABILENE	1759	951.6	1013.2	71	44	57.2	2.2	86	13	29	26+	0	3	33	45	1.26	0.22	0.67	4	2	T	0	12.6	18	33	S	22	18	5	8	3.7	81
AMARILLO	3607	884.8	1011.9	61	28	44.8	- 2.8	84	31	14	21	0	25	21	45	0.03	- 0.79	0.02	2	0	T	0	16.2	21	41	W	13	16	9	6	4.0	78
AUSTIN	597	992.8	1015.0	73	49	60.7	1.0	80	25+	34	10	0	0	46	64	1.95	- 0.18	1.56	9	4	0.0	0	11.0	18	38	NW	9	13	4	14	5.5	64
BROWNSVILLE	16	1011.7	1014.3	77	58	67.5	- 0.4	90	20+	44	5	2	0	57	74	0.26	- 0.78	0.23	2	0	0.0	0	15.2	14	40	NW	9	5	6	20	7.4	49
CORPUS CHRISTI	43	1014.0	1015.1	74	54	64.1	- 1.1	84	19+	42	21+	0	0	55	77	1.14	- 0.30	0.52	8	3	0.0	0	14.7	15	45	NW	9	8	5	18	6.6	50
DALLAS	481	996.1	1015.0	68	45	56.7	0.6	79	31	29	26	0	2	42	62	4.53	1.68	2.29	8	5	T	T	14.0	18	33	N	4	14	4	13	4.8	70
DEL RIO	1026	978.7		77	51	63.8		94	8	38	21	1	0			0.45		0.42	2	1	0.0	0	12.5		52	33	3	12	5	14	5.2	
EL PASO	3918	883.2	1011.3	67	40	53.6	- 1.3	80	31+	26	15+	0	6	17	28	0.99	0.64	0.81	4	3	T	T	12.1	25	56	W	24	17	8	6	3.5	90
FORT WORTH	544	993.9	1015.1	69	43	55.6	- 0.3	79	31+	28	26	0	5	42	66	3.35	0.84	1.54	8	6	0.4	T	12.5	18	35*	33	20+	13	7	11	4.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F	F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
GALVESTON U	7			65	55	59.9	- 1.5	76	19	42	21	0	0			2.53	- 0.33	1.62	7	0	0.0	0			44	NW	9					59
HOUSTON U	41			72	54	62.7	0.3	80	28+	40	21	0	0			2.33	- 0.07	1.76	8		0.0	0										
HOUSTON	50	1012.8	1015.7	71	50	60.4	- 0.9	78	28	35	10	0	0	50	73	2.24	- 0.43	1.15	10	2	0.0	0	12.1	16	35*	31	4	8	8	15	6.2	58
LAREDO	500	998.0	1013.6	80	56	67.9	- 0.2	96	8	42	21	4	0	48	56	0.12	- 0.50	0.06	4	3	0.0	0	11.0	14	36*	33	9	9	6	16	6.1	
LUBBOCK	3243	899.9	1012.5	65	33	49.2	- 0.4	80	31	21	5	0	15	26	45	0.64	- 0.09	0.62	3	0	0.2	T	16.6	18	38*	3	16					
MIDLAND	2854	912.3	1011.3	72	39	55.6	0.4	85	24	28	1	0	6	24	37	0.64	0.28	0.64	2	1	T	0	12.5	18	33*	28	3	17	8	6	3.4	
PORT ARTHUR	16	1014.3	1015.9	71	49	59.9	- 1.2	78	28+	33	10	0	0	52	77	3.64	0.20	1.72	10	4	T	0	12.4	16	66	SW	19	10	8	13	6.0	56
SAN ANGELO	1903		1012.6	75	46	60.6	3.6	89	8	31	10	0	3	35	44	0.83	- 0.10	0.62	3	0	0.0	0	11.9	16	38*	3	16	19	7	5	3.2	
SAN ANTONIO	792	989.7	1014.9	73	50	61.5	0.5	83	25	33	10	0	0	47	63	1.73	0.06	1.57	6	3	0.0	0	10.2	16	34	11	4	10	8	13	5.4	66
VICTORIA	104	1010.6		72	52	62.3	- 0.9	79	25+	39	21	0	0			2.10	- 0.22	1.32	8	2	0.0	0	12.1		54Y		9	8	8	15	6.4	
WACO	500	993.3	1014.8	69	46	57.4	- 0.5	79	8	32	26+	0	2	45	66	2.85	0.50	1.58	9	4	T	0	12.5	17	29*	30	9+	14	6	11	4.7	
WICHITA FALLS	994	975.8	1013.8	67	39	53.2	- 0.6	87	13	22	26	0	5	36	59	1.32	- 0.22	0.83	5	1	1.3	1	13.1	18	32*	32	20	17	9	5	3.7	
UTAH																																
MILFORD	5028	841.5		47	19	32.6	- 5.9	76	31	- 4	6	0	30			1.03	0.00	0.38	9	0	14.3	6						9	11	11	5.8	
SALT LAKE CITY	4220	866.4	1018.0	42	22	32.0	- 8.4	71	31	5	7	0	30	23	71	2.26	0.70	0.84	14	1	33.5	11	10.2	18	34	NW	5+	5	6	20	7.5	65
WENDOVER	4237	868.9		46	27	36.8	- 4.7	67	31	18	14+	0	25			0.80	0.41	0.34	9	0	6.1	3						7	12	12	5.9	
VERMONT																																
BURLINGTON	331	998.8	1013.8	39	23	31.1	4.4	58	5	12	12	0	28	20	65	2.64	0.53	0.98	9	1	14.4	12	10.6	18	36	S	7	6	3	22	7.5	57
VIRGINIA																																
LYNCHBURG	947	991.2		57	34	45.9	0.4	71	9	22	31+	0	14			2.03	- 1.58	0.80	11	0	T	T	8.6		34	SW	10	12	7	12	5.4	56
NORFOLK	26	1015.8	1017.2	60	39	49.5	1.5	82	9	27	31	0	3	38	69	2.26	- 1.19	0.79	10	2	1.0	T	13.8	18	52	W	10	10	8	13	5.6	58
RICHMOND	162	1010.3	1016.8	60	35	47.6	- 0.1	80	9	17	31	0	10	34	64	2.61	- 0.81	0.66	10	0	7.0	1	10.1	20	40	SW	10	12	5	14	5.8	65
ROANOKE	1174	973.8	1016.6	58	35	46.5	1.0	74	9	20	30	0	10	30	57	1.81	- 1.72	0.46	13	1	0.7	1	11.5	24	48*	25	26	9	10	12	5.7	
WASHINGTON																																
OLYMPIA	190	1008.6	1015.9	51	33	42.1	- 2.1	72	29	23	24	0	14	37	84	4.47	- 0.93	0.86	18	0	1.0	T	9.6	20	37*	23	4	1	6	24	8.6	
SEATTLE TACOMA	400	1001.5	1015.8	51	38	44.1	0.3	71	29	31	19	0	2	36	76	2.96	- 0.83	0.90	19	2	T	0	11.8	20	32*	24	4	2	5	24	8.7	
SEATTLE U	14			52	41	46.3	- 0.1	73	29	35	24+	0	0			3.20	- 0.12	0.65	18	0	T	0			50	SW	8					34
SPOKANE	2356	944.6	1014.2	44	28	35.7	- 2.4	70	30	13	24	0	26	25	70	1.53	0.03	0.48	12	0	5.2	1	11.6	20	35	SW	1	3	9	19	7.5	52
STAMPEDE PASS R	3958	875.4		32	25	28.4	- 1.6	51	30	10	24	0	29			15.53	4.93	2.41	24	0	115.4	218						2	4	25	8.9	
TATOOSH ISLAND R	101	1011.7	1014.5	47	40	43.3	- 0.9	55	28	33	12	0	0	38	82	8.72	0.38	1.96	22	0	2.6	0	17.2	27	52	SE	11	2	6	23	8.4	34
WALLA WALLA U	949			53	36	44.6	- 1.4	78	30	21	24	0	3			0.60	- 0.99		9		0.7	1										
YAKIMA	1061	976.0	1015.6	54	27	40.4	- 1.6	71	30	17	13+	0	27	23	53	0.14	- 0.48	0.13	2	0	T	0	9.8	28	37*	29	15+	5	13	13	6.5	
WEST INDIES																																
SAN JUAN P.R.	5	1014.6	1017.4	85	72	78.8	3.5	91	21	66	18	3	0	68	73	1.27	- 0.93	0.42	12	0	0.0	0	10.4	7	29	E	8	9	17	5	5.2	73
SWAN ISLAND	28	1013.0														0.50	- 0.13	0.21	6	0	0.0	0						19	11	1	3.6	
WEST VIRGINIA																																
BECKLEY	2504	926.8	1016.9	52	31	41.4		71	9	11	30	0	18	30	67	4.75		1.25	15	3	7.0	9	13.1	16	53*	25	10	5	5	21	7.6	
CHARLESTON	939	980.0	1016.0	59	35	46.7	2.3	80	4	19	19+	0	13	32	61	3.65	- 0.69	0.96	15	3	2.2	3	8.1	23	37*	25	10	6	8	17	7.3	
ELKINS	1970	945.3	1015.8	52	28	39.7	0.2	74	9	10	1	0	25	29	71	3.95	- 0.19	1.04	18	2	7.7	7	9.5	16	35*	25	17+	4	7	20	7.7	
HUNTINGTON	827	986.4	1016.5	58	35	46.4	1.6	76	9	16	19	0	12	34	67	4.54	0.34	1.10	17	3	0.6	2	8.3	18	35*	26	17	4	9	18	7.4	
PARKERSBURG U	615			54	33	43.7	1.0	71	24	15	18	0	16			4.34	0.81	1.24	18	2	1.3	1	8.5		37	W	17					42
WISCONSIN																																
GREEN BAY	682	991.6	1014.8	36	19	27.4	- 0.8	57	2	- 7	27	0	30	18	71	1.76	0.42	0.81	10	1	14.7	10	11.9	29	38	N	5	6	11	14	6.6	59
LA CROSSE	652	988.7	1016.0	38	22	30.0	- 0.5	61	2	8	17	0	28	19	66	1.30	- 0.77	0.33	11	0	17.7	6	12.7	18	32*	34	16	7	10	14	6.6	
MADISON	858	978.5	1014.9	41	21	30.8	1.7	67	2	7	30+	0	30	19	61	2.12	0.28	0.52	13	1	17.4	5	11.5	18	34	NW	5	7	8	16	7.0	53
MILWAUKEE	672	989.4	1015.0	40	24	31.7	0.7	62	16+	10	29	0	27	24	73	3.05	0.74	1.84	13	3	19.8	7	13.3	2	47	N	5	6	12	13	6.2	61
WYOMING																																
CASPER	5319	832.1	1014.7	36	15	25.1	- 7.0	65	31	- 4	24	0	30	14	65	0.66	- 0.37	0.26	9	0	12.8	5	15.2	22	38*	21	1	7	9	15	6.6	
CHEYENNE	6126	806.9	1014.1	39	16	27.4	- 5.0	66	31	4	28+	0	31	12	56	0.58	- 0.63	0.20	12	0	6.9	3	15.7	29	47	N	19	9	10	12	5.7	64
LANDER	5563	829.8	1013.9	39	14	26.8	- 5.4	67	31	1	24	0	30	12	56	0.80	- 0.35	0.40	8	0	15.1	11	7.7	24	40	SW	1	8	9	14	6.4	78
SHERIDAN	3942	880.5	1015.2	40	17	28.8	- 2.2	72	31	- 6	24	0	29	18	66	0.51	- 0.91	0.16	11	0	7.8	2	10.8	31	40	NW	15	3	11	17	7.4	68

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

MARCH 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	992.4	1018.1	18.3	5.6	12.2	-0.3	26.7	8	- 3.9	30	0	5	5.0	66	240	87	86	12	7	0	0	4.2	15	19.2	S	4	9	8	14	6.2	62
HUNTSVILLE	184	994.0	1017.8	17.8	5.0	11.3	0.3	26.1	8+	- 3.9	30	0	5	2.8	60	273	132	130	10	5	0	0	4.6	14	17.9*	18	4	12	4	15	5.9	
MOBILE	64	1015.2	1017.4	21.1	9.4	15.2	-0.5	26.1	28+	1.7	22	0	0	8.9	70	107	- 76	45	11	3	0	0	5.7	14	15.6*	20	2	5	9	17	6.9	
MONTGOMERY	59	1009.7	1018.1	20.6	7.8	14.0	0.7	28.3	8	- 0.6	30	0	2	6.7	65	127	- 29	61	9	5	0	0	4.6	18	19.2	S	4	7	8	16	6.5	57
ALASKA																																
ANCHORAGE	27	1005.0	1010.1	- 3.3	-12.8	- 8.2	-3.3	6.1	31	-25.0	15	B 0	31	-15.6	63	27	14	12	10	0	384	229	2.7	36	10.3*	36	16				5.6	56
ANNETTE	34	1005.6	1009.7	5.6	0.0	2.6	-0.6	12.8	29	- 6.1	23	0	22	- 1.1	81	281	38	53	24	0	236	51	4.4	14	15.6*	15	16	2	3	26	8.5	
BARROW	7	1022.1	1022.8	-27.8	-33.9	-30.7	-4.8	-17.8	19	-42.8	13	0	31	-34.4	69	T	- 3	T	0	0	T	279	5.0	9	11.6*	8	27+	20	6	5	3.0	
BARTER ISLAND	12	1020.8	1022.8	-26.7	-34.4	-30.3	-4.3	-10.6	23	-42.8	10+	0	31	-33.9	71	T	- 5	T	0	0	T	254	5.9	27	21.5*	27	14	23	3	5	2.5	
BETHEL	38	1010.2	1013.2	-10.0	-21.7	-16.1	-4.7	1.7	25	-39.4	14	0	31	-18.9	75	21	- 5	9	11	0	262	229	5.5	2	14.8*	7	6	11	7	13	5.6	
COLD BAY	29	1006.1	1009.9	1.1	- 4.4	- 1.5	0.3	8.9	24	-12.2	16	0	26	- 5.0	79	34	- 11	10	13	0	185	76	7.9	36	23.2*	24	25	2	8	21	8.3	
CORDOVA	12	1004.5	1006.7	1.1	-11.1	- 5.0	-3.4	6.7	31	-23.9	15	0	31	- 7.8	81	85	- 13	33	14	0	838	610	1.9	13	9.4*	12	27	11	6	14	5.6	
FAIRBANKS	133	998.2	1016.5	-10.0	-27.8	-19.0	-6.2	2.8	30	-43.3	15	0	31	-23.3	68	5	- 6	2	5	0	89	406	2.0	2	7.2*	7	20	14	7	10	4.8	
JUNEAU	5	1008.1	1008.9	1.1	- 5.0	- 1.8	-0.9	7.8	30	-15.0	12	0	26	- 4.4	83	111	28	19	21	0	988	406	4.2	12	13.9*	12	28	5	2	24	8.2	33
KING SALMON	13	1009.4	1010.8	- 3.9	-13.3	- 8.8	-1.8	4.4	29+	-31.1	14	0	31	-12.8	72	26	2	12	14	0	117	102	5.4	36	13.4*	22	25+	9	4	18	6.1	
KOTZEBUE	3	1018.1	1018.6	-18.3	-28.9	-23.4	-4.5	- 5.0	26	-38.3	15+	0	31	-27.2	70	1	- 7	1	1	0	20	635	4.7	10	13.4*	30	12	14	10	7	4.1	
MC GRATH	102	1001.3	1014.8	- 8.9	-25.6	-17.2	-4.0	2.8	31	-44.4	14	0	31	-23.3	58	22	- 2	10	11	0	434	660	1.9	1	7.6*	1	16+	11	7	13	5.5	
NOME	4	1015.0	1015.6	-12.2	-25.0	-18.6	-5.2	- 1.7	25	-38.9	13	0	31	-21.7	74	19	- 4	8	9	0	188	686	4.0	9	19.7*	8	6	15	8	8	4.2	57
ST. PAUL ISLAND	7	1008.6	1009.7	- 2.2	- 7.8	- 5.1	-0.7	2.8	28	-18.9	3+	0	31	- 6.1	90	67	40	14	20	0	460	813	9.0	6	21.9*	9	5	4	4	23	8.1	
SHEMYA	37	1002.1	1005.9	1.7	- 1.1	0.2	-0.1	4.4	22	- 5.0	3	0	27	- 2.8	82	35	- 31	5	18	0	244	102	9.8	18	23.2*	36	5	0	8	23	8.6	
YAKUTAT	9	1006.4	1007.5	1.7	- 6.1	- 2.3	-2.0	6.7	4	-15.0	22	0	27	- 5.0	81	199	- 21	54	21	0	1448	864	2.5	9	13.0*	7	15	2	6	23	8.2	
ARIZONA																																
FLAGSTAFF	2131	785.9	1014.6	7.2	- 8.9	- 0.8	-2.8	17.2	30	-20.0	8	0	31	- 8.9	58	78	41	28	9	0	978	559	4.0	20	11.6*	18	2	12	7	12	4.9	
PHOENIX	340	974.0	1013.5	21.7	5.6	13.6	-1.4	31.7	31	- 1.7	9	0	2	- 1.1	41	9	- 7	5	4	0	0	0	3.2	12	17.4Y	WSW	7	12	12	7	4.4	87
PRESCOTT	1528	844.2	1014.6	13.3	- 2.8	5.1	-2.4	23.3	30	- 8.3	8	0	27	- 7.2	47	18	- 1	9	5	0	196	76	4.6	19	18.8	SW	22	13	8	10	4.7	80
TUCSON	788	924.3	1013.1	20.0	5.0	12.7	-1.8	30.6	30	- 1.7	9+	0	3	- 5.0	36	21	7	16	5	0	145	127	4.5	16	17.9	S	22	14	9	8	4.3	84
WINSLOW	1487	848.6	1015.3	14.4	- 3.9	5.3	-2.3	25.0	31	-11.7	9	0	29	- 8.9	44	12	3	11	5	0	99	51	4.8	23	18.3*	21	23	10	13	8	5.0	
YUMA	61	1008.6	1013.9	25.0	8.3	16.4	-2.2	31.7	30	1.7	9	0	0	- 3.9	30	T	- 6	T	0	0	0	0	3.5	30	16.5	E	17	17	6	8	3.6	95
ARKANSAS																																
FORT SMITH	137	998.3	1015.6	17.8	2.2	10.1	-0.6	24.4	31	- 5.0	26	0	11	2.8	67	154	66	86	9	4	T	0	3.8	7	14.8	E	19+	10	10	11	5.4	59
LITTLE ROCK	78	1002.8	1016.2	19.4	3.9	11.5	0.5	27.2	14	- 4.4	30	0	5	3.9	63	209	87	70	13	8	T	0	4.5	13	17.0	W	21	11	7	13	5.3	63
TEXARKANA	110	1002.1	1015.8	20.0	6.1	13.0	0.3	25.6	8	- 1.7	26	0	3	6.7	71	102	- 18	33	10	6	0	0	3.4	15								
CALIFORNIA																																
BAKERSFIELD	151	999.2	1017.3	19.4	5.6	12.7	-1.2	31.7	29	1.1	8+	0	0	1.7	53	14	- 12	4	8	0	0	0	2.9	10	11.2*	17	30	13	9	9	4.6	
BISHOP	1252	872.3		16.7	- 2.8	6.9	-1.7	24.4	30	- 8.9	24	0	24			1	- 13	1	1	0	15	25						14	9	8	4.7	
BLUE CANYON	1609	837.0		6.7	- 1.7	2.4	-1.7	15.6	17	- 7.2	2	0	21			193	- 21	47	11	0	1384	1016	3.5		13.0*	18	20	9	9	13	6.2	
BURBANK	213	989.6	1015.8	19.4	6.7	13.0	-1.4	28.3	29	2.2	9	0	0	1.7	53	55	1	30	5	0	0	0	3.8	16	16.1*	2	16	18	5	8	3.9	
EUREKA U	13	1018.1		10.6	5.0	7.6	-1.7	16.1	30	1.1	7	0	0			150	17	36	15	1	0	0	3.3	N#	14.8	N	18	6	8	17	7.0	61
FRESNO	99	1005.0	1017.0	18.3	3.3	10.7	-2.1	27.8	29	- 1.7	8	0	4	2.8	63	32	- 18	11	8	2	0	0	3.1	32	18.3	NW	2	16	4	11	4.5	78
LONG BEACH	10	1014.9	1016.5	19.4	7.2	13.3	-0.4	30.6	17	0.6	8	0	0	5.0	66	27	- 7	14	6	0	0	0	3.5	27	13.0*	27	23+	15	9	7	4.1	
LOS ANGELES	30	1012.9	1016.8	18.3	8.3	13.3	-0.6	31.1	17	3.9	8	0	0	4.4	62	30	- 15	19	6	1	0	0	4.9	27	17.9Y	4	16	15	9	7	4.1	
LOS ANGELES U	95			19.4	10.0	14.8	-0.4	28.9	17	6.1	8	0	0			45	- 12	28	6	1	0	0	3.6		21.0	NW	16	17	9	5	3.5	80
MT SHASTA R	1080	892.2		10.0	- 2.8	3.8	-1.3	20.6	29	- 7.2	25+	0	29			58	- 55	29	10	0	734	305						7	7	17	6.2	
OAKLAND	1	1017.9	1018.4	14.4	8.3	11.6	-0.4	23.3	18	6.1	7	0	0	6.1	71	49	- 12	14	8	0	0	0	4.4	29	13.0*	2	16	12	9	10	5.2	
POINT ARGUELLO R	112	1003.6		15.0	4.4	9.7	-1.4	23.9	16	0.6	25+	0	0			62	13	27	8	0	0	0	4.0		13.0*	32	2	13	7	11	4.8	
RED BLUFF	104	1004.5	1017.5	17.8	4.4	11.2	-1.1	26.1	16	- 0.6	2	0	1	- 0.6	52	42	- 26	14	7	3	0	0	4.6	34	17.9	SE	11+	9	7	15	5.9	74
SACRAMENTO	5	1016.3	1017.9	18.3	4.4	11.3	-0.6	26.7	30	- 0.6	2	0	2	3.9	67	35	- 25	14	6	0	0	0	4.0	34	16.1	NW	18	13	7	11	5.2	77
SACRAMENTO U	7			18.3	5.6	11.9	-0.4	26.7	30+	0.0	7	0	1			21	- 41	7	6		0	0										
SANDBERG R	1377	860.9		9.4	0.0	4.9	-2.3	20.0	30+	- 5.6	3	0	18			41	4	33	9	0	163	51			21.9*	35	15	13	5	13	5.1	
SAN DIEGO	4	1013.2	1016.5	18.9	10.0	14.3	-0.7	29.4	17	5.6	8	0	0	5.6	60	25	- 15	11	7	1	0	0	3.8	29	15.2	NW	2	15	8	8	4.2	72
SAN FRANCISCO	2	1018.6	1018.7	16.1	6.1	11.1	-0.8	23.3	19	2.2	7	0	0	5.0	70	50	- 19	14	8	0	0	0	5.3	27	17.4	W	4	12	7	12	5.1	
SAN FRANCISCO U	16			15.0	8.3	11.8	-0.8	23.9	16	6.1	24+	0	0			54	- 21	16	10	0	0	0	3.8	W#	13.0	SW	1					84
SANTA CATALINA	478	959.8		15.6	8.9	12.1	-0.4	25.6	17	5.0	24+	0	0			33	- 17	16	6	0	T	0						14	8	9	4.5	
SANTA MARIA	73	1009.3	1018.3	17.8	2.2	9.8	-2.0	28.3	16	- 3.9	8	0	8	3.9	74	60	8	26	8	2	0	0	4.2	30	14.3*	29	13	17	8	6	3.7	
STOCKTON	9	1016.3	1018.0	18.3	3.3	10.9	-1.1	26.7	17	- 0.6	25+	0	5	2.8	64	24	- 28	13	8	0	0	0	3.8	29	15.6*	33	15	12	7	12	5.5	
COLORADO																																
ALAMOSA	2297	765.6		6.1	-13.9	- 3.9	-3.9	17.2	31	-28.9	4	0	31			10	4	4	8	0	218	102						13	11	7	4.5	
COLORADO SPRINGS	1882	804.9	1014.1	6.1	- 7.2	- 0.6	-2.9	20.6	31	-18.3	9	0	29	-10.6	52	27	12	15	7	0	521	279	5.1	3	16.5*	30	15	10	7	14	5.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	°C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
DENVER	1610	832.3	1012.8	7.2	- 6.1	0.6	-1.9	20.0	31	-15.6	4	0	30	- 8.9	56	35	4	13	10	0	467	152	3.9	18	13.9	SW	22	9	11	11	5.7	71
GRAND JUNCTION	1478	856.7	1014.9	9.4	- 3.9	2.8	-2.5	22.2	31	-12.2	14	0	29	- 8.9	47	18	- 1	8	7	0	203	76	2.8	13	17.0	S	22	9	7	15	6.1	60
PUEBLO	1414	852.0	1013.8	9.4	- 7.2	1.1	-3.4	23.3	31	-23.3	9	0	30	- 8.9	52	28	15	15	7	0	399	229	5.1	35	21.0	SW	22	13	7	11	5.0	91
CONNECTICUT																																
BRIDGEPORT	2	1015.1	1016.0	8.3	- 0.6	3.9	0.9	17.2	25	- 6.1	31	0	17	- 1.7	72	51	- 57	14	11	2	10	T	6.7	31	17.9*	21	5	6	11	14	6.3	
HARTFORD	52	1008.2	1014.4	8.3	- 2.2	3.2	0.9	24.4	25	- 6.7	7	0	24	- 3.9	64	92	- 4	38	13	1	104	76	3.9	31	14.3	SW	25	7	7	17	6.8	63
NEW HAVEN	2	1014.0		8.3	- 1.1	3.6	0.9	16.7	25	- 5.6	31	0	26			61	- 57	26	11	0	23	25	4.0		15.2	NW	18	6	9	16	6.6	60
DELAWARE																																
WILMINGTON	24	1012.7	1016.0	12.2	0.6	6.2	1.0	24.4	10+	- 6.1	31	0	16	- 0.6	65	56	- 46	36	12	1	241	127	5.4	31	18.8*	30	10	7	6	18	6.5	
DIST.OF COLUMBIA																																
WASHINGTON U	22			13.9	2.8	8.3		25.6	9	- 4.4	31	0	4			65	- 21	27	10		0	0										
WASH NATL AP	4	1011.2	1015.8	15.0	2.8	8.6	1.5	26.7	9	- 5.0	31	0	6	0.0	59	64	- 17	27	10	0	157	51	5.2	20	19.2	SW	10	8	8	15	6.4	59
FLORIDA																																
APALACHICOLA U	4	1016.2		18.9	12.2	15.4	-0.7	24.4	20	5.0	31	0	0			88	- 27	45	9	2	0	0	3.8					10	4	17	6.5	53
DAYTONA BEACH	9	1017.4	1019.4	23.3	12.2	17.9	0.2	31.1	15+	3.9	31	0	0	12.2	73	123	33	34	8	2	0	0	4.3	36	10.7*	18	9	6	7	18	6.7	
FORT MYERS	4	1017.4		27.8	16.1	22.2	2.1	31.1	7	7.2	31	0	0			54	- 13	50	5	2	0	0	4.8		10.3*	18	26+	6	17	8	5.7	
JACKSONVILLE	7	1016.6	1018.5	23.3	11.1	17.1	0.3	30.6	15	0.0	31	0	1	10.0	68	45	- 44	28	6	1	0	0	4.4	18	19.2	W	3	8	5	18	6.2	64
KEY WEST	2	1016.8	1018.1	27.2	21.7	24.4	1.9	30.0	16+	17.2	31	0	0	19.4	76	42	- 3	20	5	2	0	0	5.3	15	12.5	N	30	11	11	9	5.1	75
LAKELAND U	65			25.6	14.4	19.8	0.6	30.0	3	5.0	31	0	0			85	- 23	38	7	0	0	0	3.8					4	15	12	6.3	54
MIAMI BEACH	3			25.6	21.1	23.1	1.1	29.4	17	13.3	22	0	0			11	- 38	7	4		0	0	6.7					5	17	9	5.8	65
MIAMI	2	1017.1	1018.5	27.2	20.0	23.7	2.3	32.2	5	11.7	31	1	0	18.3	74	13	- 45	9	3	0	0	0	4.0	9	9.8*	35	30	2	18	11	6.5	
ORLANDO	32	1014.2	1019.1	26.1	13.9	20.1	1.2	31.1	15+	5.6	31	0	0	13.3	71	118	31	55	7	4	0	0	4.8	18	14.3*	32	26	5	13	13	6.4	
PENSACOLA	4			20.0	9.4	14.6	-1.5	25.0	18+	2.2	26	0	0			119	- 35	46	11	4	0	0	3.9	36	18.8	SE	19					48
TALLAHASSEE	18	1016.0	1018.9	22.2	9.4	15.7	-0.2	27.2	15	- 1.7	31	0	2	9.4	70	103	- 28	42	10	5	0	0	4.9	18	21.5*	27	15	9	7	15	6.4	
TAMPA	6	1016.6	1018.4	26.1	13.9	20.0	1.1	30.6	8	3.9	31	0	0	13.9	70	100	4	57	7	1	0	0	5.6	18	12.5*	29	26	5	11	15	6.9	73
WEST PALM BEACH	5	1017.5	1018.6	27.2	17.8	22.4	1.4	32.8	10+	10.0	31	2	0	17.2	76	46	- 41	20	6	1	0	0	4.9	14	13.9*	33	30	5	18	8	6.0	
GEORGIA																																
ATHENS	245	988.6	1018.0	17.8	4.4	11.2	0.3	25.6	4	- 4.4	30	0	4	3.9	66	277	147	112	15	6	0	0	3.9	29	13.4*	20	10	8	8	15	6.0	
ATLANTA	306	975.6	1018.2	16.7	4.4	10.7	-0.4	25.6	4	- 5.0	30	0	4	3.3	67	242	105	86	15	6	0	0	4.2	27	15.6	NW	30+	8	6	17	6.3	61
AUGUSTA	44	1011.1	1018.2	20.6	6.1	13.3	0.6	28.9	4	- 3.3	31	0	3	5.0	63	141	35	72	13	1	0	0	3.9	29	13.4*	21	5	9	6	16	6.2	
COLUMBUS	117	1003.5		20.6	6.1	13.1	0.2	27.2	14+	- 2.2	31	0	5			141	- 11	47	12	5	0	0	4.7		16.5*	18	4	8	6	17	6.5	
MACON	109	1004.6	1018.5	20.6	7.2	13.8	0.0	27.2	14	- 2.2	31	0	2	5.6	62	96	- 29	40	11	4	0	0	4.2	18	14.3	SW	10	9	7	15	6.3	66
ROME	194	994.6		17.2	2.8	9.9	-0.3	27.2	8+	- 5.0	30+	0	13			342	193	149	13	4	0	0						10	6	15	5.8	
SAVANNAH	15	1016.0	1018.7	21.1	8.3	14.7	0.1	29.4	15	- 1.7	31	0	1	7.8	68	69	- 32	36	10	3	0	0	5.3	18	15.2	N	15	9	4	18	6.3	64
THOMASVILLE U	86			21.7	10.0	15.7	-0.1	26.1	14	1.1	31	0	0			126	- 8	39	11	6	0	0										
HAWAII																																
HILO	9	1015.7	1017.6	25.6	17.8	21.6	0.1	28.3	17	16.1	25+	0	0	17.8	83	497	124	91	27	5	0	0	4.0	25	13.4*	12	17	0	5	26	8.5	27
HONOLULU	2	1017.0	1017.2	27.8	20.0	23.7	1.1	28.9	19+	16.7	20	0	0	16.1	64	132	59	85	15	4	0	0	4.2	6	13.4	E	9	5	12	14	6.8	82
KAHULUI	13	1013.6	1016.4	27.8	18.3	22.9	0.6	29.4	21	16.1	25+	0	0	16.7	71	15	- 41	5	10	2	0	0	4.4	7	17.0	NE	9	8	12	11	5.7	71
LIHUE	35	1012.5	1018.1	26.7	19.4	22.9	1.2	29.4	17	15.0	20	0	0	17.8	74	258	142	126	22	5	0	0	5.4	6	12.5	NE	10	3	10	18	7.5	37
IDAHO																																
BOISE	865	922.4	1016.9	8.3	- 1.7	3.1	-2.3	23.3	31	- 6.1	8+	0	27	- 2.8	71	16	- 17	6	9	2	66	25	3.7	14	13.4	SE	20	3	7	21	7.5	60
IDAHO FALLS 42NW R	1460			- 0.6	-16.7	- 8.6	-7.1	10.0	31	-25.6	8	0	31			12	0	6	6													
IDAHO FALLS 46W R	1504	845.2		1.1	-15.0	- 7.2	-6.1	12.2	31	-25.6	3	0	31			21	5	11	9	0	251	305	2.6		16.1A	SW	12					
LEWISTON	431	962.5		10.6	0.0	5.4	-0.4	24.4	30	- 5.0	7	0	18			14	- 16	5	8	0	104	76						4	6	21	8.2	
POCATELLO	1355	861.2	1017.9	2.8	- 7.2	- 2.3	-4.4	18.9	31	-18.3	7	0	31	- 6.1	76	20	- 6	5	15	0	236	330	5.4	25	16.5	SW	5	5	7	19	7.5	52
ILLINOIS																																
CAIRO U	96	1002.5		14.4	3.9	9.1	0.1	23.3	14	- 5.6	30	0	4			322	200	167	13	9	T	T	5.1		26.8	NW	4	10	8	13	5.8	55
CHICAGO O HARE	201	989.4	1014.7	6.1	- 3.9	0.9	-0.6	18.9	16	-16.7	30	0	26	- 4.4	68	88	20	31	15	0	503	178	5.8	29	24.1*	1	4	4	11	16	7.2	
CHICAGO MIDWAY	186	991.7	1015.3	6.7	- 2.2	2.2	-0.2	19.4	16	-11.1	30	0	25	- 3.9	65	97	27	31	14	0	467	178	6.1	18	17.4	N	4	2	13	16	7.2	60
MOLINE	177	992.7	1015.5	6.1	- 3.3	1.3	-0.6	16.7	13	-10.6	30+	0	28	- 3.3	73	102	41	36	14	3	353	127	5.6	29	16.1	N	4	6	10	15	6.8	50
PEORIA	199	993.3	1016.2	7.2	- 2.8	2.2	-0.9	17.8	16+	- 9.4	30+	0	24	- 2.2	73	96	23	28	11	5	201	76	5.0	18	17.0	NW	5+	4	10	17	7.2	55
ROCKFORD	222	986.6	1014.5	5.0	- 5.0	0.2	-0.9	15.0	16	-12.2	30	0	29	- 4.4	73	92	30	37	15	3	577	178	5.5	18	13.4*	29	17+	9	8	14	6.3	
SPRINGFIELD	179	991.5	1015.3	8.3	- 1.7	3.5	-1.1	18.9	13	- 8.3	30	0	23	- 1.1	74	102	28	42	15	3	160	76	6.4	31	18.8	S	6	5	7	19	7.4	53

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

MARCH 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	116	999.9	1016.2	13.9	1.1	7.4	0.1	23.9	24	- 5.6	30	0	17	1.7	69	326	217	143	13	9	T	T	4.2	30	19.2	SW	4	9	7	15	6.1	59
FORT WAYNE	241	982.9	1015.1	7.8	- 3.3	2.2	-0.2	20.6	24	-12.2	10	0	23	- 2.2	75	120	50	34	15	6	495	279	5.4	27	23.2	SW	5	5	8	18	7.2	49
INDIANAPOLIS	242	984.6	1015.2	10.6	- 1.1	4.8	0.9	22.8	24	- 9.4	18	0	18	- 0.6	72	183	96	73	12	7	104	76	5.6	30	22.8	SW	5	6	7	18	7.1	50
SOUTH BEND	234	985.6	1014.5	6.7	- 2.8	2.1	0.5	19.4	16	- 8.9	18	0	24	- 2.8	73	127	58	25	21	2	577	102	5.7	23	16.5*	30	5	3	6	22	7.8	
IOWA																																
BURLINGTON	212	989.7	1016.0	7.2	- 2.8	2.1	-0.9	20.0	13	-11.1	26	0	28	- 3.3	72	72	4	27	11	3	264	127	6.1	32	19.2	NW	29	4	10	17	7.1	55
DES MOINES	289	983.7	1016.1	5.0	- 6.7	- 0.9	-2.8	20.0	2	-18.3	26	0	29	- 6.1	72	32	- 21	16	9	0	257	102	6.3	33	15.6	NW	29	7	9	15	6.7	63
DUBUQUE	325	989.1		4.4	- 5.6	- 0.8	-0.7	16.1	2	-15.6	30	0	30			61	- 9	13	13	1	411	127			14.8*	21	23	6	9	16	7.0	
SIOUX CITY	334	973.5	1016.0	5.6	- 7.2	- 0.7	-1.3	17.2	12	-16.1	26	0	29	- 7.2	64	40	3	27	9	0	246	127	5.9	33	17.0	NW	16+	11	4	16	6.1	68
WATERLOO	265	981.8	1015.0	3.9	- 7.8	- 2.0	-2.0	20.6	2	-20.6	27	0	29	- 6.7	74	31	- 21	10	9	1	292	152	5.6	32	18.8*	32	29	5	10	16	6.9	
KANSAS																																
CONCORDIA	448	963.5	1014.6	10.6	- 4.4	3.3	-1.1	24.4	31	-12.2	26	0	26	- 5.6	57	29	- 9	22	4	0	114	51	6.9	34	20.1	S	12	13	6	12	5.5	72
DODGE CITY	791	924.9	1014.1	13.3	- 3.3	4.9	-0.6	26.7	31	-11.1	26	0	26	- 6.1	53	20	- 10	18	4	0	66	25	6.2	35	20.1	NW	20	10	8	13	5.8	77
GOODLAND	1111	884.2	1013.9	9.4	- 6.7	1.5	-1.0	23.9	31	-13.3	25	0	30	- 7.2	61	14	- 13	7	9	0	163	51	6.9	35	23.7*	35	20	10	11	10	5.3	
TOPEKA	267	978.6	1015.3	11.7	- 2.8	4.4	-0.9	23.9	13	-11.1	26	0	24	- 4.4	60	44	- 7	17	7	3	74	25	6.8	36	25.0	SW	25	12	8	11	5.4	71
WICHITA	403	964.6	1014.3	13.3	- 1.7	5.6	-1.3	23.9	13	-10.6	26	0	25	- 3.3	58	23	- 19	17	7	2	T	T	6.6	18	21.9	SW	12	11	8	12	5.6	63
KENTUCKY																																
COVINGTON	265	982.8	1015.2	12.2	0.0	6.2	1.4	22.2	24	-10.0	18	0	17	- 0.6	68	309	213	132	14	4	33	T	5.1	20	16.5*	23	5	4	9	18	7.2	
LEXINGTON	298	980.5	1016.2	13.3	1.1	7.4	1.2	22.8	24	- 8.3	30+	0	13	0.0	64	256	135	90	13	5	8	T	5.2	20	15.6*	22	10	5	9	17	7.0	
LOUISVILLE	144	996.4	1015.8	13.3	1.7	7.4	1.1	23.3	24	- 6.7	30+	0	14	0.6	65	379	262	177	13	6	5		5.0	18	21.5	W	5	7	9	15	6.5	49
LOUISIANA																																
ALEXANDRIA	28	1012.3	1017.1	21.1	6.1	13.6	-1.1	26.7	8	0.0	27+	0	2	7.8	71	144	18	71	9	5	0	0	3.3	18	13.9*	31	4	9	5	17	6.4	
BATON ROUGE	20	1013.7	1017.0	22.2	9.4	15.8	-0.1	28.9	8	2.8	31	0	0	8.9	67	222	97	106	11	8	0	0	4.4	12	15.6*	13	19	5	9	17	6.8	
LAKE CHARLES	4	1015.1	1016.6	20.6	9.4	14.8	-1.3	25.0	20	1.7	10	0	0	10.0	76	102	- 6	55	8	2	0	0	5.0	18	12.5*	22	25	6	10	15	6.3	
NEW ORLEANS	1	1015.0	1017.3	22.2	9.4	15.8	-0.5	27.8	14+	2.2	31+	0	0	12.2	79	138	3	63	8	4	0	0	4.2	16	14.8*	15	2	6	10	15	6.9	
NEW ORLEANS AUDUBON	2	1010.2		21.1	11.1	16.2	-0.6	26.7	14+	5.6	31+	0	0			161	11	99	8	6	0	0	2.8		8.9	NW	19	8	9	14	6.3	61
SHREVEPORT	77	1006.9	1016.5	20.0	7.8	13.8	0.1	26.1	8	0.0	10	0	1	6.7	66	108	2	36	9	5	0	0	5.6	16	18.3*	29	9	11	7	13	5.6	61
MAINE																																
CARIBOU	190	988.3		0.6	- 9.4	- 4.4	0.7	10.0	3	-21.1	12	0	30			79	19	22	12	0	627	254						4	13	14	6.6	
PORTLAND	19	1009.5	1013.7	5.0	- 5.0	- 0.1	0.3	12.8	25	-15.6	12	0	28	- 5.0	71	92	- 18	30	11	1	538	279	4.8	34	15.2	SW	27	8	7	16	6.6	53
MARYLAND																																
BALTIMORE	45	1011.0	1015.8	13.3	0.6	6.9	0.7	26.1	9	- 6.7	31	0	17	- 0.6	63	76	- 21	46	12	0	335	178	4.6	29	25.5	NW	10	9	9	13	6.0	56
BALTIMORE U	4			13.9	2.8	8.3	1.3	26.1	9	- 4.4	31	0	5			78	- 22	48	10													
MASSACHUSETTS																																
BLUE HILL OBS R	192	988.8		7.2	- 2.2	2.6	1.0	22.2	25	- 8.9	11	0	23			93	- 22	48	13		211	305	7.2	NW	23.2	SW	5					55
BOSTON	5	1009.3	1014.2	7.8	0.0	3.7	0.6	22.2	25	- 7.2	11	0	19	- 3.3	65	88	- 19	37	12	0	196	102	6.1	31	15.6	29	16	10	5	16	5.9	62
NANTUCKET	13	1013.8	1014.5	6.1	- 1.1	2.6	0.3	10.6	4	- 5.0	12+	0	20	- 1.7	75	52	- 63	18	10	1	56	229	6.6	23	20.1	N	18	9	8	14	6.1	61
PITTSFIELD	357			6.1	- 5.0	0.6	1.3	17.2	25+	-10.6	31	0	29			84	2	34	14		297	406										
WORCESTER	301	976.0	1013.5	6.7	- 2.8	1.8	1.3	21.1	25	- 8.9	31	0	26	- 5.0	65	93	- 12	32	10	1	152	432	5.4	28	16.5*	29	6	10	5	16	6.3	
MICHIGAN																																
ALPENA	210	991.5		2.8	- 8.3	- 2.8	0.7	14.4	2	-17.8	6	0	29			49	- 3	22	11	0	411	152	4.2	NW#	15.6	NE	26	3	10	18	7.2	63
DETROIT	189	987.3	1014.7	7.2	- 2.2	2.3	0.7	21.7	24	-10.6	18	0	22	- 2.8	72	67	5	25	16	2	234	76	6.0	29	20.1	SW	5	3	10	18	7.5	45
DETROIT M WAYNE CO	193	990.8	1015.0	6.7	- 3.9	1.3	-0.3	20.6	24	-12.2	11+	0	26	- 3.9	72	76	14	28	14	2	292	76	4.2	28				2	11	18	7.4	
DETROIT WILLOW RUN	217	985.3	1014.6	6.1	- 3.3	1.3	-0.5	20.0	24	-10.6	18	0	25	- 2.8	78	76	15	26	12	1	257	76	5.7	21	19.7*	24	5	4	10	17	7.3	
FLINT	233	986.0	1015.1	6.7	- 4.4	1.2	1.9	19.4	24	-13.3	11	0	27	- 4.4	67	52	- 2	21	14	1	259	51	5.5	27	17.4*	22	5	2	9	20	7.9	
GRAND RAPIDS	210	988.0	1014.4	6.1	- 3.3	1.4	1.2	16.1	16	-11.1	18+	0	27	- 2.8	78	90	32	36	15	2	419	51	5.3	27	18.8	SW	7	2	8	21	7.9	37
LANSING	260	981.4	1014.3	6.7	- 3.9	1.4	1.2	18.3	24	-11.7	18+	0	28	- 3.3	75	71	10	26	15	1	325	76	3.8	29	17.9	SW	5	2	8	21	7.7	57
MARQUETTE U	206	987.3		0.6	- 7.8	- 3.7	-0.7	13.9	2	-15.6	17	0	29			44	- 4	13	16	0	462	533	4.1	NW#	13.0	S	13	2	7	22	8.1	56
MUSKEGON	191	991.2	1014.9	5.6	- 2.8	1.3	0.8	13.3	14	-11.1	17	0	25	- 2.8	76	65	13	16	17	2	536	76	6.5	29	16.1*	32	5	2	7	22	8.2	
SAULT STE MARIE	220	991.1	1014.7	- 0.6	-10.0	- 5.2	-0.7	7.8	2	-20.0	6	0	31	- 8.9	77	60	14	19	15	0	881	660	5.4	30	16.5*	30	15	2	9	20	7.8	55
MINNESOTA																																
DULUTH	435	972.9	1015.9	- 1.1	-12.2	- 6.8	-0.8	7.8	13	-23.9	17	0	30	-12.8	62	28	- 13	12	9	0	343	356	5.2	9	18.8	W	14	6	13	12	6.3	65
INTERNATIONAL FALLS	359	972.7	1015.9	- 1.7	-16.7	- 9.3	-2.3	11.1	13	-26.1	17+	0	30	-13.9	66	17	- 10	7	9	0	170	330	5.2	30	14.8*	29	16	9	12	10	5.8	
MINNEAPOLIS	251	981.1	1015.9	1.7	- 8.3	- 3.4	-0.9	11.1	13+	-17.2	7	0	30	- 9.4	65	34	- 5	20	8	0	246	102	5.2	33	15.6	W	24+	6	11	14	6.6	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	977.5	1015.9	1.1	- 8.3	- 3.6	-1.3	14.4	2	-16.7	27	0	30	- 7.8	73	24	- 18	7	12	2	333	76	6.6	32	15.6*	31	16	4	10	17	7.0	
ST CLOUD	315	976.4		0.6	-11.7	- 5.7	-2.1	11.7	13	-22.2	7	0	30			31	- 2	18	9	0	389	203						6	12	13	6.3	
MISSISSIPPI																																
JACKSON	93	1004.6	1016.9	20.6	6.1	13.5		27.2	20+	- 1.1	30+	0	2	7.2	69	277		98	13	8	T	0	5.1	14	17.0*	14	3	10	7	14	6.1	
MERIDIAN	89	1003.8	1018.0	20.6	5.6	13.2	-0.4	26.7	25+	- 2.2	6	0	4	6.1	68	231	71	85	11	5	0	0	3.9	18	13.0*	18	4	8	8	15	6.6	
VICKSBURG U	71	1007.1		20.0	8.3	14.2	-0.1	27.8	8	- 0.6	30	0	1			191	46	88	13	5	T	T	4.6		16.5	SW	9	14	7	10	5.5	63
MISSOURI																																
COLUMBIA	237	985.5	1014.6	10.6	- 1.1	4.8	-0.7	23.3	13	-10.6	26	0	21	- 2.2	64	93	26	31	12	4	130	127	6.2	32	26.4	NW	29	8	6	17	6.5	52
KANSAS CITY	226	979.0	1014.8	11.7	- 0.6	5.4	-0.8	22.8	13	-12.2	26	0	20	- 3.3	59	81	18	25	10	4	135	76	5.0	18	15.2	SW	6	10	7	14	5.9	66
ST JOSEPH	247	979.8		10.0	- 3.3	3.2	-1.3	22.2	13	-12.8	26	0	25			52	- 8	18	8	4	79	25	5.3	18	13.0*	30	29	13	7	11	5.3	
ST LOUIS	163	994.1	1015.6	11.1	0.0	5.7	-0.2	23.9	24	- 7.8	30+	0	13	- 2.8	59	98	19	35	13	3	208	152	5.6	30	17.9	S	6	6	14	11	6.3	57
ST LOUIS RFC	142			11.7	1.1	6.3	-0.6	22.8	24	- 8.3	26	0	11			96	15	37	10		132	127										
SPRINGFIELD	386	966.5	1015.0	13.3	- 1.1	6.1	-0.6	22.8	13	-12.2	10	0	18	- 1.1	64	98	26	30	9	3	91	76	5.8	16	15.2	NW	29+	13	6	12	5.4	64
MONTANA																																
BILLINGS	1087	887.0	1014.0	6.1	- 6.7	- 0.1	-1.1	22.8	31	-23.9	24	0	27	-10.0	54	35	8	24	10	0	404	254	5.9	24	15.2	NW	15+	2	12	17	7.6	66
GLASGOW	694	938.8		2.2	-11.1	- 4.4	-1.4	20.6	31	-25.0	24	0	31			15	1	10	7	0	91	51						3	11	17	7.5	
GREAT FALLS	1116	884.4	1016.2	2.8	- 8.3	- 2.8	-2.1	21.1	31	-27.2	24	0	28	- 9.4	62	44	21	15	10	0	442	203	6.9	23	19.2	SW	1	0	10	21	8.0	64
HAVRE	787	923.1		4.4	- 9.4	- 2.7	0.1	23.3	31	-26.7	24	0	29			5	- 10	2	8	0	89	51	4.7	SW#	23.2	SW	1	2	10	19	7.6	53
HELENA	1187	869.6	1015.7	4.4	- 6.7	- 1.2	-0.8	21.1	31	-23.3	24+	0	27	- 9.4	56	13	- 5	9	8	0	188	76	4.6	27	14.8	W	15	0	11	20	8.1	68
KALISPELL	904	908.4		3.9	- 8.3	- 2.3	-2.2	15.6	31	-20.0	24	0	30			32	8	13	16	0	338	381	3.9					3	6	22	8.0	
MILES CITY	801		1015.1	5.0	- 8.9	- 2.1	-1.4	23.9	31	-25.0	24	0	31	- 8.3	66	24	7	10	8	0	282	102	5.2	32	17.9*	31	15					
MISSOULA	972	899.3	1016.5	3.3	- 7.2	- 1.9	-2.9	18.9	31	-18.9	24	0	30	- 6.7	71	17	- 2	6	12	0	282	203	3.4	13	12.5	E	22+	2	7	22	8.4	48
NEBRASKA																																
GRAND ISLAND	561	947.0	1015.2	8.3	- 5.0	1.4	-0.6	23.3	31	-16.7	26	0	28	- 6.7	60	42	9	35	7	0	107	51	6.1	35	14.3*	35	20	10	6	15	5.8	
LINCOLN U	351			8.3	- 4.4	1.8	-1.6	21.7	2	-14.4	26	0	26			33	- 11	21	5	0	104	51	5.4	NW#	20.1	SW	12	10	8	13	5.9	60
NORFOLK	471	957.9		5.6	- 7.2	- 1.1	-1.8	15.6	12	-18.3	26	0	29			38	- 2	29	7	0	152	76						11	7	13	5.8	
NORTH PLATTE	847	912.2	1013.9	7.8	- 7.2	0.2	-1.5	23.9	31	-17.8	26	0	31	- 7.8	62	32	7	25	6	0	137	51	5.5	36	20.6	SE	23	11	7	13	6.0	63
OMAHA	298	973.8	1015.6	7.8	- 5.6	0.9	-1.8	20.6	2	-15.6	26	0	29	- 7.2	59	40	3	18	10	0	267	76	5.3	33	15.2	N	20	10	6	15	6.0	62
OMAHA N OMAHA AP	403	965.6		6.7	- 6.1	0.2	-1.3	17.8	15+	-17.2	26	0	29			38	1	20	10	0	229	76						8	8	15	6.2	
SCOTTSBLUFF	1204	875.1	1014.8	6.7	- 8.3	- 0.7	-2.6	23.9	31	-13.9	25	0	31	- 8.3	61	10	- 12	3	9	0	142	51	6.3	30	19.2*	30	5	5	11	15	6.7	
VALENTINE	789	921.1		5.6	- 8.9	- 1.7	-1.3	22.2	31	-17.2	26	0	31			8	- 18	4	4	0	127	51	5.3	N#	23.2	NW	23	8	8	15	6.1	74
NEVADA																																
ELKO	1547	842.9	1017.4	5.6	- 8.3	- 1.4	-3.4	21.1	31	-17.2	8	0	30	- 6.7	68	25	4	11	9	0	312	127	3.0	27	13.0*	24	12	4	9	18	7.3	
ELY	1907	805.4	1015.6	5.6	-10.0	- 2.3	-3.1	18.3	31+	-18.3	3	0	30	- 7.8	71	31	10	12	12	0	442	127	4.5	19	17.9	S	31	4	12	15	6.8	74
LAS VEGAS	659	948.3	1015.0	18.9	3.9	11.3	-1.4	29.4	30	- 2.8	9	0	6	- 9.4	26	1	- 8	T	2	0	0	0	5.0	24	16.5*	36	5	15	10	6	4.1	84
RENO	1342	861.3	1017.2	11.7	- 5.6	3.2	-2.1	23.3	30	-17.2	8	0	31	- 7.2	49	18	1	9	7	0	234	102	3.5	29	21.0	SE	11	7	10	14	6.5	93
WINNEMUCCA	1310	866.6		10.0	- 5.6	2.3	-1.1	24.4	31	-16.7	3	0	29			23	2	11	7	1	244	102	4.0	18	16.5	W	31	4	9	18	7.1	55
NEW HAMPSHIRE																																
CONCORD	103	1002.7	1013.9	6.7	- 4.4	0.9	1.1	15.0	5+	-10.6	13	0	29	- 5.0	68	76	- 6	33	8	0	401	229	3.9	32	17.0*	31	19	9	7	15	6.2	55
MT WASHINGTON OBS	1909	794.4		- 6.1	-15.0	-10.6	0.7	5.0	5	-23.3	31	0	31			217	71	52	22	1	1016	203	16.9	W#	50.5Y	W	27	1	10	20	8.0	28
NEW JERSEY																																
ATLANTIC CITY	18	1014.0	1016.2	11.7	1.1	6.2	1.1	21.7	25	- 5.0	31	0	15	- 0.6	67	71	- 28	47	10	3	86	51	5.4	20	19.7*	30	26	7	7	17	6.5	55
ATLANTIC CITY U	3			9.4	2.2	5.9	0.8	17.8	10	- 5.0	31	0	7			67	- 35	42	10				7.5		24.1*	W	26					
NEWARK	3	1014.3	1015.6	11.1	1.1	5.9	0.6	23.9	5	- 5.6	31	0	13	- 2.8	59	58	- 46	14	13	1	102	102	5.5	31	15.6*	31	18	7	7	17	6.7	
TRENTON U	17	1007.2		11.1	1.1	6.1	1.2	23.9	5	- 5.6	31	0	12			40	- 58	12	11	3	58	51	4.9	NW#	17.9	SW	5	8	10	13	6.1	58
NEW MEXICO																																
ALBUQUERQUE	1618	844.6	1012.6	13.3	- 2.8	5.3	-2.4	22.8	31	- 9.4	9	0	25	-10.0	38	3	- 9	2	3	1	33	25	4.2	35	23.2	SW	22	15	9	7	4.3	71
CLAYTON	1515	840.6		12.8	- 5.0	3.7	-1.3	25.6	31	-11.1	25	0	28			2	- 14	2	1	0	30	25						15	8	8	4.3	
RATON	1944	799.4		11.1	- 8.3	1.5	-1.9	22.2	31	-16.7	9	0	31			6	- 8	4	4	0	61	25						14	12	5	4.4	
ROSWELL	1103	889.6		20.0	- 1.7	9.2	-0.5	28.9	31	- 8.9	10	0	23			4	- 9	2	3	0	23	25	4.7		15.2	SE	22	20	6	5	3.5	72
SILVER CITY	1638	832.6		15.6	- 1.1	7.1	0.0	24.4	30	- 9.4	9	0	20			8	- 3	5	3	0	33	25						18	7	6	3.8	
NEW YORK																																
ALBANY	84	1011.6	1015.2	6.1	- 3.3	1.6	1.1	21.7	5	- 8.3	31	0	27	- 4.4	67	74	5	39	12	2	185	152	4.9	28	15.2	W	27+	5	9	17	7.3	48
BINGHAMTON	485	953.6	1013.8	3.9	- 3.9	- 0.1	0.3	15.0	5	-12.2	31	0	29	- 3.9	78	116	42	50	17	1	305	254	5.5	30	21.0	SW	5	2	4	25	8.2	39

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
BUFFALO	215	985.4	1014.3	5.6	- 3.3	1.1	1.4	15.6	24	- 8.3	19+	0	26	- 3.3	76	94	12	31	16	4	325	203	5.4	26	25.0	SW	5	2	8	21	8.0	41
NEW YORK U	40	1004.1		10.6	1.7	6.2	1.4	23.9	25	- 5.6	31	0	9			65	- 37	15	13	1	152	51	4.6	W#	16.1	NE	10	8	13	10	5.5	57
NEW YORK LA GUARDIA	6	1013.1	1015.3	10.0	2.2	6.0	1.1	23.3	25	- 4.4	31	0	8	- 1.1	65	54	- 53	13	14	0	81	76	5.9	31	15.2	NE	21+	5	12	14	6.4	
ROCHESTER	166	995.4	1015.1	6.1	- 3.3	1.3	1.2	18.3	24	- 8.9	31	0	26	- 3.9	70	73	- 3	24	15	3	409	254	5.2	25	24.1	W	5	3	9	19	7.6	48
SCHENECTADY	66			6.1	- 3.3	1.6	0.6	20.6	5	-11.1	1	0	25			70	- 3	36	8	3	208	203						16	7	8	4.4	
SYRACUSE	127	992.1	1014.5	7.2	- 3.3	1.7	1.4	18.9	5	-10.6	12	0	27	- 3.9	69	97	6	34	16	3	386	254	5.3	27	20.1	W	5	2	8	21	7.9	48
NORTH CAROLINA																																
ASHEVILLE U	671	937.0		14.4	1.7	7.9	0.1	23.3	8	- 9.4	30	0	13			130	35	33	14	1	3	T	4.8	NW#	14.8	NW	30	13	5	13	5.3	60
CAPE HATTERAS R	2	1016.6	1017.5	16.1	6.1	11.2	0.6	22.2	8	- 2.8	1	0	5	6.7	73	28	- 77	11	8	0	0	0	5.1	24	17.9	SSW	10	10	10	11	5.8	56
CHARLOTTE	224	989.0	1017.5	17.2	3.9	10.6	0.6	27.2	4	- 6.1	31	0	7	2.8	62	106	- 5	53	12	1	T	0	4.0	18	15.2	SW	5	12	6	13	5.1	63
GREENSBORO	272	985.0	1017.4	16.1	2.8	9.3	0.7	23.9	9	- 6.7	31	0	10	1.1	61	70	- 24	26	11	0	T	0	4.4	20	18.8	NW	30	13	6	12	5.0	60
RALEIGH	132	1003.0	1017.1	17.2	3.3	10.3	0.6	26.7	9	- 5.0	31	0	8	2.8	64	74	- 11	29	12	0	T	T	4.4	22	15.6*	30	30	13	7	11	5.1	67
WILMINGTON	9	1015.5	1018.5	17.8	6.7	12.3	0.0	25.0	3	- 3.9	31	0	2	6.7	71	73	- 29	33	11	1	0	0	4.6	22	17.4	NW	30	11	9	11	5.5	60
WINSTON SALEM	295	981.3	1017.0	16.1	3.9	10.2	1.2	22.8	9+	- 5.0	31	0	7	1.7	60	80	- 22	35	9	0	5	0	4.4	23	13.0*	33	30	13	6	12	5.0	
NORTH DAKOTA																																
BISMARCK	502	953.3	1016.2	2.2	-12.2	- 5.1	-1.9	14.4	12	-25.0	26+	0	31	-12.2	60	13	- 7	9	5	0	147	102	5.0	36	18.8	NW	13	4	15	12	6.8	72
FARGO	274	980.6	1016.6	0.6	-13.3	- 6.2	-1.9	13.3	12	-23.9	26	0	29	-11.7	67	23	4	11	6	0	213	152	5.4	34	18.8	NW	23	3	16	12	6.4	69
WILLISTON	579	945.3		1.1	-12.8	- 5.9	-1.7	21.7	31	-28.9	25	0	31			24	6	12	10	0	241	152	4.8	N#	20.1	W	1	11	8	12	5.7	65
OHIO																																
AKRON	369	976.4	1015.2	8.3	- 2.2	3.0	0.3	19.4	24	-12.2	18	0	23	- 1.7	75	224	140	84	19	6	168	102	5.3	25	17.9*	22	5	4	11	16	7.2	
CINCINNATI OBS	232			12.2	1.1	6.8	0.8	22.8	24	- 8.9	18	0	13			292	193	118	12	5	18	T	3.8	S#	17.0	SW	5					43
CINCINNATI U	169	992.0		13.3	2.2	7.6	0.7	23.9	24	- 7.8	18	0	10			304	204	126	12		15	0										
CLEVELAND	237	986.1	1014.6	7.2	- 1.7	2.8	0.9	19.4	24	- 8.9	18	0	23	- 1.7	76	132	53	52	18	5	216	76	5.5	20	21.5	SW	5	3	9	19	7.7	42
COLUMBUS	247	985.2	1015.7	10.6	- 0.6	5.1	1.2	21.1	24	-10.6	18	0	18	- 0.6	69	244	163	86	17	7	74	25	5.0	18	20.1	SW	5	5	9	17	7.1	53
COLUMBUS U	221			10.6	0.6	5.4	0.7	21.1	24	-10.0	18	0	13			258	184	94	16	6	107	25										
DAYTON	304	982.0	1015.2	10.6	- 0.6	5.0	1.2	20.0	24	-10.6	18	0	18	0.0	74	194	115	73	12	6	102	25	6.2	20	19.2	S	5	6	9	16	7.0	49
MANSFIELD	395			7.8	- 2.8	2.6	0.8	18.9	24	-12.2	18	0	23			179	83	62	18	5	211	51						4	6	21	7.5	
TOLEDO	206	988.8	1014.8	7.2	- 3.9	1.7	-0.1	21.1	24	-11.7	11	0	24	- 2.8	75	124	67	40	15	3	295	152	4.9	22	15.2	SW	26+	6	8	17	7.0	56
YOUNGSTOWN	359	971.5	1015.0	7.8	- 2.8	2.5	0.7	18.3	24	-12.2	18	0	22	- 2.8	72	157	72	52	17	4	208	76	5.1	24	15.6*	26	16	3	5	23	8.0	
OKLAHOMA																																
OKLAHOMA CITY	390	970.2	1014.4	15.6	1.1	8.4	-0.8	26.7	31	- 7.8	26	0	15	- 1.1	59	33	- 17	17	6	0	38	T	6.8	15	19.2	SW	6	12	7	12	5.3	67
TULSA	206	989.9	1015.0	16.1	0.6	8.3	-0.7	25.6	24	- 7.8	26	0	13	- 0.6	61	101	39	41	10	1	224	102	5.7	18	15.6	SSW	13	12	8	11	5.3	61
OREGON																																
ASTORIA	2	1016.3	1016.9	10.6	2.8	6.8	-0.1	22.8	29	- 2.8	24	0	4	3.9	83	188	- 38	19	22	2	T	0	4.3	27	19.7*	19	11	2	4	25	8.6	
BURNS U	1265	870.9		7.8	- 5.0	1.2	-1.8	18.3	31	-10.6	3	0	30			22	- 3	5	15	0	218	76						6	8	17	7.1	
EUGENE	110	1005.1		12.2	2.8	7.3	-0.5	21.7	30+	- 1.7	19	0	4			115	5	28	19	0	T	0	3.6		13.0*	19	11	1	6	24	8.2	
MEACHAM	1234			2.8	- 3.9	- 0.5	-1.2	14.4	30	- 9.4	24	0	28			111	11	17	24	0	950	1143						1	6	24	8.7	
MEDFORD	396	970.7	1019.3	12.8	0.0	6.4	-0.4	26.1	30	- 3.9	25	0	16	1.1	75	69	24	16	16	0	20	T	2.1	36	11.2*	31	4	2	7	22	8.1	
PENDLETON	452	961.6	1016.1	11.7	1.1	6.4	-0.9	26.1	30	- 4.4	24	0	10	- 1.7	60	17	- 14	6	10	0	13	T	5.6	26	17.4*	26	4	4	5	22	7.6	
PORTLAND	6	1012.1	1017.9	11.1	2.2	6.6	-1.2	23.3	29	- 1.7	19	0	7	2.2	76	58	- 39	13	18	0	T	0	4.4	20	15.2	SE	11	3	2	26	8.4	38
PORTLAND U	9			12.2	4.4	8.4	-0.3	25.0	29	1.1	24	0	0			82	- 40	13	16		T	0										
ROSEBURG	154	1000.2		13.3	2.2	7.9	-0.2	25.6	29	- 1.7	19	0	4			95	8				T	0	2.0	S#	14.3	S	11					
SALEM	59	1011.1	1018.5	11.1	1.7	6.5	-0.9	21.7	29	- 3.3	19	0	9	3.9	85	90	- 29	18	20	0	T	0	4.2	18	15.6*	19	11	3	6	22	7.9	
SEXTON SUMMIT R	1169	883.3		6.1	- 1.7	2.0	-1.7	18.9	30	- 5.6	5	0	25			85	- 3	19	17	0	925	483	4.1					2	7	22	8.2	
PACIFIC AREA																																
CANTON ISLAND	3	1008.4	1008.8	31.7	26.1	28.8	0.4	32.2	10+	25.0	30+	13	0	23.3	75	16	- 47	8	9	0	0	0	5.2	7	11.2*	8	7	16	12	3	4.2	
ENIWETOK	5	1010.9		30.0	25.6	27.7	0.3	30.6	27+	24.4	29+	0	0			3	- 44	2	6		0	0	6.7									
TAGUAC GUAM R	110	999.4		28.9	22.2	25.4	-0.6	30.0	27+	17.8	9	0	0			113	46	56	16		0	0	3.7		10.3	E	2					71
JOHNSTON	2	1013.5	1014.2	26.7	22.8	24.6	-0.6	27.2	26+	20.0	28+	0	0	20.0	76	96	36	47	13	2	0	0	6.4	10	21.9	SE	11	10	16	5	5.0	74
KOROR R	29	1007.7	1010.4	30.6	24.4	27.4	0.3	32.2	16	22.8	20+	1	0	24.4	86	177	- 17	68	19	0	0	0	3.8	6	10.7	NE	10	0	0	31	9.9	82
KWAJALEIN	2	1010.2	1010.2	30.0	25.0	27.5	0.6	31.1	10+	23.3	25+	0	0	22.8	79	87	- 77	35	9	0	0	0	7.1	6	12.5*	8	17	4	9	18	7.5	
PONAPE R	37	1004.8	1009.1	30.0	24.4	27.2	0.2	31.1	30+	21.7	24	0	0	23.3	79	356	- 13	100	20	0	0	0	4.4	4	10.3	NE	5	1	2	28	9.1	53
TRUK MOEN ISLAND	2	1008.8	1009.0	30.0	25.6	27.6	0.5	31.1	30	23.3	22+	0	0	22.8	74	62	-135	48	14	0	0	0	5.9	4	9.4	NE	21	0	4	27	8.9	60
WAKE	3	1013.5	1013.7	28.3	23.3	25.7	0.3	29.4	25+	21.1	21	0	0	19.4	71	27	- 10	9	10	0	0	0	5.3	4	11.6*	5	22+	14	9	8	4.9	
YAP R	16	1008.9	1009.9	30.0	24.4	27.1	-0.2	31.1	29+	22.8	28+	0	0	23.9	84	102	- 35	27	18	0	0	0	5.7	4	13.9	22	19	0	0	31	10.0	64

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation			No of days		Snow, Sleet		Wind					No of days (sunrise to sunset)				
																									Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min. 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm	Mm.			Mm.	Mm.	M p.s.		M.p s.							%
PENNSYLVANIA																																
ALLENTOWN	115	1001.3	1015.8	10.0	-2.2	3.9	0.8	22.2	25+	-10.6	1	0	23	-2.8	67	50	-47	19	12	1	173	102	5.3	29	19.2*	32	18	5	9	17	6.8	
ERIE	223	988.1	1014.9	7.2	-2.2	2.6	1.7	18.9	24	-7.8	19	0	24	-1.7	76	97	24	32	16	4	188	51	7.2	26	20.6*	22	5	6	5	20	7.5	
HARRISBURG	102	1001.9	1016.1	10.6	-1.1	4.7	0.1	23.9	25	-11.1	1	0	18	-2.2	65	75	-12	33	13	2	229	178	4.5	29	18.8	W	26	6	8	17	6.8	53
PHILADELPHIA	2	1010.9	1015.8	11.7	0.0	5.9	0.9	22.8	5	-5.6	31	0	18	-1.1	64	49	-47	28	12	1	130	76	4.8	29	18.8	SW	5	6	8	17	6.6	54
PITTSBURGH	347	984.1	1015.0	10.0	-1.1	4.4	1.8	19.4	24	-10.6	18	0	18	-1.7	67	126	42	51	17	3	155	51	5.6	31	17.9*	23	5	2	8	21	8.2	45
PITTSBURGH U	228			11.1	0.6	5.8	1.2	21.1	24	-9.4	18	0	14			130	40	54	15		119											45
READING U	81	1003.4		11.1	0.6	5.8	0.7	23.3	5	-6.1	31	0	15			54	-42	33	13	1	155	127	5.6	NW#	26.4	SE	10	7	8	16	6.6	46
SCRANTON	287	980.4	1015.2	7.8	-2.2	2.7	0.4	19.4	5	-8.9	31	0	25	-3.9	63	90	18	56	12	1	246	203	4.1	32	15.2	SW	5	4	9	18	7.5	49
WILLIAMSPORT	161	996.5	1015.9	9.4	-1.7	3.6	0.6	19.4	25+	-12.8	1	0	21	-3.3	65	98	4	64	14	1	23	254	4.6	27	15.6*	23	5	4	5	22	7.6	
RHODE ISLAND																																
BLOCK ISLAND	34	1009.7		6.1	-0.6	2.8	0.2	10.0	29+	-5.6	31	0	18			76	-27	35	8	1	48	51						9	10	12	5.7	
PROVIDENCE	17	1008.1	1014.3	8.3	-2.2	3.2	0.4	22.8	25	-5.6	31+	0	23	-3.9	64	57	-48	22	10	2	64	51	5.5	30	17.9*	21	5	8	9	14	5.9	57
SOUTH CAROLINA																																
CHARLESTON	12	1016.4	1018.5	20.6	7.8	14.2	0.5	27.2	9	-2.8	31	0	2	7.8	70	112	12	40	10	1	0	0	4.6	20	21.0Y	NW	30	9	7	15	6.1	75
CHARLESTON U	3			18.3	10.0	14.2	0.0	23.9	12	1.7	31	0	0			100	8	46	8	0	0	0	4.9		17.4	NW	30					
COLUMBIA	66	1004.7	1017.9	19.4	6.1	12.7	0.2	28.3	4	-3.9	31	0	2	4.4	64	156	48	57	12	2	0	0	3.4	18	14.3*	31	30	11	5	15	5.5	69
FLORENCE	45	1012.0	1017.9	19.4	6.1	12.7	0.1	27.2	9	-4.4	31	0	2	5.0	65	93	1	37	10	0	0	0	3.8	18	13.9*	32	30	12	7	12	5.4	
GNVLE SPARTANBURG	292	980.4	1017.9	17.8	4.4	11.1	0.3	26.7	4	-4.4	31	0	3	2.8	62	181	60	69	13	2	0	0	4.1	4	16.1	SW	10	13	6	12	5.2	65
SOUTH DAKOTA																																
HURON	391	967.1	1016.0	3.9	-10.6	-3.4	-1.6	16.1	15	-24.4	7	0	31	-9.4	65	27	-1	17	7	0	325	127	5.9	12	19.2	NW	23	7	10	14	6.4	63
RAPID CITY	965	897.7	1015.1	5.6	-7.8	-1.2	-0.7	23.9	31	-17.2	24	0	29	-8.9	63	16	-10	10	8	0	145	76	5.8	34	20.1	N	23+	4	12	15	7.0	70
SIOUX FALLS	433	962.5	1015.9	3.3	-9.4	-3.0	-1.9	15.0	12	-21.1	7	0	30	-7.8	73	54	15	38	7	0	231	102	5.6	35	16.5*	25	23	8	8	15	6.6	
TENNESSEE																																
BRISTOL	459	961.5	1016.9	13.9	0.0	7.1	-0.7	26.1	4	-9.4	30	0	17	0.6	66	118	17	43	14	1	13	T	3.0	27	14.3*	24	10	10	3	18	6.3	
CHATTANOOGA	204	990.0	1018.1	16.7	3.9	10.1	-0.6	26.1	4	-4.4	30	0	7	2.2	65	265	122	104	12	5	0	0	4.3	18	24.1	SW	4	11	5	15	6.2	54
KNOXVILLE	290	981.6	1017.8	15.0	2.2	8.7	-1.1	25.6	4	-5.6	30	0	10	0.6	63	146	26	60	13	4	T	T	4.1	24	25.0	SW	10	10	5	16	5.9	54
MEMPHIS	80	1001.5	1016.5	17.8	4.4	10.9	0.3	26.1	14	-5.0	30	0	5	3.9	65	186	58	77	12	7	T	T	5.1	18	17.9	SW	4	12	6	13	5.3	63
MEMPHIS U				16.7	5.6	11.2	0.2	24.4	8	-3.9	30	0	3			209	85	86	12		T	T										
NASHVILLE	176	996.3	1016.6	15.6	3.3	9.4	-0.1	23.3	24+	-6.1	30	0	9	2.8	67	150	19	37	10	6	T	T	5.1	18	18.8	W	4	9	6	16	6.1	51
OAK RIDGE	276	983.1		15.6	1.7	8.6	0.0	25.0	4	-5.6	30	0	13			161	19	64	15	5	T	T	2.8		19.2Y		9	12	1	18	6.1	
TEXAS																																
ABILENE	536	951.6	1013.2	21.7	6.7	14.0	1.2	30.0	13	-1.7	26+	0	3	0.6	45	32	6	17	4	2	T	0	5.6	18	14.8	S	22	18	5	8	3.7	81
AMARILLO	1099	884.8	1011.9	16.1	-2.2	7.1	-1.6	28.9	31	-10.0	21	0	25	-6.1	45	1	-20	1	2	0	T	0	7.2	21	18.3	W	13	16	9	6	4.0	78
AUSTIN	182	992.8	1015.0	22.8	9.4	15.9	0.6	26.7	25+	1.1	10	0	0	7.8	64	50	-5	40	9	4	0	0	4.9	18	17.0	NW	9	13	4	14	5.5	64
BROWNSVILLE	5	1011.7	1014.3	25.0	14.4	19.7	-0.2	32.2	20+	6.7	5	2	0	13.9	74	7	-20	6	2	0	0	0	6.8	14	17.9	NW	9	5	6	20	7.4	49
CORPUS CHRISTI	13	1014.0	1015.1	23.3	12.2	17.8	-0.6	28.9	19+	5.6	21+	0	0	12.8	77	29	-8	13	8	3	0	0	6.6	15	20.1	NW	9	8	5	18	6.6	50
DALLAS	147	996.1	1015.0	20.0	7.2	13.7	0.3	26.1	31	-1.7	26	0	2	5.6	62	115	43	58	8	5	T	T	6.3	18	14.8	N	4	14	4	13	4.8	70
DEL RIO	313	978.7		25.0	10.6	17.7		34.4	8	3.3	21	1	0			11		11	2	1	0	0	5.6		23.2	33	3	12	5	14	5.2	
EL PASO	1194	883.2	1011.3	19.4	4.4	12.0	-0.7	26.7	31+	-3.3	15+	0	6	-8.3	28	25	16	21	4	3	T	T	5.4	25	25.0	W	24	17	8	6	3.5	90
FORT WORTH	166	993.9	1015.1	20.6	6.1	13.1	-0.2	26.1	31+	-2.2	26	0	5	5.6	66	85	21	39	8	6	10	T	5.6	18	15.6*	33	20+	13	7	11	4.6	
GALVESTON U	2			18.3	12.8	15.5	-0.8	24.4	19	5.6	21	0	0			64	-8	41	7	0	0	0			19.7	NW	9					59
HOUSTON U	12			22.2	12.2	17.1	0.2	26.7	28+	4.4	21	0	0			59	-2	45	8		0	0										
HOUSTON	15	1012.8	1015.7	21.7	10.0	15.8	-0.5	25.6	28	1.7	10	0	0	10.0	73	57	-11	29	10	2	0	0	5.4	16	15.6*	31	4	8	8	15	6.2	58
LAREDO	152	998.0	1013.6	26.7	13.3	19.9	-0.1	35.6	8	5.6	21	4	0	8.9	56	3	-13	2	4	3	0	0	4.9	14	16.1*	33	9	9	6	16	6.1	
LUBBOCK	988	899.9	1012.5	18.3	0.6	9.6	-0.2	26.7	31	-6.1	5	0	15	-3.3	45	16	-2	16	3	0	5	T	7.4	18	17.0*	3	16					
MIDLAND	870	912.3	1011.3	22.2	3.9	13.1	0.2	29.4	24	-2.2	1	0	6	-4.4	37	16	7	16	2	1	T	0	5.6	18	14.8*	28	3	17	8	6	3.4	
PORT ARTHUR	5	1014.3	1015.9	21.7	9.4	15.5	-0.7	25.6	28+	0.6	10	0	0	11.1	77	92	5	44	10	4	T	0	5.5	16	29.5	SW	19	10	8	13	6.0	56
SAN ANGELO	580		1012.6	23.9	7.8	15.9	2.0	31.7	8	-0.6	10	0	3	1.7	44	21	-3	16	3	0	0	0	5.3	16	17.0*	3	16	19	7	5	3.2	
SAN ANTONIO	241	989.7	1014.9	22.8	10.0	16.4	0.3	28.3	25	0.6	10	0	0	8.3	63	44	2	40	6	3	0	0	4.6	16	15.2	11	4	10	8	13	5.4	66
VICTORIA	32	1010.6		22.2	11.1	16.8	-0.5	26.1	25+	3.9	21	0	0			53	-6	34	8	2	0	0	5.4		24.1Y		9	8	8	15	6.4	
WACO	152	993.3	1014.8	20.6	7.8	14.1	-0.3	26.1	8	0.0	26+	0	2	7.2	66	72	13	40	9	4	T	0	5.6	17	13.0*	30	9+	14	6	11	4.7	
WICHITA FALLS	303	975.8	1013.8	19.4	3.9	11.8	-0.3	30.6	13	-5.6	26	0	5	2.2	59	34	-6	21	5	1	33	25	5.9	18	14.3*	32	20	17	9	5	3.7	
UTAH																																
MILFORD	1533	841.5		8.3	-7.2	0.3	-3.3	24.4	31	-20.0	6	0	30			26	0	10	9	0	363	152						9	11	11	5.8	
SALT LAKE CITY	1286	866.4	1018.0	5.6	-5.6	0.0	-4.7	21.7	31	-15.0	7	0	30	-5.0	71	57	18	21	14	1	851	279	4.6	18	15.2	NW	5+	5	6	20	7.5	65
WENDOVER	1291	868.9		7.8	-2.8	2.7	-2.6	19.4	31	-7.8	14+	0	25			20	10	9	9	0	155	76						7	12	12	5.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	998.8	1013.8	3.9	- 5.0	- 0.5	2.4	14.4	5	-11.1	12	0	28	- 6.7	65	67	13	25	9	1	366	305	4.7	18	16.1	S	7	6	3	22	7.5	57
VIRGINIA																																
LYNCHBURG	289	991.2		13.9	1.1	7.7	0.2	21.7	9	- 5.6	31+	0	14			52	- 40	20	11	0	T	T	3.8		15.2	SW	10	12	7	12	5.4	56
NORFOLK	8	1015.8	1017.2	15.6	3.9	9.7	0.8	27.8	9	- 2.8	31	0	3	3.3	69	57	- 30	20	10	2	25	T	6.2	18	23.2	W	10	10	8	13	5.6	58
RICHMOND	49	1010.3	1016.8	15.6	1.7	8.7	-0.1	26.7	9	- 8.3	31	0	10	1.1	64	66	- 21	17	10	0	178	25	4.5	20	17.9	SW	10	12	5	14	5.8	65
ROANOKE	358	973.8	1016.6	14.4	1.7	8.1	0.6	23.3	9	- 6.7	30	0	10	- 1.1	57	46	- 44	12	13	1	18	25	5.1	24	21.5*	25	26	9	10	12	5.7	
WASHINGTON																																
OLYMPIA	58	1008.6	1015.9	10.6	0.6	5.6	-1.2	22.2	29	- 5.0	24	0	14	2.8	84	114	- 24	22	18	0	25	T	4.0	20	16.5*	23	4	1	6	24	8.6	
SEATTLE TACOMA	122	1001.5	1015.8	10.6	3.3	6.7	0.2	21.7	29	- 0.6	19	0	2	2.2	76	75	- 21	23	19	2	T	0	5.3	20	14.3*	24	4	2	5	24	8.7	
SEATTLE U	4			11.1	5.0	7.9	-0.1	22.8	29	1.7	24+	0	0			81	- 3	17	18	0	T	0			22.4	SW	8					34
SPOKANE	718	944.6	1014.2	6.7	- 2.2	2.1	-1.3	21.1	30	-10.6	24	0	26	- 3.9	70	39	1	12	12	0	132	25	5.2	20	15.6	SW	1	3	9	19	7.5	52
STAMPEDE PASS R	1206	875.4		0.0	- 3.9	- 2.0	-0.9	10.6	30	-12.2	24	0	29			394	125	61	24	0	2931	5537						2	4	25	8.9	
TATOOSH ISLAND R	31	1011.7	1014.5	8.3	4.4	6.3	-0.5	12.8	28	0.6	12	0	0	3.3	82	221	10	50	22	0	66	0	7.7	27	23.2	SE	11	2	6	23	8.4	34
WALLA WALLA U	289			11.7	2.2	7.0	-0.8	25.6	30	- 6.1	24	0	3			15	- 25	0	9		18	25										
YAKIMA	323	976.0	1015.6	12.2	- 2.8	4.7	-0.9	21.7	30	- 8.3	13+	0	27	- 5.0	53	4	- 12	3	2	0	T	0	4.4	28	16.5*	29	15+	5	13	13	6.5	
WEST INDIES																																
SAN JUAN P.R.	2	1014.6	1017.4	29.4	22.2	26.0	1.9	32.8	21	18.9	18	3	0	20.0	73	32	- 24	11	12	0	0	0	4.6	7	13.0	E	8	9	17	5	5.2	73
SWAN ISLAND	9	1013.0														13	- 3	5	6	0	0	0						19	11	1	3.6	
WEST VIRGINIA																																
BECKLEY	763	926.8	1016.9	11.1	- 0.6	5.2		21.7	9	-11.7	30	0	18	- 1.1	67	121		32	15	3	178	229	5.9	16	23.7*	25	10	5	5	21	7.6	
CHARLESTON	286	980.0	1016.0	15.0	1.7	8.2	1.3	26.7	4	- 7.2	19+	0	13	0.0	61	93	- 18	24	15	3	56	76	3.6	23	16.5*	25	10	6	8	17	7.3	
ELKINS	600	945.3	1015.8	11.1	- 2.2	4.3	0.1	23.3	9	-12.2	1	0	25	- 1.7	71	100	- 5	26	18	2	196	178	4.2	16	15.6*	25	17+	4	7	20	7.7	
HUNTINGTON	252	986.4	1016.5	14.4	1.7	8.0	0.9	24.4	9	- 8.9	19	0	12	1.1	67	115	9	28	17	3	15	51	3.7	18	15.6*	26	17	4	9	18	7.4	
PARKERSBURG U	187			12.2	0.6	6.5	0.6	21.7	24	- 9.4	18	0	16			110	21	31	18	2	33	25	3.8		16.5	W	17					42
WISCONSIN																																
GREEN BAY	208	991.6	1014.8	2.2	- 7.2	- 2.6	-0.4	13.9	2	-21.7	27	0	30	- 7.8	71	45	11	21	10	1	373	254	5.3	29	17.0	N	5	6	11	14	6.6	59
LA CROSSE	199	988.7	1016.0	3.3	- 5.6	- 1.1	-0.3	16.1	2	-13.3	17	0	28	- 7.2	66	33	- 20	8	11	0	450	152	5.7	18	14.3*	34	16	7	10	14	6.6	
MADISON	262	978.5	1014.9	5.0	- 6.1	- 0.7	0.9	19.4	2	-13.9	30+	0	30	- 7.2	61	54	7	13	13	1	442	127	5.1	18	15.2	NW	5	7	8	16	7.0	53
MILWAUKEE	205	989.4	1015.0	4.4	- 4.4	- 0.2	0.4	16.7	16+	-12.2	29	0	27	- 4.4	73	77	19	47	13	3	503	178	5.9	2	21.0	N	5	6	12	13	6.2	61
WYOMING																																
CASPER	1621	832.1	1014.7	2.2	- 9.4	- 3.8	-3.9	18.3	31	-20.0	24	0	30	-10.0	65	17	- 9	7	9	0	325	127	6.8	22	17.0*	21	1	7	9	15	6.6	
CHEYENNE	1867	806.9	1014.1	3.9	- 8.9	- 2.6	-2.8	18.9	31	-15.6	28+	0	31	-11.1	56	15	- 16	5	12	0	175	76	7.0	29	21.0	N	19	9	10	12	5.7	64
LANDER	1696	829.8	1013.9	3.9	-10.0	- 2.9	-3.0	19.4	31	-17.2	24	0	30	-11.1	56	20	- 9	10	8	0	384	279	3.4	24	17.9	SW	1	8	9	14	6.4	78
SHERIDAN	1202	880.5	1015.2	4.4	- 8.3	- 1.8	-1.2	22.2	31	-21.1	24	0	29	- 7.8	66	13	- 23	4	11	0	198	51	4.8	31	17.9	NW	15	3	11	17	7.4	68

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

A Maximum hourly average.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

Y Peak Gust.

Wind direction to 8 compass points only.

+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

MARCH 1964

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	348	2925	2631
Huntsville	392	3221	2913
Mobile	188	1981	1608
Montgomery	261	2483	2201
ALASKA			
Anchorage	1476	8849	9078
Annette	870	5145	5655
Barrow	2743	16815	15828
Barter Island	2720	16196	15642
Bethel	1919	11632	10815
Cold Bay	1101	7598	7550
Cordova	1293	7504	7796
Fairbanks	2085	12788	12434
Juneau	1118	6669	7283
King Salmon	1509	9529	9296
Kotzebue	2334	14026	12858
McGrath	1985	14038	12255
Nome	2060	12383	11354
St. Paul Is.	1298	8740	8433
Shemya	1006	7301	7253
Yakutat	1145	6923	7185
ARIZONA			
Flagstaff	1061	5950	5761
Phoenix (U)	224	1461	
Phoenix	277	1821	1541
Prescott	735	3923	3829
Tucson	321	1911	1792
Winslow	720	4457	4302
Yuma	140	1023	863
ARKANSAS			
Ft. Smith	455	3272	3126
Little Rock	376	3144	3084
Texarkana	299	2535	2428
CALIFORNIA			
Bakersfield	323	2356	1998
Bishop	627	3666	3790
Blue Canyon	880	4401	4392
Burbank	298	1443	1409
Eureka (U)	591	3369	3548
Fresno	417	2777	2381
Long Beach	283	1216	1515
Los Angeles (U)	211	879	1140
Los Angeles	285	1164	1603
Mt. Shasta (R)	808	4795	4691
Oakland	371	2379	2345
Point Arguello (R)	476	2646	2715
Red Bluff	395	2581	2300
Sacramento (U)	351	2429	2170
Sacramento	389	2646	2252
Sandberg (R)	742	3706	3462
San Diego	222	1075	1191
San Francisco (U)	360	2261	2303
San Francisco	400	2460	2396
San Jose (U)	347		
Santa Catalina	347	1373	
Santa Maria	468	2439	2287
Stockton	406	2836	
COLORADO			
Alamosa	1234	7465	7225
Colorado Springs	1051	5332	5492
Denver	982	5209	5115
Grand Junction	861	5044	5087
Pueblo	956	4975	4844
CONNECTICUT			
Bridgeport	798	4830	4872
Hartford	842	5480	5478
Middletown	862	5572	
New Haven	817	4985	5064
DELAWARE			
Wilmington	669	4549	4425
DIST. OF COLUMBIA			
Washington (U)	550	3763	
Washington	536	3918	3862
FLORIDA			
Apalachicola (U)	162	1659	1275
Daytona Beach	106	1063	864
Fort Myers	12	464	442
Jacksonville	127	1535	1218
Key West	0	92	108
Lakeland (U)	39	846	661
Miami	4	248	214
Miami Beach	2	185	141
Orlando	39	820	773
Pensacola	203	2010	1409
Tallahassee	166	1988	1449
Tampa	37	886	683
West Palm Beach	8	344	253
GEORGIA			
Athens	400	3116	2766
Atlanta	423	3258	2789
Augusta	288	2708	2307
Columbus	306	2652	2287
Macon	265	2505	2073
Rome	467	3583	3115
Savannah	221	2156	1774
Thomasville (U)	158	1917	1496
IDAHO			
Boise	843	5204	5032
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	1417	7905	7241
Idaho Falls 42NW (R)	1493	8178	7523
Lewiston	713	4323	4787
Pocatello	1145	6465	6026
ILLINOIS			
Cairo (U)	506	3615	3579
Chicago (Midway)	894	5216	5386
Chicago (O'Hare)	963	5803	
Moline	942	5613	5700
Peoria	891	5442	5383
Rockford	1008	5815	6018
Springfield	822	5065	4981
INDIANA			
Evansville	601	4354	4202
Ft. Wayne	894	5361	5511
Indianapolis	750	5078	5051
South Bend	898	5352	5618
IOWA			
Burlington	903	5320	5478
Des Moines	1069	5688	5864
Dubuque	1058	6102	6492
Sioux City	1053	5773	6259
Waterloo	1129	6240	6422
KANSAS			
Concordia	833	4759	4853
Dodge City	742	4426	4499
Goodland	932	5182	5356
Topeka	765	4481	4716
Wichita	702	4166	4257
KENTUCKY			
Lexington	606	4379	4253
Louisville	603	4237	4295
LOUISIANA			
Alexandria	270	2477	
Baton Rouge	166	1875	1581
Lake Charles	202	1908	1452
New Orleans (Audubon Park)	145	1574	
New Orleans	180	1833	1427
Shreveport	254	2396	2130
MAINE			
Caribou	1259	8100	8258
Greenville (U)	1233	7877	
Portland	1020	6492	6353
MARYLAND			
Baltimore (U)	553	3815	3758
Baltimore	631	4440	4237
MASSACHUSETTS			
Blue Hill Obs. (R)	875	5497	5453
Boston	808	4931	4877
Nantucket	875	4834	4840
Pittsfield	985	6488	6487
Worcester	921	5920	5975
MICHIGAN			
Alpena	1173	6771	6846
Detroit (City AP)	886	5065	5454
Detroit (M. Wayne Co.)	943	5669	5615
Detroit (Willow Run)	940	5438	5465
Escanaba (U)	1165	6503	7089
Flint	954	5733	6065
Grand Rapids	940	5598	5961
Lansing	940	5677	5988
Marquette (U)	1221	6453	6977
Muskegon	941	5460	5957
S. Ste. Marie	1308	7228	7724
MINNESOTA			
Duluth	1396	7532	8442
Internat. Falls	1538	8389	9161
Minneapolis	1209	6659	7420
Rochester	1216	6671	7167
St. Cloud	1332	7178	7782
MISSISSIPPI			
Jackson	280	2579	2152
Meridian	299	2801	2208
Vicksburg (U)	240	2394	1972
MISSOURI			
Columbia	746	4498	4589
Kansas City	714	4120	4435
St. Joseph	839	4778	4988
St. Louis (RFC)	669	4127	4127
St. Louis	696	4522	4404
Springfield	675	4158	4159
MONTANA			
Billings	1025	5635	6062
Butte	1242	7461	
Glasgow	1261	6614	7863
Great Falls	1176	5765	6380
Havre	1169	6469	7498
Helena	1080	6500	6902
Kalispell	1143	6785	7342
Miles City	1131	6003	6774
Missoula	1124	6866	6894
NEBRASKA			
Grand Island	934	5400	5550
Lincoln (U)	913	4963	5261
Norfolk	1075	5881	6200
North Platte	1006	5697	5860
Omaha	964	5292	5619
Omaha N. Omaha AP	1010	5481	6025
Scottsbluff	1055	5588	5836
Valentine	1112	5861	6474
NEVADA			
Elko	1091	6566	6218
Ely	1143	6491	6380
Las Vegas	394	2592	2535
Reno	840	4959	5074
Tonopah	870	4976	
Winnemucca	886	5237	5672
NEW HAMPSHIRE			
Concord	964	6323	6554
Mt. Washington Obs. (R)	1607	11277	
NEW JERSEY			
Atlantic City	674	4273	4244
Atlantic City (U)	690	4213	
Newark	687	4389	4520
Trenton (U)	677	4405	4448
NEW MEXICO			
Albuquerque	722	4462	3934
Clayton	811	4529	4528
Raton	934	5425	5321
Roswell	501	3782	3788
Silver City	618	3760	
NEW YORK			
Albany	927	6078	6027
Binghamton	1018	6507	6322
Buffalo	955	5742	6131
New York (U)	669	4228	4327
New York (LaGuardia)	680	4265	4267
Rochester	939	5778	5824
Schenectady	933	5894	
Syracuse	922	5852	5893
NORTH CAROLINA			
Asheville (U)	572	4041	3682
Cape Hatteras (R)	395	2617	2410
Charlotte	434	3245	2950
Greensboro	502	3806	3524
Raleigh	445	3463	3179
Wilmington	335	2510	2251
Winston-Salem	445	3611	3351
NORTH DAKOTA			
Bismarck	1302	7172	7890
Devils Lake (U)	1517	7970	8629
Fargo	1364	7280	8150
Grand Forks FAA	1434	7641	
Pembina	1545	8252	
Williston	1347	7077	
OHIO			
Akron	849	5528	5509
Cincinnati (U)	596	4091	
Cincinnati	671	4770	4528
Cincinnati Obs.	636	4401	4343
Cleveland	859	5440	5554
Columbus	735	5112	4848
Columbus (U)	709	4687	
Dayton	740	4901	4980
Mansfield	872	5498	5555
Toledo	920	5575	5649
Youngstown	875	5759	5409
OKLAHOMA			
Oklahoma City	547	3469	3581
Tulsa	553	3465	3443
OREGON			
Astoria	635	3763	4140
Burns (U)	950	5930	5844
Eugene	610	3630	3886
Meacham	1046	6198	6282
Medford	655	4244	4007
Pendleton	662	4096	4569
Portland (U)	546	3189	3482
Portland	649	3963	3889
Roseburg	575	3583	3696
Salem	658	3932	3862
Sexton Summit (R)	905	5106	4949
PENNSYLVANIA			
Allentown	795	5161	5148
Erie	874	5367	5518
Harrisburg	753	5008	4673
Philadelphia (U)	592	3871	
Philadelphia	685	4638	4594
Pittsburgh (U)	692	4595	4527
Pittsburgh	769	5226	5273
Reading (U)	693	4483	4468
Scranton	866	5505	5663
Williamsport	813	5327	5265
RHODE ISLAND			
Block Island	860	4870	4686
Providence	835	5184	5133
SOUTH CAROLINA			
Charleston (U)	231	2041	1752
Charleston	240	2162	1963
Columbia	325	2751	2403
Florence	327	2726	2303
Greenville-Spartanburg	401	3150	
SOUTH DAKOTA			
Huron	1207	6471	7056
Pierre	1130	5985	
Rapid City	1081	5606	6278
Sioux Falls	1181	6289	6918
TENNESSEE			
Bristol	622	4252	3880
Chattanooga	458	3368	3171
Knoxville	532	3966	3328
Memphis (U)	394	3073	2870
Memphis	406	3287	2965
Nashville	490	3693	3349
Oak Ridge	539	3958	3503
TEXAS			
Abilene	258	2390	2510
Amarillo	618	3933	3832
Austin	154	1827	1660
Brownsville	39	823	600
Corpus Christi	87	1183	914
Dallas	255	2450	2267
Del Rio	91	1693	
El Paso	354	2879	2473
Fort Worth	285	2535	2306
Galveston (U)	154	1491	1205
Houston (U)	98	1388	1248
Houston	158	1676	1254
Laredo	36	1098	797
Lubbock	483	3447	3346
Midland	287	2625	2501
Port Arthur	172	1795	1481
San Angelo	169	2363	2146
San Antonio	143	1738	1510
Victoria	112	1414	1152
Waco	235	2292	1964
Wichita Falls	366	2767	2810
UTAH			
Milford	997	5667	5612
Salt Lake City	1016	5768	5102
Wendover	868	5308	5142
VERMONT			
Burlington	1046	6999	6724
VIRGINIA			
Lynchburg	585	4010	3821
Norfolk	482	3402	3168
Richmond	537	3875	3612
Roanoke	568	4031	3824
WASHINGTON			
Olympia	705	4165	4302
Seattle (U)	574	3368	3669
Seattle	640	3461	4086
Seattle-Tacoma	640	3954	4293
Spokane	897	5579	5786
Stampede Pass (R)	1129	7175	7291
Tatoosh Island (R)	666	4057	4430
Walla Walla	625	3885	
Walla Walla (U)	625	3800	4241
Yakima	757	4913	5217
WEST VIRGINIA			
Beckley	726	5192	
Charleston	563	4411	4027
Elkins	779	5566	
Huntington	570	4468	3831
Parkersburg (U)	653	4546	4294
WISCONSIN			
Green Bay	1156	6762	7109
La Crosse	1078	6072	6774
Madison	1052	6325	6486
Milwaukee	1026	6069	6124
WYOMING			
Casper	1231	6215	6451
Cheyenne	1160	5920	6210
Lander	1175	6509	7057
Sheridan	1116	5916	6710

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

MARCH 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
Alabama	3	2	2	10	5					0	1	5	0	0	2	2	0												
Alaska *																													
Arizona *																													
Arkansas	3	2	1	6	5	0	0	4	0	0	0	5	4	8	2	5	0									0	0	4	0
California										0	7	6	0																
Colorado *																													
Connecticut																						0	0	4	0				
Delaware	1	1	0	0	4					0	0	3	0																
Florida	2	2	0	1	5					1	0	0	0	0	3	0	0												
Georgia										1	0	5	0	1	0	0	0									1	0	5	6
Hawaii	W 1	1																											
Idaho N																													
Illinois	3	2	0	2	4																	0	0	5	0				
Indiana										0	9	6	0	0	3	4	0												
Iowa														0	0	4	0					0	12	5	0				
Kansas	1	1			4																								
Kentucky	5	3	3	30	6					0	?	5	?													R 10	545	8	?
Louisiana										0	2	5	0													0	0	5	?
Maine																		0	0	4	0								
Maryland										0	1	4	0					0	0	4	0								
Massachusetts										0	0	3	0					0	0	3	0	0	0	4	0				
Michigan										0	0	5	0																
Minnesota																						0	0	4	0				
Mississippi										1	5	6	4	0	2	3	0									1	0	5	5
Missouri	3	2	0	29	4					0	0	4	0	0	0	4	0					0	0	4	0				
Montana																		0	0	4	0								
Nebraska																		0	0	4	0	0	0	4	0				
Nevada *																													
New Hampshire																		0	0	4	0								
New Jersey	2	2	0	10	5																								
New Mexico										0	0	3	0																
New York										4	20	6						6		4				5				F 5	
North Carolina	2	1	0	0	5					0	0	5	0													0	0	5	6
North Dakota *																													
Ohio	1	1	0	0	3					1	M	5										0	0	5	0	4		°7	C
Oklahoma																		0	0	?	0	1	5	?	0	0	0	3	0
Oregon *																													
Pacific Area *																													
Pennsylvania	1	1	0	0	2					1	14	6	0									0	0	4	0				
Puerto Rico *																													
Rhode Island *																													
South Carolina																										0	0	4	7
South Dakota																		0	?	3	0	0	?	4	0				
Tennessee	3	1	0	13	7	0	0	4	0	0	1	5	0	0	1	3	0									0	0	5	3
Texas	5	2	0	1	6	0	0	5	0	0	18	5	0	0	0	4	0									0	0	4	0
Utah *																													
Vermont																		0	0	4	0								
U. S. Virgin Is. *																													
Virginia										1	3	4	0																
Washington *																													
West Virginia												3																	
Wisconsin																		0	0	5	0								
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
N No report received by printing deadline.
W Waterspout.
R Flood, heavy rain.
F Flooding.
M Many.
C Crop damage.
° Includes crop damage.
† Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5,000,000
7	$5,000,000 to $50,000,000
8	$50,000,000 to $500,000,000
9	$500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MARCH 1964

Severe flooding with extensive damage occurred in the Ohio Basin during March. Crest stages were generally the highest since March 1945 in the reach from Cincinnati, Ohio, to Mount Vernon, Ind. In the reach below, the crests were the highest since 1950. The crest at Louisville, Ky., was the fourth highest of record, the one at Cincinnati, Ohio, the sixth highest and the one at Wheeling, W. Va., the fifth highest of record. Record stages were reached on some of the tributaries. The American Red Cross reported 18 persons lost their lives and over 1000 persons were injured.

ST. LAWRENCE DRAINAGE

Lake Erie.--Minor flooding occurred on the St. Mary's River at Decatur, Ind., from the 14th to the 17th. This rise was due to moderately rapid snowmelt. No damage resulted except possibly to winter wheat on low ground.

Minor flooding occurred on the Sandusky River at Upper Sandusky, Ohio, on the 11th due to heavy rain on the 8th and 9th. The rainfall averaged less than 2 inches over the drainage area.

Lake Ontario.--There were two periods of flooding in the Lake Ontario drainage. The first was due to moderately heavy rain on the night of the 4th and the morning of the 5th. Canaseraga Creek crested nearly 3 feet above flood stage at Groveland, N. Y., on the 5th. Oatka Creek crested at Garbutt, N. Y., on the 6th at a stage of 5.65 ft. (flood stage 5 ft.). Black Creek crested at Churchville, N. Y., on the 7th slightly under flood stage. Overflow of 2 to 3 feet occurred on the Genesee at Scio and Portageville, N. Y., on the 5th and 6th. Additional flooding occurred around the middle of the month on Oatka and Black Creeks. Damage throughout the Valley was mostly minor and restricted to road closures and loss of productivity of farmland due to deposit of gravel. The Canaseraga flats area was flooded for a prolonged period, with state route 258 closed for a few weeks. One bridge abutment was washed out in the area above Portageville.

Lake Champlain.--Rainfall during the night of the 4-5th in the Lake Champlain drainage of New York and Vermont caused the breaking up of ice on some of the larger streams and rivers. Major flooding occurred in nearby low areas due to ice jams. Minor ice-jam flooding occurred on the Winooski River at Middlesex, Vt., and Essex Junction, Vt., on the 5th and 6th. Ice floes were left in some bordering fields as the crest moved downstream. A brief ice jam on the Lamoille River at Hardwick, Vt., caused heavy damage to homes, bridges, and industries. Minor flooding occurred on the Mad River near Waitsfield, Vt., and on the Brown's River near Jericho, Vt., on the 5th. Minor ice-jam flooding occurred on the Missisquoi River near Swanton, Vt., and on the Boquet River in New York. Little if any damage resulted. Minor seasonal backwater flooding from Lake Champlain occurred near the mouth of the Winooski River near Burlington, Vt.

ATLANTIC SLOPE DRAINAGE

Unusually warm weather occurred during the first week of March in New England. Moderately heavy rain in central and northern New England on the 4th and 5th caused heavy runoff. Ice jams contributed to high stages on the rapidly rising streams. Above flood stages were reached on the Connecticut River at White River Junction, Vt. The ice-choked White River went on a rampage causing heavy damage as it destroyed the White River bridge at White River Junction. Telephone communications were severed between northern Vermont and southern points. Several houses and many automobiles were wrecked. Route 14 was buried under 16 feet of ice for one-half mile near West Hartford, Vt. Over a dozen Hartford families were evacuated from their homes. Water damage was relatively minor compared to the damage caused by the destructive forces of the huge ice floes. Some minor local flooding occurred on the Pemigewasset at Plymouth, N. H., on the 6th and 7th due to an ice jam but no damage resulted. Numerous local ice jams occurred on small streams in central New England but no damage was reported.

The moderate flooding on the lower Schoharie, the lower Mohawk, and the Hudson Rivers in New York from the 5th to the 7th was due to moderate rains and mild temperatures producing heavy snowmelt and ice breakup. Rainfall north of the Mohawk Valley on the 4th and 5th ranged between 1/2 and 4 inches. South of the valley amounts were well below 1 inch. The mild temperatures produced a heavy snowmelt and softened up the ice. Ice jams in the Mohawk from Schenectady to the mouth caused the greatest damage. The Mohawk crested at Cohoes, N. Y., at a stage of 23.15 feet, the greatest height of record, on the 6th. Heavy damage occurred in the low areas of Cohoes and Waterford, N. Y., from the large ice cakes and surge of water. Many homes and commercial facilities were damaged. Ice damage to highways, streets, and cars was heavy.

Brief flooding occurred on the East Branch of the Delaware River at Fishs Eddy, N. Y., on the 10th and 11th. This overflow was due to moderate to heavy rain on the 9th and 10th. Some residual snow in the mountains contributed to the runoff. A few cellars and one or two camp sites were flooded. Damages were light.

Moderate to heavy overflows occurred along the Susquehanna River and tributaries in New York and Pennsylvania between the 5th and 13th due to snowmelt and rainfall. The average water content of the snow on the ground on the 4th ranged from 2.0 to 2.4 inches. Light rainfall began on the morning of the 4th in the southern portion of the Susquehanna Basin. The rain gradually spread northward becoming moderate to heavy during the evening of the 4th and morning of the 5th. The rainfall ranged from 0.25 inch in the southern portion to 2.2 inches in the northern portion of the basin. Additional heavy rains on the 9th, 10th, and 11th caused rivers to surge to higher levels in some areas and nearly as high in others along the Susquehanna. Falling temperatures and snowfall in the upper reaches prevented the runoff from reaching near record levels. The degree of flood damage varied from minor to severe throughout the valley.

Minor flooding occurred on the South Branch of the Potomac in the vicinity of Springfield, W. Va., on the 6th. This rise was due to snowmelt and light to moderate rains between the 3d and 5th. No damage was reported.

The light to moderate flooding on the lower Cape Fear and Neuse Rivers in North Carolina during the latter half of the month was due to heavy rainfall. Twenty-four hour accumulations ending at 8 a.m. on the 16th, ranged from 0.75 to 3 to 4 inches through the middle portions of the Cape Fear, Neuse, and Tar Rivers. No damage was reported.

Considerable flooding occurred on streams in South Carolina during March. The overflows were generally shallow to moderate. These overflows were due to heavy rains during the middle of the first week, at midmonth, and again at the beginning of the last week. The Saluda River reached the highest stage since 1952 at Chappells, S. C., on the 27th. Water covered the Southern Railroad track, but due to adequate warning and protection procedures, damage was light. The biggest loss occurred on the Broad River north of Columbia, S. C., to a bridge construction project. A temporary bridge failed due to the high water, dumping a drag line into the river. Extensive lowland flooding occurred below Columbia with some loss to pastures and lumbering interests. There was much inconvenience along the main Edisto where low camp sites were abandoned and approach roads to the river were impassable.

Minor flooding occurred in Georgia during most of March on the Ogeechee, Altamaha, Satilla, and on the Savannah River below Augusta. More extensive flooding, inundating greater areas of the flood plain began during the latter part of the month. Despite the extensive flooding, there were no reports of major damage.

EAST GULF OF MEXICO DRAINAGE

Heavy rains on the 2d to the 4th caused the Flint River to rise above flood stage at Albany and Bainbridge, Ga., during the period from the 4th to the 12th. Flooding was limited to low-lying areas. Little or no damage was reported. The Apalachicola River remained at abnormally high stages throughout the month. It has been in flood at Blountstown, Fla., since Jan. 9. The highest crest occurred on March 8, when it reached a level of 22.2 feet, 7.2 feet above flood stage. The Neal Lumber Yard was inundated under several feet of water making it necessary for employees to go by boat to the lumber plant office. The lumber plant offices had to limit their operations considerably due to the high water, but damages were small.

The flooding on the Cahaba River at Centreville, Ala., on the 3d and on the Choctawatchee River between the 3d and 11th was due to heavy rainfall from the 2d to the 5th. The rainfall averaged 3.2 inches over the Cahaba Basin during that period. Heavy rainfall from the 14th to 16th caused an additional rise in streams in northwestern Georgia and Alabama with general flooding. Numerous stations, mostly in northwest Georgia and northeast Alabama reported from 4 to over 5 inches of rain for the 24-hour period ending at 7 a.m. on the 15th. The Oostanaula River reached a crest of 30.4 feet at Resaca, Ga., on the 17th, 8.4 feet above flood stage. Heavy rainfall occurred again on the 25th and 26th in northwest Georgia, with numerous stations reporting over 4 and 5 inches with a few over 6 inches. Rainfall was lighter in Alabama. Agricultural damages were heavy. The heaviest urban damage occurred on the Etowah River at Rome and Canton, Ga.

The flooding in the Tombigbee Basin in Alabama during March was due to heavy rains on the 2d, 10th, and 15th. The rainfall over the Tombigbee and Warrior Basins on the 2d averaged near 2 inches. These were followed by intermittent and almost daily rains with amounts of about an inch on the 10th. Approximately 3 inches occurred over the area on the 15th. Above flood stages were reported at all stations. The lower Tombigbee from Demopolis southward remained above flood stage throughout most of the month. Stages were not unusually high for the season, but considerable farmland was inundated. The damages were mostly agricultural losses.

Moderate precipitation during the last week in February followed by heavy precipitation during the first 3 days in March resulted in flooding on the Chickasawhay and Pearl Rivers in Mississippi and on the Bogue Chitto in Louisiana. Four other periods of moderate to heavy precipitation occurred over the headwaters of the Pearl and Leaf Rivers with the heaviest amounts occurring on the 15th. This latter rain caused flooding on the Leaf River at Beaumont, Miss., and another rise on the Pearl River. At Jackson, Miss., and Bogalusa, La., the Pearl River continued in flood from the 3d into April. The crest at Jackson was nearly 13 feet above flood stage on the 24th. The only damage of any consequence reported was that due to flash flooding from heavy local rains.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. --Winter precipitation this past season has been just slightly over half of normal. Most of this fell during November and the first 10 days of December. Although temperatures during December were as much as 10° below normal with 12 consecutive days with minimum temperatures 0°F. or colder, November, January, and February had temperatures much above normal. Fortunately, the December cold spell came after a snow blanket had covered most of the District. Although there was a lack of snow in January and February, the above normal temperatures with many afternoon highs above freezing kept frost penetration this year from going as deep as in 1963. The difference is 10 to 30 inches less. This lack of depth, coupled with light fall precipitation, leaves the topsoil quite porous. Ice thickness is not as great as last year. Navigation on the Mississippi was opened at Guttenberg, Iowa, on February 28 and at St. Paul, Minn., on March 7. The water content of the snow as of March 5 was generally lower than on the same dates in 1963 and 1962, as shown in the following table: (see table on next page)

The only flooding in the Upper Mississippi Basin during March occurred on the Meramec River in Missouri and on the Kaskaskia and Big Muddy Rivers in Illinois. This flooding was due to heavy rains on the 7th through the 9th. Rainfall totals during this period averaged between 1 and 3 inches with some local amounts near or above 6 inches. The wet condition of the soil and partially frozen ground contributed to appreciable runoff. Additional general and heavy rains occurred on the 19th and 20th and light general rains again on the 25th and 26th. The Big Muddy in Illinois was above flood stage at Murphysboro from the 9th to the 29th with a crest of 32.0 feet, on the 14th, 16 feet above flood stage. Damage was small and limited mostly to pastures and grains in lowlands.

Ohio Basin. --The Ohio River floods were triggered by heavy rains which developed from the Low centered in Arkansas on the morning of the 4th. The Low intensified rapidly and moved into extreme northern Indiana by midnight. Heavy rains fell throughout the Ohio Valley, and along and north of the warm front extending eastward from the Low. Snowmelt and ice jams contributed to the severity of the flooding.

Additional heavy rains on the 8th, 9th, and 10th caused the Ohio and tributaries to rise rapidly to the highest

WINTER PRECIPITATION
November 1 through February 29

Drainage Area (River or Stream)	Season 1963-64	Season 1962-63	Season 1961-62	Normal (1931-60)	Percent of Normal this Season	Moisture Content 3-1-62	Moisture Content 3-5-63	Moisture Content 3-5-64
Mississippi River to Guttenberg, Iowa	2.48	1.81	5.25	4.57	54	3.30	1.06	0.93
Mississippi River to Minneapolis, Minn.	2.28	1.42	4.32	3.32	69	3.45	0.48	1.18
Minnesota	1.36	1.54	3.96	3.43	40	2.45	0.18	0.52
St. Croix	2.33	1.69	5.20	4.21	55	3.70	0.93	1.23
Chippewa	3.31	2.22	5.62	4.80	69	3.95	2.15	1.55
Trempealeau	2.62	1.70	5.64	4.48	58	2.05	0.74	0.38
Black	2.69	1.72	5.50	5.08	53	3.05	1.50	0.73
Zumbro-Whitewater	2.38	1.51	3.51	4.30	55	3.00	0.61	0.48
La Crosse	2.77	1.56	5.88	4.96	56	2.30	1.37	0.22
Root	2.40	1.53	5.35	4.98	48	3.50	0.86	0.34
Kickapoo-Pine	2.27	1.80	7.58	5.55	41	3.00	1.23	none
Wisconsin	2.86	1.97	7.38	5.63	51	3.90	1.76	0.57
Fox	3.51	3.07	7.50	6.31	56	4.30	0.70	0.25
Lake Superior	5.02	2.98	5.35	6.15	82	4.10	2.23	3.25
Upper Iowa	2.28	1.49	5.55	5.30	43	4.00	0.92	none

stages since 1945 over a large reach of the river. A stationary front stretched from West Virginia to northern Texas at Midnight on March 8-9. Minor waves moved along this front for the next 24 hours causing appreciable rainfall. During the following 24 to 30 hours, a deepening Low moved from Arkansas to northeastern Ohio with heavy rains along its path.

The heavy ice cover over the upper Allegheny River began to move during the latter part of January 1964. Insufficient upstream flow retarded the movement of the ice causing the ice to gorge in the reach between Lock 8, Mosgrove, Pa., and Lock 9, Rimerton, Pa. This gorge remained unchanged throughout the month of February into the early part of March. On the morning of the 4th the Allegheny River remained frozen over from Lock 7, Kittanning, Pa., upstream to Parker, Pa., with the serious ice gorge 10 to 20 feet high in places, still holding in the vicinity of Lock 9, Rimerton, Pa. The snow cover over the upper Ohio Basin varied from 1 to 6 inches. Moderate to heavy rain showers and thundershowers (1 to 2 inches) during the afternoon and evening of the 4th, supplemented by snowmelt runoff caused the streams to rise rapidly. On the afternoon of the 5th, the heavy upstream runoff caused an 18-foot rise on the Allegheny on the lower pool gage of Lock 9, Rimerton, Pa. Considerable backwater flooding resulted in the vicinity of Lock 9 due to the gorge. Many homes and cottages in the vicinity of Rimerton, Pa., and Templeton, Pa., suffered severe damage. The gorge broke loose at 4:45 p. m. on the 5th, causing heavy ice to move throughout the length of the Allegheny during the night of the 5th and the morning of the 6th. Flood stages were exceeded from 1 to 4 feet at the principal stations along the Allegheny River. The most seriously affected communities were Rimerton, Templeton, Kittanning, and Freeport, Pa. At Kittanning, the ice-jam flood resulted in the highest stage of record, exceeding the January 22, 1959, crest by 0.1 foot. No serious flooding occurred in the Monongahela River Basin with the river cresting near bankfull level throughout its length.

Moderate to heavy rains during the evening of the 8th and the early morning of the 9th, augmented by snowmelt runoff, caused another rapid rise throughout the Allegheny and upper Ohio River Basin. Serious flooding resulted throughout the area between the 9th and 12th. Severe damage occurred again at Kittanning and Freeport, Pa. Severe damage also occurred at Parker and Sharpsburg, Pa., in the Allegheny Drainage. The previous highest stage of record at Kittanning, Pa., was broken for the second consecutive time during the two rises in March. A crest of 26.6 feet was reached on the upper pool gage at Lock 7, on the 10th. This was 0.1 foot higher than the crest of March 5, 1964, and 0.2 foot higher than the crest of January 22, 1959.

Considerable snow accumulated in the mountains of Elk, Gauley, and Greenbrier Basins in West Virginia during January and February with water content up to 5 inches or more. Temperatures rose during the first few days of March into the 60's and 70's in the valleys. The light rain on the 4th and 5th together with the warm temperatures melted the snow rapidly causing the Greenbrier River to rise to 1.6 feet above flood stage at Alderson, W. Va., on the morning of the 6th. Only minor damage occurred.

The Hocking River in Ohio went above flood stage during the afternoon of the 9th from the heavy rainfall (4 1/2 to 5 1/2 inches) during the 8th and 9th. The crests were the highest on record since 1907 and exceeded flood stage by 7 to 9 feet. The flooding continued until the 13th at Athens, Ohio. The damages were heavy. Many people were evacuated from their homes.

Heavy damage resulted from the flooding on the Muskingum River and its tributaries between the 9th and 11th. A crest of 13.8 feet was reached at McConnelsville, Ohio, on the 10th. Flood stage at this point is 11 feet. Two people drowned when their car crashed through a guard rail into flooded Johathan Creek near Zanesville, Ohio. Another person drowned in the Tuscarawas River. This flooding was due to rainfall averaging about 4 inches on the 8th and 9th.

The flooding in the Scioto Basin in Ohio was due to heavy rainfall on the 3d, 4th, 8th, and 9th. The rainfall during the first rise averaged 2.8 inches above Columbus, Ohio, and 3.4 inches below. This storm ended a 6-month drought. Only minor flooding resulted due to the dry antecedent conditions and the large storage capacity in uncontrolled reservoirs. The rainfall on the 8th and 9th was heavier than on the 3d and 4th, averaging about 5.7 inches over the Lower Scioto and 3.8 inches over the Upper Scioto. Flash flooding developed on all tributaries on the 9th and 10th. The city of Chillicothe, Ohio, was again threatened by flooding from Paint Creek, however, a levee break on the North Fork of Paint Creek came early enough to prevent more serious flooding.

Minor flooding occurred on the Little Miami River and more serious flooding on the lower Licking River following the heavy rains on the 4th and 5th. The Licking crested about 10 feet above flood stage at Falmouth, Ky. The heavy rains that followed on the 8th and 9th caused the Ohio and tributaries to rise rapidly. At Falmouth, the Licking rose to a record crest of 47 feet, 19 feet above flood stage and 5 1/2 feet above the previous record. The Kentucky River crested about 9 feet above flood stage at Frankfort. The upper reaches of these rivers in Kentucky remained several feet below flood. The Little Miami and the lower portion of the Great Miami rose to 5 to 9 feet above flood stage. At Perintown, Ohio, the East Fork of the Little Miami crested at 24.6 feet, about 2 feet above the old record set in 1945. Only minor flooding occurred on the Whitewater. Damages in this reach of the Ohio Basin were heavy. In Falmouth, Ky., 2500 of the 2800 inhabitants left their homes as three-fourths of the city was inundated. Two men drowned, one in the Little Miami near Newtown, Ohio, and the other in a creek near Carrollton, Ky., when their autos went off the road into the flood waters. In the East Fork of the Little Miami, one man drowned when the boat in which he was moving a heavy appliance overturned.

Considerable flooding resulted on streams in Kentucky from the excessively heavy rainfall on the 3d to the 5th and on the 8th through the 10th. At Louisville, Ky., the 24-hour precipitation total of 6.97 inches on the 9th and 10th was the greatest total for a 24-hour period since records began in 1871. Resultant flooding was unusually rapid with widespread damage. Brashears Creek at Taylorsville, Ky., reached a record crest of 34.2 feet on the 10th, 14.2 feet above flood stage. Crests on the Rolling Fork at Boston, Ky., and on the Salt at Shepherdsville, Ky., were higher in 1937 than in 1964. Flooding over the Green River was not so severe and was about the same as experienced 2 years ago. Widespread damage occurred throughout the State and many thousands of residents were evacuated. Of the total damage at Louisville, Ky., slightly over $1 million was caused by flash flooding by a normally small tributary stream, Beargrass Creek, which runs through a portion of the Louisville metropolitan area. Drainage channel through this portion of Louisville is estimated to have capability of handling runoff from precipitation on a 1 in 15 year frequency, with March 1964 rainfall intensity having a 1 in 100 year frequency. Considerable damage was incurred to business property along Beargrass Creek as well as to residential property in areas considerably removed from the Ohio River.

The river gage on Big Indian Creek at Corydon, Ind., was washed out by flash flooding due to the excessive rainfall on March 4. A 75-year old observer near Greenville, Ind., stated that the tributary of Big Indian Creek near his home was the highest in his memory. The Rainfall Observer at Lanesville, Ind., advised that the stream was 8 inches higher than any previous observation in the memory of the oldest living resident.

Major flooding occurred along the East Fork, the lower White, and the extreme lower Wabash Rivers in Indiana from the heavy rain on the 8th and 9th. Runoff was heavy as the soil was saturated from the heavy rain on the 4th. The rainfall on the 8th and 9th ranged from around 3 inches on the upper White to 7 or 8 inches along the lower White River. About 6 inches was recorded along the East Fork and less than 2 inches along the upper Wabash. Minor to moderate flooding occurred elsewhere in the Wabash Basin. Flash flooding of small streams was general. Many homes and industrial plants along the East Fork of the White River were surrounded by water. A few homes were flooded up to window sill height. At Shoals, Ind., all except one of the roads leading into town were closed. Travel in and out of surrounded homes was by boat. Many homes were evacuated. Numerous schools were closed from one to several days. Although there was great inconvenience and loss of wages in some areas, damage was not extensive except in the flash flooding along the Patoka. At Ravenswood, Ind., near the north edge of Indianapolis a boy fell from a raft into the backwater from the White River and drowned. At Bedford, Ind., the city was without water for several days as the pressure of the flooded East Fork broke a water intake at the pumping plant.

The only flooding in the Cumberland Basin during March occurred on the 5th at Kingston Springs, Tenn., on the Harpeth River. The crest was just a foot above flood stage. Some agricultural land was flooded but no important damage resulted. The rains on the 4th that caused this overflow averaged about 1.6 inches.

General rains over western Tennessee during the night of the 13th-14th and continuing on the 15th caused sharp rises on streams with light flooding on a few tributary streams. The Little Pigeon River at Sevierville, Tenn., crested at a stage of 11.05 feet, on the afternoon of the 15th, about 2 feet over flood stage. The Elk River at Fayetteville, Tenn., crested 5.4 feet above flood stage during the afternoon of the 15th. Some flooding of lowlands occurred along the lower end of Norris Creek. Light flooding occurred on the Duck River at Shelbyville, Tenn. Chickamauga Creek at Chickamauga, Tenn., flooded on several dates during the month with the most severe flooding occurring on the 16th. Flooding along the main stem of the Tennessee occurred at Gilbertsville, Ky., Florence, Ala., and at Whitesburg, Tenn.

Flooding along the Ohio River.--The Ohio River was generally in pool stages at the beginning of March. The heavy rains recorded over the basin on the morning of the 4th and 5th caused a rapid rise along the main stem. The upper portion (Pittsburgh, Pa., to Dam 13, McMechen, W. Va.) went above flood stage on March 6. Flood stages in this reach were exceeded by 2 to 3 feet. Navigation interests in Pittsburgh suffered considerable damage as the ice moved out of the Allegheny into the Ohio on the morning of the 6th. About 40 barges and derrick boats were torn loose from their moorings and set afloat downstream. The Ohio continued to rise in the reach below and was cresting on the 8th about 3 to 5 feet below bankfull stage from Portsmouth, Ohio, to Warsaw-Markland Dam, Ky. Over 7 inches of rainfall was reported in the reach below Cincinnati, Ohio, on the 4th and 5th.

The second and more important rise followed the heavy rain on the 8th, 9th, and 10th augmented by some snowmelt runoff. The heavy rainfall was concentrated along the main stem of the river, causing it to rise rapidly to above flood stage by the morning of the 9th in the reach from Portsmouth, Ohio, to Madison, Ind. By the morning of the 10th the Ohio had risen to 10 feet above flood stage at Cincinnati, Ohio, cresting on the following day at a stage of 66.2 feet, 14.2 feet above flood stage. This was the 6th greatest flood on record at Cincinnati, and the highest since 1945 when a stage of 69.2 feet was reached. The river was in flood for about 12 days in this reach of the river. In the reach above Portsmouth, Ohio, flood stage was exceeded generally on the 10th. The Ohio crested in this reach between the 11th and 13th, 5 to 13 feet above flood stage. The crest of 47.0 feet at Dam 12, Wheeling, W. Va., on the 11th was 11 feet above flood stage and the 5th highest flood of record. The crest of 46.2 feet at Dam 41, Louisville, Ky., on the 12th was 18.2 feet above flood stage and the 4th highest of record going back to 1875. Stages along the Ohio from Cincinnati, Ohio, to Mt. Vernon, Ind., were the highest since the flood of 1945. In the reach below Mt. Vernon, the crests were generally the highest since 1950.

Damages along the Ohio from the March floods were heavy. Many thousands of residents were evacuated. Many homes were damaged or destroyed. Considerable damage was incurred to business and residential property considerably removed from the Ohio River. Considerable damage occurred in New Martinsville, W. Va., Moundsville, W. Va., and Pomeroy, Ohio, and in other small towns not protected by flood walls. At New Martinsville, the water was 7 feet deep in the downtown section. At Pomeroy, Ohio, the water was over 6 feet deep on Main Street. In the greater Cincinnati Area, flood waters entered the homes or basements of about 25,000 residents. One man was drowned when his outboard motorboat capsized in the Ohio off Ludlow, Ky. A number of communities were isolated by high water for 1 to 2 weeks. Several ferries were forced to close and in some cases workers were unable to commute between home and places of employment. As a result of aerial survey made by State and Federal personnel, a number of counties were declared a disaster area. The principal losses were wages to workers where plants were forced to curtail or cease operations. Considerable time and money was spent in a successfull attempt in keeping the flood out of Smithland, Ky., which is on the Ohio near the mouth of the Cumberland. A few growing crops were lost, principally wheat and alfalfa. There was a considerable loss due to the erosion of roads.

White Basin.-- The heavy rains which began in the western portion of the basin on the evening of the 7th and continued until the morning of the 10th caused flooding on the Black, Little Red, and White Rivers in Arkansas. The total rainfall over the Black River ranged from 2.5 inches in the extreme northern portion to 6 inches over the remainder of the area. A large section north of Pocahontas, Ark., reported 8 inches of rain or more. Doniphan, Ark., reported 10.10 inches. In the White River Basin the precipitation averaged about 5 inches on the 9th and 10th. The precipitation over the Little Red River Basin averaged about 5.5 inches below Greers Ferry Dam. The Black River remained in flood at Black Rock, Ark., until the 29th. The crest of 27.8 feet on the 10th was the highest crest at that point since May 1961. Upstream at Poplar Bluff, Ark., the crest of 19.55 feet on the 10th was the highest since May 1946. The damages totalled over 1/2 million dollars over the entire basin. One man drowned in a drainage ditch at Corning, Ark. No damages were reported along the Little Red River.

Arkansas Basin.--The only flooding in the Arkansas Basin during March occurred on the Petit Jean at Danville, Ark., on the 10th and 11th. The crest of 21.8 feet on the 10th was the highest since May 1960. No damage resulted.

Red Basin.--The flooding on the Saline River at Benton, Ark., on the 9th and 10th was due to 4.5 inches of rain. The crest of 25.5 feet was the highest stage recorded since April 1957 (25.0 ft.). No damage occurred. The heavy rain (5.5 inches) over the Caddo River above Glenwood, Ark., resulted in heavy flow with some flooding on the Ouachita River at Arkadelphia and Camden, Ark., between the 9th and 16th. The crest stage of 23.2 feet, at Arkadelphia on the 10th was the highest stage reported since May 1961. The crest stage of 28.3 feet, on the 13th was the highest stage reported since April 1961. Rainfall along the Ouachita averaged about 1.5 inches below Arkadelphia on the 9th and 10th. Some livestock were lost.

The flooding on the Sulphur River at Hagansport, Tex., from the 9th to the 11th was due to heavy rainfall on the 8th and 9th. The 24-hour precipitation measured at 7 a.m. on the 9th ranged from 3.6 inches at Deport, Tex., to 0.5 inch in the lower portion. Precipitation over the North Fork of the Sulphur ranged from 2.5 to 3.5 inches. No significant damage was reported.

Lower Mississippi Basin.--The heavy rains on the 8th and 9th caused the St. Francis to go above flood stage at Fisk, Mo., and St. Francis, Ark., on the 9th. The 2-day rainfall totals ranged from 7.86 inches at Wappapello Dam to 2.95 inches at Arcadia, Mo., in the upper portion. Additional heavy rain occurred on the 10th. Flood stage was exceeded by 5 feet at Fisk on the 17th-18th and continued in flood until the 29th. At St. Francis, Ark., flooding continued into April. Damage resulting was confined to areas along the river inside levees and to fairly large swampy areas.

A little flooding was reported during March on some of the smaller headwater streams of the Yazoo System. Only light agricultural flooding occurred with minor damages. The principal flooding occurred along the Big Black River at Bovina and Pickens, Miss., between the 4th and 27th. Moderate lowland flooding of pastures and fields occurred along the entire reach of the Big Black. Flood damages were light.

Minor flooding occurred along the main stem of the Mississippi River at New Madrid and Caruthersville, Mo., during the last half of the month due to the heavy flow from the Ohio River and its tributaries. Little work had been done in preparing for crops, so damage was relatively light.

The Mississippi at Vicksburg, Miss., reached a stage of 36.1 feet by the end of the month. Flood stage at this point is 43 feet. Even though the official flood stage was not reached, some flooding did occur between levees and in the backwater area near Vicksburg. No appreciable damage occurred in the Long Lake Housing Project near Vicksburg but water was over one of the access roads for several days.

WEST GULF OF MEXICO DRAINAGE

General rains during the last of February and the heavy rains the first few days of March caused general rises with flooding along the Calcasieu in Louisiana and minor flooding on the Sabine at Deweyville, Tex. The rainfall ranged from 1 to 6 inches at Oakdale, La. Flooding was confined to lowlands near the streams and no damage was reported.

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ST. LAWRENCE DRAINAGE	*Ft.*			*Ft.*	
Lake Erie					
St. Mary's: Decatur, Ind.	13	11	17	16.7	15
Sandusky: Upper Sandusky, Ohio	13	11	11	13.9	11
Lake Ontario					
Canaseraga Creek: Groveland, N.Y.	11	5 15	5 15	13.9 11.0	5 15
Oatka Creek: Garbutt, N. Y.	5	6 15	7 16	5.65 5.65	6 16
Black Creek: Churchville, N. Y.	5	16	17	5.3	16
Genesee: Scio, N. Y.	8	5	6	10.0	5
Portageville, N. Y.	17	5	6	20.1	5
ATLANTIC SLOPE DRAINAGE					
Pemigewasset: Plymouth, N. H.	11	6	7	12.6	6
Connecticut: White River Junction, Vt.	18	5	6	25.5	6
Schoharie: Burtonsville, N. Y.	6	6	6	7.4	6
Mohawk: Little Falls, N. Y.	15			18.3	
Schenectady, N. Y.	10	5	6	12.3	6
Cohoes, N. Y.		5	7	R 23.15	6
Hudson: Troy (Upper), N. Y.	24	6	6	24.2	6
Troy (Lower), N. Y.	15	6	6	17.9	6
East Branch Delaware: Fishs Eddy, N. Y.	11	10	11	13.2	10
Tioughnioga: Whitney Point, N. Y.	12	(5 (10	7 11	16.5 E 12.5	5 11
Chenango Sherburne, N. Y.	8	5	6	9.9	5
Greene, N. Y.	13	5	6	16.95	6
Chenango Forks, N. Y.	10	5	7	12.8	6
Tioga: Lindley, N. Y.	17	5	5	18.5	5
Chemung: Corning, N. Y.	16	5	5	17.0	5
Elmira, N. Y.	10	5	6	E 16.0	5
Chemung, N. Y.	12	(5 (10	7 12	20.5 15.6	6 10
West Branch Susquehanna: Clearfield, Pa.	10	10	11	12.8	10
Sinnemahoning, Pa.	15	10	10	15.2	11
Renova, Pa.	16	10	11	21.2	10
Lock Haven, Pa.	21	10	12	26.1	11
Jersey Shore, Pa.	26	10	12	30.6	11
Williamsport, Pa.	20	(6 (10	6 12	20.4 27.25	6 11
Lewisburg, Pa.	18	(6 (10	7 13	19.4 26.2	6 11
Susquehanna: Unadilla, N. Y.	11	6	6	13.1	6
Rockdale, N. Y.	11	6	6	12.3	6
Bainbridge, N. Y.	13	(5 (10	8 11	20.2 E 15.4	6 11
Conklin, N. Y.	11	(5 (9	8 12	16.6 18.3	6 10
Binghamton, N. Y.	14	(5 (10	7 11	18.7 E 17.2	6 10
Vestal, N. Y.	18	(5 (10	8 11	25.7 25.1	6 10
Towanda, Pa.	16	(5 (10	7 12	23.65 20.9	6 11
Wilkes-Barre, Pa.	22	(6 (10	8 12	28.9 30.1	7 11
Danville, Pa.	20	(6 (10	8 13	23.2 25.1	7 11
Sunbury, Pa.	16	(6 (11	8 13	17.0 22.2	7 11
Harrisburg, Pa.	17	11	13	21.5	12
South Branch Potomac: Springfield, W. Va.	15	6	6	# 15.4	6
Neuse: Smithfield, N. C.	13	16	18	# 15.1	17
Goldsboro, N. C.	14	16	24	# 19.1	20
ATLANTIC SLOPE DRAINAGE (Cont'd.)	*Ft.*			*Ft.*	
Neuse (Cont'd.): Kinston, N. C.	14	19	27	16.6	23
Cape Fear: Elizabethtown, N. C.	20	16	20	25.9	18
Rocky: Norwood, N. C.	15	15	16	# 21.0	15
Lynches: Effingham, S. C.	14	21	23	# 15.8	21-22
Waccamaw: Conway, S. C.	7	1	11	# 7.6	5-6
Pee Dee: Cheraw, S. C.	30	16	17	E 34.0	16
Peedee, S. C.	19	Feb. 18 17	4 26	# 22.3 # 21.5	Feb. 24 21
Black: Kingstree, S. C.	12	4	[illegible]	# 12.4	5-6
Saluda: Pelzer, S. C.	6	(15 (26	17 29	8.5 8.0	15 27
Chappells, S. C.	13	(16 (26	17 28	15.1 23.5	16 27
Broad: Blair, S. C.	14	(15 (26	18 28	20.8 18.3	16 27
Congaree: Columbia, S. C.	19	16	17	19.8	16
Santee: Jamestown, S. C.	10	25	1/	11.2	26
Savannah: Butler Creek, Ga.	21	26 28	26 1/	21.1 # 23.3	26 31
Milhaven, Ga.	15	Feb. 15	1/	(16.1 (16.3 (#18.5	Feb. 21 10 31
Clyo, Ga.	11	Feb. 13	1/	14.8 15.0 16.5 # 16.7	Feb. 24 13 27 31
Ogeechee: Midville, Ga.	6	7 20	8 21	6.3 7.0	8 20
Dover, Ga.	7	Feb. 14 26	19 28	7.5 7.8	6 28
Eden, Ga.	9	Feb. 15	1/	11.9	3
Ocmulgee: Macon, Ga.	18	(16 (27	18 28	22.1 20.1	16 28
Abbeville, Ga.	12	(4 (20	14 27	14.0 14.7	10-11 22-23
Lumber City, Ga.	15	5 27	8 27	15.4 15.0	6 27
Oconee: Milledgeville, Ga.	20	(4 (15 (20 (26	6 18 20 31	20.4 30.9 20.5 22.75	4 16 20 27
Dublin, Ga.	21	19	21	24.2	20
Mount Vernon, Ga.	16	4 21 31	14 27 31	17.4 18.6 16.0	11 22 31
Altamaha: Charlotte, Ga.	15	1	31	19.0	7
Satilla: Waycross, Ga.	16	1	11	19.0	6
Atkinson, Ga.	13	1	22	16.9	G 3
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga.	20	4	10	23.9	6
Bainbridge, Ga.	25	6	12	26.7	8
Apalachicola: Jim Woodruff Dam, Fla.	66	6	[illegible]	67.4	7
Blountstown, Fla.	15	Jan. 9	31	(20.7 (20.3 (22.2	Jan. 13 Feb. 23 8
Choctawhatchee: Newton, Ala.	19	3	4	21.5	4
Caryville, Fla.	12	4	11	13.4	7
Oostanaula: Resaca, Ga.	22	(15 (26	20 30	30.4 29.9	17 27
Rome, Ga.	25	(16 (26	17 29	26.8 30.3	16 27
Etowah: Canton, Ga.	17	16 26	16 28	19.9 24.7	16 26
Coosa: Gadsden, Ala.	20	16 26	24 1/	24.4 26.2	17 28
Childersburg, Ala.	20	17	17	20.2	16
Cahaba: Centreville, Ala.	23	(3 (15	3 16	24.6 25.85	3 15
Suttle, Ala.	32	18	18	32.0	18
Alabama: Montgomery, Ala.	35	17	21	39.0	18

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
EAST GULF OF MEXICO DRAINAGE (Cont'd.)	Ft.			Ft.	
Alabama (Cont'd.): Millers Ferry, Ala.	40	[illegible] 17	8 26	40.1 46.0	8 22
Claiborne, Ala.	40	19	28	43.2	24
Old Town Creek: Tupelo, Miss.	21	14 26	15 26	26.2 21.9	15 26
East Fork Tombigbee: Fulton, Miss.	16	4 15 27	7 18 28	16.5 20.7 17.0	6 16 27
Tibbee: Tibbee, Miss.	23	5 17	6 18	23.4 24.0	6 17
Noxubee: Macon, Miss.	26	4 9 15	5 10 20	26.4 26.8 29.3	5 9 16
Black Warrior: Tuscaloosa Oliver Dam, Ala.	47	3 16	3 17	47.2 54.9	3 16
Warrior L&D, Ala.	30	4 16	8 22	33.3 37.3	6 19
Tombigbee: Amory, Miss.	20	3 14 26	6 20 26	21.0 29.0 20.6	3 17 26
Aberdeen, Miss.	34	17	21	41.7	18
Gainesville, Ala.	36	8 15	13 27	37.4 42.2	10 21
Demopolis L&D, Ala.	48	5	29	(52.5 (58.2	7,8 21,22
Jackson L&D, Ala.	43	5	1/	52.6	24
Chickasawhay: Enterprise, Miss.	20	5	6	20.7	5
Leaf: Beaumont, Miss.	20	17	20	21.0	18
Bogue Chitto: Franklinton, La.	11	3	5	12.6	3
Pearl: Edinburg, Miss.	20	5 15	13 23	23.6 25.1	7 18
Jackson, Miss.	18	3	1/	30.9	24
Monticello, Miss.	19	3 11	8 1/	21.25 24.45	4 18
Columbia, Miss.	17	16	27	19.4	20
Bogalusa, La.	15	3	1/	19.4	22
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Meramec: Pacific, Mo.	11	11	12	14.8	12
Valley Park, Mo.	16	12	12	17.0	12
Kaskaskia: Carlyle, Ill.	21	14	16	21.0	15
Big Muddy: Plumfield, Ill.	20	10	21	24.2	12
Murphysboro, Ill.	16	[illegible]	29	32.0	14
Ohio Basin					
Conewango Creek: Russell, Pa.	8	5	13	9.3	10
French Creek: Meadville, Pa.	57	5 10	7 11	60.4 57.6	6 11
Allegheny: Olean, N. Y.	10	(5 (10	[illegible] 12	14.0 10.9	6 11
Salamanca, N. Y.	10	5	7	11.9	6
Warren, Pa.	14	(5 (10	6 10	15.0 14.2	6 10
West Hickory, Pa.	14	5	6	14.2	6
Franklin, Pa.	17	(5 (10	7 11	18.1 18.9	6 10
Parker, Pa.	20	(5 (10	6 11	20.65 23.3	6 10
Lock 9, Rimerton, Pa.	21	9	11		
Lock 8, Mosgrove, Pa.	24	(5 (9	6 11		
Lock 7, Kittanning, Pa.	23	(5 (9	6 11	26.5 R 26.6	5 10
Lock 6, Clinton, Pa.	23	10	11	24.0	10
Lock 5, Freeport, Pa.	21	5	14	(24.6 (26.6	5 10
Lock 4, Natrona, Pa.	20	5 9	7 12	22.3 25.7	6 10
Lock 3, Acmetonia, Pa.	20	5 9	7 12	21.4 24.2	6 11

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin (Cont'd.)					
Cheat: Parsons, W. Va.	11	(5 (10	6 10	13.5 11.1	5 10
Monongahela: Lock 4, Charleroi, Pa.	24	5	6	24.6	5
Lock 2, Braddock, Pa.	26	(5 (10	6 11	27.3 27.3	6 11
McKeesport, Pa.	12	(5 (10	6 11	13.2 12.8	6 10
Muskingum: McConnelsville, Ohio	11	9	11	13.8	10
Hocking: Enterprise, Ohio	12	9	12	21.2	10
Athens, Ohio	17	9	13	24.2	11
Greenbrier: Alderson, W. Va.	14	5	6	15.6	6
Paint Creek: Bourneville, Ohio	10	(5 (9	6 13	14.15 20.5	5 10
Scioto: La Rue, Ohio	11	10	13	13.65	10
Prospect, Ohio	10	11	13	12.5	12
Circleville, Ohio	14	9	14	22.0	11
Chillicothe, Ohio	16	10	13	24.55	11
Piketon, Ohio	16	5 10	7 17	19.5 31.7	6 11
Ohio Brush Creek: West Union, Ohio	T 19	5 9	5 10	E 21.5 E 27.5	5 10
East Fork Little Miami: Perintown, Ohio	T 19	4 9	5 10	22.75 R 24.55	4 10
Little Miami: Kings Mills, Ohio	17	5 9	5 11	18.2 25.5	5 10
Milford, Ohio	T 12	4 9	5 11	13.7 20.2	4 10
South Fork Licking: Cynthiana, Ky.	20	5 9	6 11	22.6 22.3	5 10
Licking: Falmouth, Ky.	28	4 [illegible]	8 12	37.7 R 47.1	5 10
Whitewater: Brookville, Ind.	20	10	10	21.2	10
Great Miami: Miamitown, Ohio	T 16	9	12	24.8	10
Kentucky: Lock No. 7, Highbridge, Ky.	30	10	11	32.3	10
Lock No. 4, Frankfort, Ky.	31	9	12	39.6	11
Brashears Creek: Taylorsville, Ky.	20	4 9	6 11	32.0 R 34.2	5 10
Rolling Fork: Boston, Ky.	40	5	18	51.0	12
Salt: Shepherdsville, Ky.	32	(5 (9	6 17	33.4 41.5	6 11
Barren: Bowling Green, Ky.	28	10	11	29.7	11
Rough: Dundee, Ky.	25	(5 (9	7 12	26.9 28.8	6 10
Green: Munfordville, Ky.	28	6	14	42.9	11
Lock 6, Brownsville, Ky.	18	6	15		
Lock 4, Woodbury, Ky.	33	5	18	(39.5 (45.7	6 11
Lock 2, Calhoun, Ky.	23	7	1/		
Eel: Bowling Green, Ind.	17	10	11	18.4	11
Muscatatuck: Austin, Ind.	T 16	5	13	27.9	10
East Fork: Columbus, Ind.	10	10	13	12.0	17
Seymour, Ind.	14	10	15	18.7	10
Bedford, Ind	20	9	19	32.3	13
Williams, Ind.	10	10	19	19.8	13-14
Shoals, Ind.	25	11	19	31.1	15
White: Anderson, Ind.	10	10	12	12.2	10
Noblesville, Ind.	14	10	16	14.4	11
Ravenswood, Ind.	T 6	10	11	6.7	11
Centerton, Ind.	603	10	14	606.5	10
Spencer, Ind.	14	10	17	21.1	12
Elliston, Ind.	18	10	18	25.55	13

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin (Cont'd.)					
White (Cont'd.): Newberry, Ind.	18	13	16	# 19.9	15
Edwardsport, Ind.	15	10	20	# 22.1	15
Petersburg, Ind.	16	10	24	# 25.2	16-17
Hazleton, Ind.	16	10	26	27.1	17
Little Wabash: Carmi, Ill.	27	10	27		
Wabash: Bluffton, Ind.	10	12	12	11.0	12
Wabash, Ind.	12	12	16	16.4	15
Lafayette, Ind.	12	12 15	14 17	11.6 14.3	13 15
Covington, Ind.	16	17	18	16.65	17
Montezuma, Ind.	14	(13 (17	14 18	14.2 14.2	13-14 18
Terre Haute, Ind.	14	10	10	14.4	10
Mt. Carmel, Ill.	17	11	24	24.0	17
New Harmony, Ind.	15	12	25		
Harpeth: Kingston Springs, Tenn.	15	5	5	16.0	5
Little Pigeon: Sevierville, Tenn.	9	15	15	11.05	15
Chickamauga Creek: Chickamauga, Tenn.	10	2 14 25	5 18 28	(10.5 (11.1 17.3 14.5	3 5 16 27
Tennessee: Gilbertsville, Ky.	320	7	Apr. 1	335.65	17
Florence, Ala.	419	15	20	423.1	15
Whitesburg, Tenn.	560	15 25	20 30	567.0 563.4	16 27
Ohio: Pittsburgh, Pa.	25	(6 (10	7 12	27.7 31.6	6 11
Dashields Dam, Pa.	26	(6 (10	7 12	27.5 31.4	6 11
Montgomery Dam, Pa.	32	(6 (10	7 12	33.2 40.9	6 11
New Cumberland Lock & Dam, Pa.	36	(6 (10	7 12	37.2 45.7	6 11
Dam 10, Steubenville, Ohio	33	(6 (10	7 13	35.9 44.7	6 11
Dam 12, Wheeling W. Va.	36	(6 (10	7 13	37.2 47.0	7 11
Dam 13, McMechen, W. Va.	37	(6 (10	8 13	39.6 49.6	7 11
Dam 14, Clarington, Ohio	37	10	13	47.9	11
Dam 15, Duffy, Ohio	37	10	14	46.4	12
Dam 16, New Matamoras, Ohio	38	10	14	45.8	12
Dam 17, Reno, Ohio	34	10	14	43.1	12
Dam 18, Belpre, Ohio	36	10	15	45.6	12
Marietta, Ohio	35	10	15	45.0	12
Dam 19, Washington, W. Va.	40	10	15	48.1	12
Dam 20, Belleville, W. Va.	40	10	15	48.8	12
Dam 22, Ravenswood, W. Va.	44	10	15	50.8	12
Dam 23, Racine, Ohio	37	7	18	53.0	12
Gallipolis Dam, Hogsett, W. Va.	50	11	15	54.5	13
Greenup Dam, Lloyd, Ky.	54	10	18	62.3	12
Parkersburg, W. Va.	36	10	15	45.1	12
Huntington, W. Va.	50	10	17	54.8	13
Ashland, Ky.	52	9	18	59.7	13
Pomeroy, Ohio	46	10	16	51.3	13
Portsmouth, Ohio	50	9	19	60.8	12
Dam No. 32, Vanceburg, Ky.	53	9	18	61.9	12
Dam No. 33, Maysville, Ky.	50	9	20	62.6	13
Captain Anthony Meldahl Dam, Chilo, Ohio	51	9	19	63.2	13
Cincinnati, Ohio	52	9	20	66.2	11
Fernbank, Ohio	50	9	20	65.9	11
Warsaw-Markland Dam, Ky.	51	9	20	64.5	12
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin (Cont'd.)					
Ohio (Cont'd.): Madison, Ind.	46	9	21	60.5	12
Dam 41, Louisville, Ky. U.G.	28	7	22	46.2	12
Dam 41, Louisville, Ky. L.G.	55	8	22	73.3	12
Dam 43, Evans Landing, Ind.	57	9	23	76.0	13
Dam 44, Leavenworth, Ind.	53	6	23	73.6	13
Dam 45, Addison, Ky.	47	7	23	61.6	13
Tell City, Ind.	38	6	24	51.9	14
Dam 46, Owensboro, Ky.	41	8	24	49.5	15
Dam 47, Newburgh, Ind.	38	7	28	50.5	16
Evansville, Ind.	42	9	25	47.7	16
Dam 48, Cypress, Ind.	38	8	29	50.9	17
Mt. Vernon, Ind.	35	8	30	50.1	18
Dam 49, Uniontown, Ky.	37	8	31	53.0	20
Shawneetown, Ill.	33	8	1/	54.6	20
Dam 50, Fords Ferry, Ky.	34	8	1/		
Golconda, Ill.	40	10	31	52.4	20
Paducah, Ky.	39	10	Apr. 1	47.7	21
Dam 52, Brookport, Ill.	37	9	Apr. 2	49.3	18,24
Dam 53, Grand Chain, Ill.	42	10	Apr. 2	52.1	21
Cairo, Ill.	40	10	Apr. 8	48.2	22
White Basin					
Black: Poplar Bluff, Mo.	16	9	12	19.55	10
Black Rock, Ark.	14	8	29	(27.8 (24.6	10 15
Little Red: Judsonia, Ark.	30	5	10	32.8	10
White: Batesville, Ark.	23	9	11	29.0	9
Newport, Ark.	26	11	15	27.8	13
Augusta, Ark.	32	13	18	32.8	14
Georgetown, Ark.	21	14	26	23.1	17
Des Arc, Ark.	24	16	25	25.4	19
Clarendon, Ark.	26	15	1/	28.7	22
Arkansas Basin					
Petit Jean: Danville, Ark.	20	10	11	21.8	10
Red Basin					
Saline: Benton, Ark.	20	9	10	25.5	10
Ouachita: Arkadelphia, Ark.	17	9	12	23.2	10
Camden, Ark.	26	12	16	28.3	13
Sulphur: Hagansport, Tex.	38	9	11	43.5	9
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	9	29	25.0	17-18
St. Francis, Ark.	18	9	1/	22.0	14-16
Big Black: Bovina, Miss.	28	4	27	36.0	21
Pickens, Miss.	16			18.3	16
Mississippi: New Madrid, Mo.	34	15	Apr. 1	37.5	24
Caruthersville, Mo.	32	14	Apr. 2	35.9	25
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	3	10	15.3	4,5
Oakdale, La.	12	6	8	12.4	7
Kinder, La.	16	6	9	17.8	7
Old Town Bay, La.	4	8	10	4.3	8
Sabine: Deweyville, Texas	14	7	7	14.5	7

* Provisional
# Highest Stage Observed
1/ Continued at end of month
$\overline{G}$ Gage dismounted due to construction of bridge. Water level above stage gage.
R (Underscored) Highest Stage of Record
T Tentative
E Estimated

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	ALBANY, N. Y. 1005 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. 834 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	AMARILLO, TEXAS 888 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANCHORAGE, ALASKA 1006 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	* ANNETTE, ALASKA 1006 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	- 1.6	76	259	3.7	31	1,619	- .6	50	284	.4	31	1,095	.2	65	276	3.3	29	29	-10.7	72	352	4.7	31	37	1.4	85	134	3.3
1000	31	124			263	4.3	31	148					31	131					29	78			359	5.8	31	83			126	2.5
950	31	529	- 2.0	65	258	7.8	31	564					31	548					29	474	- 9.0	59	7	7.8	31	494	- 1.0	82	175	6.8
900	31	961	- 3.0	66	274	14.2	31	1,013					31	990					29	893	-10.4	60	20	6.0	31	925	- 3.7	85	198	9.3
850	31	1,413	- 4.2	60	282	19.6	31	1,471					31	1,450	3.5	48	269	10.9	29	1,331	-12.1	58	7	5.8	31	1,375	- 6.1	85	216	10.9
800	31	1,889	- 5.9	54	282	21.6	31	1,959	1.3	38	279	5.4	31	1,941	3.0	43	272	15.3	29	1,793	-14.3	57	338	4.3	31	1,848	- 8.5	85	234	11.1
750	31	2,392	- 7.3	51	278	24.7	31	2,475	- 1.9	41	282	10.1	31	2,458	.2	36	273	19.2	29	2,278	-16.9	58	334	3.7	31	2,345	-11.3	78	246	13.0
700	31	2,930	- 9.3	50	275	29.7	31	3,021	- 5.7	45	279	15.3	31	3,010	- 3.4	35	270	21.2	29	2,796	-19.6	53	307	6.8	31	2,873	-14.3	69	250	16.1
650	31	3,495	-12.4	49	274	33.4	31	3,592	- 9.4	44	270	20.[illegible]	31	3,588	- 6.8	35	263	25.3	29	3,342	-22.6	51	288	8.7	31	3,429	-17.3	70	263	19.0
600	31	4,108	-15.9	51	273	36.1	31	4,213	-13.2	41	269	25.8	31	4,213	-10.7	32	261	26.4	29	3,929	-25.4	48	282	12.8	31	4,028	-20.8	65	267	22.3
550	31	4,755	-19.9	49	274	40.6	31	4,867	-17.4	36	271	30.3	31	4,871	-15.5		260	30.9	29	4,553	-29.0	44	277	16.9	31	4,666	-24.6	59	276	25.3
500	31	5,460	-24.5	44	277	45.6	31	5,579	-22.2		270	33.0	31	5,588	-20.9		258	35.0	29	5,233	-33.0	42	269	20.6	31	5,355	-29.2	54	272	29.5
450	31	6,216	-29.5	42	275	48.2	31	6,339	-27.7		276	32.8	31	6,349	-26.5		262	37.7	29	5,962	-37.8		268	25.6	31	6,097	-34.4	54	274	35.0
400	31	7,052	-35.1		272	54.0	31	7,184	-33.7		275	38.1	31	7,197	-32.7		259	43.1	29	6,772	-42.6		271	29.5	31	6,916	-39.8	53	275	38.9
350	31	7,971	-41.3		271	59.6	30	8,108	-40.5		278	33.4	31	8,125	-39.4		258	47.2	29	7,664	-46.9		271	33.0	31	7,816	-45.8		283	43.5
300	31	9,003	-47.3		271	67.0	30	9,142	-47.7		275	38.5	31	9,164	-46.6		259	53.4	29	8,680	-49.0		269	36.9	31	8,832	-50.2		281	44.1
250	31	10,195	-52.1		272	75.6	30	10,325	-54.5		275	41.0	31	10,355	-53.1		258	56.3	29	9,876	-48.8		272	33.6	30	10,014	-52.4		287	48.6
200	31	11,632	-53.8		277	66.8	30	11,748	-55.4		269	48.4	31	11,780	-55.7		257	60.8	29	11,350	-46.1		268	30.7	29	11,451	-50.9		293	39.2
175	31	12,492	-52.4		276	67.4	30	12,601	-54.6		266	48.8	31	12,633	-54.8		257	59.1	29	12,238	-46.0		269	30.5	29	12,323	-49.6		292	33.0
150	31	13,490	-52.1		274	53.6	30	13,585	-55.6		268	46.6	31	13,617	-56.1		255	58.1	29	13,264	-45.8		266	28.4	29	13,334	-49.2		296	30.5
125	31	14,667	-53.4		272	47.0	29	14,739	-58.4		266	44.7	31	14,773	-57.8		256	55.0	29	14,477	-46.3		270	26.6	29	14,528	-49.9		297	24.5
100	31	16,101	-54.0		276	40.0	29	16,135	-59.9		265	37.9	31	16,176	-59.7		262	46.2	29	15,958	-46.4		269	21.8	29	15,988	-49.8		307	17.9
80	31	17,529	-55.3		277	28.2	29	17,529	-59.7		263	25.8	30	17,566	-60.3				29	17,442	-46.0		267	16.5	28	17,448	-49.4		314	15.7
70	31	18,380	-55.1		272	25.3	29	18,366	-59.6		259	18.8	30	18,399	-59.5				29	18,331	-46.5		266	15.2	28	18,325	-49.3		324	11.8
60	31	19,367	-54.7		264	16.3	29	19,329	-59.4		267	12.6	30	19,361	-59.3				29	19,352	-46.2		270	13.2	27	19,327	-49.5		327	9.7
50	31	20,534	-54.3		284	4.7	29	20,472	-59.0		278	6.2	30	20,506	-58.8				29	20,565	-46.0		267	7.6	27	20,522	-48.9		2	8.2
40	31	21,967	-53.3		52	5.2	29	21,877	-57.4		43	4.3	30	21,912	-57.0				29	22,050	-45.4		276	4.7	27	21,989	-48.5		15	9.3
30	30	23,820	-52.4		49	7.4	27	23,705	-55.7		83	9.9	30	23,741	-55.2				28	23,974	-44.3		290	2.3	24	23,873	-47.6		54	8.9
25	27	24,997	-51.1		60	10.5	27	24,868	-54.8		79	13.4	28	24,908	-54.2				28	25,197	-43.6		44	3.1	24	25,079	-47.1		73	11.1
20	24	26,454	-49.7		69	20.8	25	26,302	-52.9		85	12.6	28	26,344	-52.4				25	26,709	-42.3		72	8.0	24	26,559	-46.3		70	14.2
15	14	28,342	-47.7				21	28,165	-50.6		78	17.5	22	28,209	-49.5				20	28,681	-40.9		63	6.6	24	28,473	-45.5		81	18.8
10							10	30,787	-47.1				10	30,882	-44.4				6	31,453	-40.9				22	31,176	-43.9		81	25.3
7							5	33,197	-43.3																18	33,620	-41.2		80	31.5
5																									14	35,963	-38.2		80	39.8

Standard pressure surface (mb.)	ATHENS, GA. 989 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	* BARROW, ALASKA 1022 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA 1021 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BETHEL, ALASKA 1007 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. 954 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	6.4	80	305	1.7	31	8	-31.7	69	123	.6	31	15	-31.6	72	266	6.2	30	39	-16.9	77	355	4.9	31	505	- 9.9	70	18	2.3
1000	31	154					31	163	-27.4	70	92	1.9	31	163	-27.7	55	278	5.1	30	93			11	7.4	31	140				
950	31	577	7.8	63	252	6.0	31	541	-23.0	73	85	2.9	31	538	-23.4	50	287	5.1	30	484	-10.5	66	46	4.5	31	539			24	3.3
900	31	1,024	6.9	56	257	13.8	31	933	-21.6	66	51	2.3	31	933	-21.6	48	278	5.8	30	901	-11.8	61	154	.4	31	957	- 8.0	58	299	7.4
850	31	1,492	5.5	54	265	18.8	31	1,354	-21.7	62	44	2.1	31	1,354	-21.7	46	281	5.2	30	1,338	-12.7	57	268	1.9	31	1,402	- 7.7	59	306	11.7
800	31	1,987	3.9	47	261	25.3	31	1,800	-22.7	60	341	2.7	31	1,800	-22.6	45	294	7.2	30	1,799	-14.5	58	258	2.5	31	1,873	- 9.3	58	307	14.6
750	31	2,508	2.4	38	257	31.9	31	2,272	-24.4	56	322	3.7	31	2,269	-24.0	41	302	7.4	30	2,284	-16.7	55	257	3.9	31	2,370	-11.4	56	297	18.3
700	31	3,066	.3		259	36.1	31	2,772	-26.4	51	298	5.8	31	2,774	-26.0	41	301	8.0	30	2,802	-19.3	51	247	6.4	31	2,897	-13.9	53	292	21.2
650	31	3,653	- 3.0	35	262	40.0	31	3,307	-29.1	50	297	7.4	31	3,304	-28.9	37	301	7.2	30	3,347	-21.9	46	249	10.5	31	3,455	-16.8	54	289	24.5
600	31	4,285	- 7.4		262	45.8	31	3,873	-32.5	47	294	8.2	31	3,877	-31.8		288	7.6	30	3,936	-25.2	44	256	13.6	31	4,054	-20.1	48	289	27.2
550	31	4,953	-11.7		259	50.3	31	4,480	-36.2	48	280	9.5	31	4,482	-35.3		292	9.7	30	4,557	-29.2	45	252	15.9	31	4,688	-24.2	47	290	31.9
500	31	5,682	-15.9		261	57.3	31	5,138	-40.2		279	11.5	31	5,147	-39.1		284	12.4	30	5,238	-33.6		254	20.0	31	5,381	-29.0	43	287	32.8
450	31	6,461	-21.2		258	64.1	31	5,853	-44.5		275	14.2	31	5,859	-43.5		287	13.8	30	5,966	-37.9		258	26.0	31	6,118	-34.6	43	279	33.6
400	31	7,326	-27.4		259	70.5	31	6,632	-49.1		272	14.6	31	6,647	-48.2		283	16.1	30	6,776	-42.6		262	34.0	31	6,938	-40.8		280	38.5
350	31	8,273	-34.7		260	78.1	31	7,500	-53.0		268	16.1	31	7,519	-52.1		281	19.0	30	7,667	-47.5		257	40.8	31	7,835	-46.6		277	41.4
300	31	9,330	-42.6		262	83.7	31	8,489	-54.5		269	17.3	30	8,518	-53.6		284	19.8	30	8,678	-50.5		255	43.5	31	8,845	-51.8		273	46.0
250	31	10,540	-50.3		264	100.6	31	9,660	-52.8		266	20.4	30	9,696	-51.1		282	22.9	30	9,866	-49.9		253	41.6	31	10,017	-54.6		275	44.7
200	31	11,975	-55.8		265	104.5	31	11,112	-49.1		261	23.5	28	11,169	-47.5		282	26.2	30	11,335	-46.9		249	35.4	31	11,452	-51.6		272	38.1
175	31	12,823	-56.8		266	100.6	31	11,991	-47.9		262	26.4	28	12,053	-46.4		281	27.0	30	12,220	-46.6		248	33.4	31	12,322	-50.0		271	34.8
150	30	13,795	-58.6		266	93.6	31	13,010	-46.8		260	27.8	28	13,079	-45.7		279	27.8	30	13,243	-46.2		246	31.9	30	13,332	-50.3		272	31.7
125	30	14,932	-61.7		263	76.3	31	14,221	-45.7		257	29.3	28	14,282	-44.6		278	29.3	30	14,454	-46.3		244	28.2	30	14,521	-50.6		279	29.5
100	30	16,303	-64.3		264	58.9	31	15,713	-43.8		255	31.9	28	15,780	-43.0		275	29.7	30	15,936	-46.3		244	23.3	30	15,973	-51.2		276	24.7
80	30	17,665	-64.3		263	40.6	31	17,213	-43.2		254	31.1	27	17,283	-43.0		276	27.8	30	17,419	-46.2		236	18.5	30	17,424	-51.2		279	18.3
70	30	18,489	-63.8		262	27.6	31	18,119	-43.0		254	31.7	26	18,195	-42.8		276	26.6	30	18,316	-46.2		236	15.9	30	18,293	-51.5		282	12.2
60	30	19,430	-62.7		267	13.6	30	19,145	-42.9		256	29.9	24	19,231	-43.0		276	25.6	30	19,332	-46.1		231	13.0	30	19,292	-51.1		285	8.2
50	30	20,556	-61.5		277	5.[illegible]	30	20,375	-42.6		254	27.2	23	20,462	-43.0		275	22.5	29	20,542	-46.0		225	10.1	30	20,479	-50.6		337	4.5
40	30	21,949	-58.5		354	1.6	30	21,881	-42.7		254	25.1	23	21,966	-43.0		278	20.2	29	22,027	-45.6		216	8.4	30	21,933	-50.5		58	6.6
30	30	23,767	-55.9		74	12.2	30	23,821	-42.5		255	22.3	23	23,905	-42.8		283	15.9	29	23,948	-44.8		174	7.0	29	23,809	-49.7		69	13.2
25	28	24,934	-54.6		77	17.3	29	25,049	-42.0		253	20.2	22	25,134	-42.2		287	13.2	27	25,163	-44.2		149	7.4	29	25,004	-49.1		73	18.6
20	26	26,367	-52.3		82	19.6	29	26,561	-41.2		253	23.3	18	26,664	-41.9		300	10.1	24	26,673	-42.8		128	10.1	26	26,470	-48.4		73	22.5
15	16	28,247	-48.7		78	16.5	29	28,521	-39.7		250	16.1	9	28,650	-41.5				18	28,623	-41.5		135	10.3	25	28,371	-46.1		67	26.6
10							27	31,305	-37.2		249	11.5							5	31,551	-41.5				18	31,107	-42.1		80	36.1
7							24	33,805	-34.6		245	10.3													6	33,574	-39.9			
5							15	36,159	-33.1		159	3.7																		

Standard pressure surface (mb.)	BOISE, IDAHO 916 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	* BROWNSVILLE, TEXAS 1013 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BUFFALO, N. Y. 988 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	* BURRWOOD, LA. 1017 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	*CANTON IS., PACIFIC AREA 1009 MB: Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	- .4	85	149	2.3	29	7	16.5	85	117	3.3	31	218	- .5	77	235	4.1	31	3	15.5	86	105	3.1	31	4	27.0	80	75	9.3
1000	31	155					29	121	17.6	80	122	6.6	31	117					31	142	16.2	74	114	3.7	31	87	26.3	80	77	11.5
950	31	572					29	558	15.6	72	145	11.8	31	529	- 1.2	70	239	10.5	31	577	14.3	66	151	8.9	31	538	22.8	84	84	17.5
900	31	1,005	.6	70	167	1.4	29	1,016	14.7	53	172	10.5	31	959	- 2.9	70	250	18.1	31	1,034	13.7	48	195	10.5	31	1,009	19.7	78	88	19.8
850	31	1,464	- 1.1	62	287	5.2	29	1,500	13.3	48	199	10.9	31	1,412	- 4.4	64	260	21.0	31	1,515	12.5	44	223	15.0	31	1,502	17.5	59	87	20.6
800	31	1,945	- 4.1	63	291	9.7	29	2,010	12.7	37	205	13.4	31	1,888	- 6.2	58	266	21.6	31	2,021	10.4	42	240	19.4	31	2,019	15.9	40	86	17.9
750	31	2,449	- 7.5	64	292	12.0	29	2,548	10.3	37	221	15.5	31	2,393	- 7.8	53	265	26.4	31	2,555	7.[illegible]	33	245	25.1	31	2,563	13.4	32	81	16.1
700	31	2,986	-11.0	65	293	15.2	29	3,120	6.8	36	231	19.8	31	2,924	-10.1	49	262	30.9	31	3,122	4.3	31	251	28.7	31	3,142	10.2	30	76	12.6
650	31	3,552	-14.6	60	291	18.5	29	3,720	2.6	37	242	24.5	31	3,494	-12.5	46	262	34.4	31	3,718	.6	29	254	32.1	31	3,751	6.9	28	86	10.3
600	31	4,154	-18.4	49	292	20.8	29	4,366	- 2.3	43	247	30.5	31	4,103	-16.3	46	262	38.5	31	4,359	- 3.6	30	256	37.5	31	4,408	3.0	29	86	8.7
550	31	4,799	-22.7	41	294	23.1	29	5,046	- 7.4	45	251	36.5	31	4,748	-20.5	44	262	41.2	31	5,035	- 8.0	31	255	42.0	31	5,106	- .8	31	93	7.6
500	31	5,493	-27.6	39	292	22.7	29	5,787	-12.5	43	252	41.4	31	5,451	-25.2	44	263	46.6	31	5,776	-12.6	33	253	44.7	31	5,864	- 4.6	28	117	4.1
450	31	6,242	-32.9		294	24.5	29	6,578	-17.5	46	251	51.9	31	6,206	-30.6	42	267	47.4	31	6,569	-17.9	36	255	53.2	31	6,684	- 9.3	23	180	1.9
400	31	7,064	-38.6		286	26.2	29	7,459	-23.2	43	249	60.6	31	7,035	-36.4		266	54.4	31	7,444	-23.8	37	254	61.0	31	7,588	-15.1	20	248	2.7
350	31	7,969	-44.8		290	27.2	29	8,422	-30.4	41	250	70.3	31	7,950	-42.3		263	61.4	31	[illegible],405	-30.9	38	253	69.9	31	8,584	-22.3	22	216	4.1
300	31	8,987	-50.3		297	28.4	28	9,502	-38.4	41	250	88.0	31	8,978	-48.1		264	64.9	31	9,480	-39.2	38	254	80.4	31	9,698	-30.7	25	224	7.4
250	31	10,165	-54.7		285	28.6	28	10,730	-47.8		251	97.7	31	10,168	-52.3		264	74.0	31	10,704	-48.2		258	92.1	31	10,967	-40.8		217	10.7
200	31	11,588	-55.5		284	30.5	28	12,170	-57.2		252	99.3	31	11,602	-53.8		267	70.3	31	12,145	-56.3		260	97.5	31	12,446	-52.8		218	14.2
175	31	12,443	-53.5		285	28.4	28	13,009	-59.8		248	99.8	31	12,462	-52.7		266	65.5	31	12,989	-58.5		261	96.5	31	13,295	-59.5		224	14.6
150	31	13,436	-53.2		284	24.1	28	13,965	-63.5		248	87.8	31	13,458	-52.3		266	55.4	31	13,951	-61.7		259	84.1	31	14,242	-66.9		253	17.9
125	31	14,609	-53.8		282	23.3	28	15,074	-67.1		247	72.5	31	14,636	-52.8		268	45.3	31	15,067	-65.8		258	72.8	30	15,322	-74.8		270	19.8
100	31	16,042	-54.0		285	16.9	28	16,406	-71.1		247	58.1	31	16,074	-53.6		261	36.9	31	16,409	-69.1		257	59.4	30	16,592	-82.5		268	14.8
80	31	17,474	-53.9		288	10.1	28	17,724	-71.6		248	32.8	31	17,506	-54.6		265	28.9	31	17,741	-69.6		257	40.4	26	17,842	-77.9		244	7.8
70	31	18,334	-53.7		314	6.6	28	18,518	-70.6		245	22.0	31	18,370	-54.5		269	22.1	31	18,546	-68.7		259	28.6	26	18,620	-70.7		263	6.8
60	30	19,315	-53.8		335	4.9	27	19,429	-69.5		244	13.6	30	19,354	-54.3		273	10.5	31	19,465	-67.1		260	16.5	26	19,545	-65.5		273	10.3
50	29	20,488	-53.0		37	5.2	26	20,525	-65.9		244	4.5	30	20,524	-53.9		293	4.9	31	20,575	-63.9		239	7.8	26	20,662	-62.8		277	15.5
40	29	21,929	-52.3		66	11.7	26	21,896	-61.0		214	3.1	30	21,959	-53.2		349	1.6	31	21,957	-59.5		349	2.7	26	22,049	-59.4		269	12.6
30	28	23,792	-51.3		79	17.9	25	23,706	-56.6		62	2.9	29	23,818	-51.9		71	11.1	31	23,772	-56.9		66	3.9	25	23,865	-56.3		269	10.1
25	23	24,974	-50.9		80	22.9	25	24,867	-55.4		31	2.3	28	25,001	-50.9		74	14.8	31	24,932	-55.1		57	4.9	25	25,027	-55.0		262	8.2
20	16	26,435	-49.6				25	26,296	-53.1		333	2.9	27	26,460	-49.7		81	23.7	30	26,366	-52.8		33	3.3	25	26,459	-52.7		220	3.7
15							24	28,170	-49.4		275	7.8	16	28,329	-48.1		79	22.5	30	28,241	-48.7		23	3.3	24	28,319	-50.8		90	22.5
10							18	30,855	-43.5		266	13.6	5	31,025	-45.0				11	30,941	-44.4				20	30,995	-43.9		94	40.2
7							5	33,278	-38.6																17	33,417	-40.8		91	37.1
5																									12	35,710	-37.6		91	48.0

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MARCH 1964

CAPE HATTERAS, N. C.
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	9.9	79	318	1.6
1000	31	141	10.9	71	277	3.1
950	31	565	9.1	68	248	11.5
900	31	1,015	6.7	65	260	16.5
850	31	1,483	5.1	52	265	22.7
800	31	1,978	4.5	40	264	28.0
750	31	2,498	2.3		265	31.5
700	31	3,056	- .6		266	36.7
650	31	3,640	- 3.8		269	41.4
600	31	4,273	- 7.5		270	46.0
550	31	4,937	-11.8		269	51.5
500	31	5,669	-16.3		272	54.6
450	31	6,449	-21.9		273	63.5
400	31	7,311	-27.7		272	73.8
350	31	8,258	-34.2		269	84.5
300	31	9,318	-42.3		270	93.2
250	31	10,529	-50.2		272	99.8
200	31	11,965	-55.0		276	98.1
175	31	12,817	-55.4		275	92.7
150	31	13,796	-57.3		274	82.0
125	31	14,940	-60.2		275	73.4
100	31	16,321	-62.7		273	59.8
80	30	17,697	-62.4		281	36.7
70	30	18,522	-62.1		279	26.8
60	29	19,476	-61.2		280	14.8
50	28	20,610	-59.2		327	6.8
40	28	22,018	-56.8		80	13.2
30	27	23,849	-54.7		80	20.4
25	27	25,021	-53.2		81	25.3
20	26	26,465	-50.4		86	27.2
15	23	28,367	-45.6		88	31.5
10	19	31,095	-40.4		87	23.3
7	13	33,540	-34.9		75	3.9
5	10	35,912	-28.2			
4						

CARIBOU, ME.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	191	- 7.7	79	291	4.5
1000	31	105				
950	31	504	- 7.5	70	298	6.4
900	31	925	- 8.6	66	295	11.1
850	31	1,367	- 9.8	61	293	14.2
800	31	1,834	-11.0	60	286	18.5
750	31	2,330	-12.7	56	282	21.8
700	31	2,855	-14.1	48	278	26.4
650	31	3,412	-16.2	43	278	31.1
600	31	4,015	-19.5	40	277	33.8
550	31	4,652	-22.9		279	35.7
500	31	5,350	-27.6	39	274	40.4
450	31	6,094	-32.4	40	274	45.8
400	31	6,922	-38.0		271	50.3
350	31	7,830	-44.0		271	52.3
300	31	8,854	-48.5		271	61.6
250	31	10,045	-51.3		274	59.1
200	31	11,497	-50.3		271	50.1
175	31	12,369	-49.6		270	50.3
150	31	13,379	-49.4		263	39.8
125	31	14,572	-49.8		264	33.0
100	31	16,026	-51.2		267	27.4
80	31	17,477	-51.4		271	21.6
70	31	18,350	-51.5		271	18.1
60	30	19,346	-51.2		278	14.2
50	29	20,531	-51.4		323	5.1
40	29	21,982	-51.1		45	4.5
30	28	23,853	-50.2		73	12.8
25	27	25,046	-48.7		70	15.5
20	26	26,517	-47.9		71	23.9
15	26	28,427	-45.4		72	30.7
10	25	31,163	-40.4		72	35.0
7	16	33,603	-36.8		78	30.5
5	6	35,931	-31.8			
4						

CHARLESTON, S. C.
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	13	10.3	85	233	2.3
1000	31	153	11.8	75	225	3.1
950	31	584	11.2	62	225	10.3
900	31	1,033	9.9	54	237	15.9
850	31	1,507	8.0	48	250	19.4
800	31	2,006	6.6	38	255	23.3
750	31	2,532	4.7		259	28.0
700	31	3,094	1.3	37	262	31.5
650	31	3,680	- 2.2	32	263	35.4
600	31	4,319	- 6.2		264	41.8
550	31	4,988	-10.3		264	47.6
500	31	5,723	-15.1		268	52.8
450	31	6,505	-20.2		269	59.4
400	31	7,377	-26.2		268	67.0
350	31	8,329	-33.2		265	76.5
300	31	9,395	-41.2		265	84.9
250	31	10,610	-49.8		265	89.4
200	31	12,047	-56.1		274	96.5
175	31	12,892	-57.9		268	91.3
150	31	13,861	-59.1		269	86.1
125	31	14,995	-62.5		267	78.3
100	31	16,359	-66.4		268	59.1
80	31	17,710	-66.1		272	44.1
70	31	18,526	-65.9		265	26.8
60	31	19,459	-64.7		270	18.6
50	31	20,580	-62.0		292	8.5
40	31	21,970	-59.1		32	5.1
30	31	23,786	-56.5		77	12.8
25	31	24,948	-54.8		80	17.1
20	28	26,385	-52.0		74	17.3
15	17	28,266	-47.8		81	8.2
10						
7						
5						
4						

* COLD BAY, ALASKA
1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	- 2.1	80	289	1.4
1000	31	79			317	3.9
950	31	486	- 4.2	73	215	3.1
900	31	910	- 6.4	72	235	5.8
850	31	1,355	- 7.9	67	244	8.9
800	31	1,825	-10.0	66	248	12.4
750	31	2,324	-12.4	64	250	15.7
700	31	2,846	-14.2	64	247	20.8
650	31	3,408	-16.7	65	246	24.9
600	31	4,003	-20.1	61	249	28.6
550	31	4,638	-24.4	60	248	28.7
500	31	5,331	-28.8	57	248	33.6
450	31	6,070	-33.5	52	248	35.2
400	31	6,895	-39.2	51	250	40.2
350	31	7,798	-44.8		248	44.5
300	31	8,817	-49.7		248	48.4
250	31	10,000	-52.2		245	47.8
200	31	11,450	-49.8		245	34.2
175	31	12,324	-49.3		244	35.7
150	31	13,336	-48.8		246	29.9
125	30	14,530	-49.0		246	24.9
100	30	15,995	-48.9		240	21.6
80	30	17,458	-49.2		238	14.2
70	30	18,343	-49.1		233	13.2
60	30	19,346	-49.1		215	7.6
50	30	20,543	-48.8		193	4.3
40	30	22,011	-48.2		170	5.2
30	30	23,910	-47.5		126	8.2
25	30	25,116	-46.9		110	9.9
20	30	26,599	-45.8		103	13.2
15	29	28,524	-44.4		99	18.3
10	29	31,252	-42.3		97	24.7
7	27	33,690	-39.8		96	28.4
5	24	36,015	-38.1		97	32.8
4	13	37,549	-38.8		116	39.2

COLUMBIA, MO.
986 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	238	1.5	74	169	1.4
1000	31	122				
950	31	535	1.5	67	234	6.6
900	31	973	1.8	60	256	10.9
850	31	1,434	.8	56	262	16.3
800	31	1,920	- 1.1	50	270	19.8
750	31	2,428	- 3.7	47	274	24.7
700	31	2,975	- 6.8	48	273	28.9
650	31	3,543	- 9.8	42	273	32.4
600	31	4,164	-13.4	41	269	35.4
550	31	4,813	-18.1	41	266	38.1
500	31	5,526	-22.7	38	263	43.7
450	31	6,282	-28.1		263	47.8
400	31	7,126	-34.1		262	54.8
350	31	8,047	-41.0		261	63.1
300	31	9,079	-47.7		256	70.3
250	31	10,266	-53.4		256	73.0
200	31	11,695	-54.6		255	74.4
175	30	12,555	-52.9		255	75.4
150	30	13,547	-54.0		258	72.8
125	30	14,713	-55.7		258	59.1
100	30	16,129	-56.9		260	43.7
80	30	17,543	-57.3		262	29.9
70	30	18,389	-57.5		258	22.1
60	30	19,361	-57.0		261	13.0
50	30	20,516	-56.5		282	4.5
40	30	21,936	-55.2		67	5.8
30	30	23,780	-53.2		81	13.8
25	29	24,956	-52.1		79	18.8
20	26	26,410	-50.2		80	22.1
15	19	28,301	-47.9		76	20.2
10	10	30,997	-44.0			
7						
5						
4						

CORPUS CHRISTI, TEXAS
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	6	16.3	81	130	1.7
1000	29	108	16.4	77	117	3.7
950	29	541	15.1	66	159	9.1
900	29	1,003	14.7	49	196	8.9
850	29	1,486	13.3	47	218	12.0
800	29	1,995	11.8	41	230	14.2
750	29	2,530	9.1	40	240	19.4
700	29	3,102	5.8	38	240	22.1
650	29	3,697	1.7	41	244	27.2
600	29	4,344	- 2.9	46	243	30.7
550	29	5,018	- 7.9	50	249	38.3
500	29	5,761	-12.8	42	246	44.3
450	29	6,547	-18.1	41	250	50.7
400	29	7,428	-24.1	42	251	57.5
350	29	8,388	-31.4	47	248	66.2
300	29	9,461	-39.4	52	248	79.3
250	29	10,685	-48.0		246	86.8
200	29	12,127	-56.3		252	91.7
175	29	12,970	-58.5		251	85.1
150	29	13,933	-61.6		249	78.9
125	28	15,050	-65.2		252	70.3
100	27	16,396	-68.0		251	53.4
80	25	17,733	-68.9		256	45.5
70	23	18,524	-68.7		253	33.2
60	22	19,448	-67.3		249	27.0
50	17	20,543	-64.6		244	16.3
40	16	21,923	-60.8		237	9.1
30	16	23,729	-58.1		200	3.9
25	15	24,881	-56.7		268	5.4
20	14	26,305	-54.4		273	10.9
15	13	28,166	-50.6		271	12.4
10	12	30,846	-44.2			
7	7	33,295	-40.3			

DAYTON, OHIO
979 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	297	1.7	76	227	3.1
1000	31	122				
950	31	543	1.5	69	231	9.7
900	31	972	- .3	65	250	16.1
850	31	1,428	- 1.9	63	251	21.2
800	31	1,910	- 3.6	61	257	24.5
750	31	2,418	- 5.6	57	261	27.4
700	31	2,957	- 8.3	52	261	30.3
650	31	3,528	-11.2	50	264	34.2
600	31	4,141	-14.9	48	264	40.0
550	31	4,791	-19.0	43	265	44.7
500	31	5,499	-23.4	41	264	51.7
450	31	6,257	-28.3		262	56.7
400	31	7,099	-33.9		267	61.4
350	31	8,023	-39.9		267	64.7
300	31	9,062	-46.1		265	70.5
250	31	10,258	-51.8		263	75.8
200	31	11,695	-54.3		265	73.6
175	31	12,552	-53.5		266	72.5
150	31	13,542	-54.1		268	68.2
125	31	14,708	-55.4		265	61.6
100	31	16,125	-57.2		265	53.0
80	31	17,537	-57.0		268	41.2
70	31	18,386	-57.0		267	28.9
60	30	19,357	-57.1		267	19.8
50	30	20,512	-56.6		255	9.3
40	30	21,934	-54.9		83	5.1
30	30	23,779	-53.5		76	12.4
25	28	24,947	-52.4		77	17.7
20	27	26,400	-51.1		80	22.5
15	25	28,276	-48.8		76	25.6
10	6	30,938	-45.7			
7						

DEL RIO, TEXAS
977 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	314	12.7	64	106	5.2
1000	31	116				
950	31	548	13.0	61	142	9.7
900	31	1,004	12.0	54	188	12.0
850	31	1,482	11.1	39	223	14.0
800	31	1,985	9.0	32	248	16.3
750	31	2,513	5.7		257	19.0
700	31	3,077	2.4		258	22.0
650	31	3,667	- 1.7		255	24.9
600	31	4,303	- 6.2		251	32.1
550	31	4,972	-11.1		247	37.3
500	31	5,702	-16.4		248	44.1
450	31	6,482	-21.8		248	52.3
400	31	7,343	-27.7		251	60.8
350	31	8,291	-34.2		251	70.1
300	31	9,354	-41.7		251	78.7
250	31	10,568	-49.9		250	87.6
200	30	12,006	-55.8		253	91.5
175	30	12,854	-57.6		254	86.6
150	30	13,821	-60.8		252	77.5
125	30	14,945	-64.6		253	63.9
100	30	16,302	-66.6		258	55.8
80	30	17,647	-67.4		254	39.6
70	30	18,461	-66.4		256	29.3
60	30	19,388	-66.1		259	16.5
50	30	20,500	-63.4		246	8.2
40	29	21,884	-59.6		109	1.2
30	29	23,693	-57.4		70	3.7
25	29	24,849	-56.0		87	5.2
20	28	26,276	-54.1		71	6.4
15	23	28,139	-50.7		74	6.8
10	17	30,823	-44.7			
7	5	33,207	-42.0			

DENVER, COLO.
833 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,611	- 4.2	69	179	3.1
1000	31	144				
950	31	559				
900	31	993				
850	31	1,448				
800	31	1,929	- 2.2	46	267	3.5
750	31	2,439	- 4.3	41	296	9.5
700	31	2,979	- 8.0	43	296	14.0
650	31	3,550	-11.9	46	294	17.7
600	31	4,159	-15.6	45	293	21.0
550	31	4,809	-19.8	41	285	22.1
500	31	5,511	-25.0	39	281	25.6
450	31	6,261	-30.7	38	276	26.0
400	31	7,093	-37.1		275	30.3
350	31	8,003	-43.7		269	33.8
300	31	9,024	-50.0		267	38.1
250	31	10,202	-54.5		269	41.6
200	31	11,625	-55.4		264	43.1
175	31	12,481	-53.5		262	42.5
150	31	13,474	-53.3		265	37.3
125	31	14,646	-53.7		262	33.2
100	31	16,071	-55.7		260	25.4
80	31	17,495	-55.6		259	18.5
70	31	18,347	-55.9		259	15.2
60	31	19,326	-56.2		268	7.8
50	31	20,484	-56.0		332	.8
40	31	21,908	-54.8		70	6.6
30	30	23,755	-53.2		73	16.1
25	30	24,932	-52.1		75	19.4
20	27	26,383	-50.9		78	24.9
15	20	28,267	-49.1		84	27.6
10	13	30,972	-44.8			
7						

DODGE CITY, KANS.
922 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	792	- 1.0	67	297	2.9
1000	30	134				
950	30	548				
900	30	982	1.7	50	274	4.5
850	30	1,444	2.2	43	284	8.4
800	30	1,933	.7	39	279	11.1
750	30	2,449	- 1.9	38	267	15.3
700	30	2,994	- 5.2	40	261	18.8
650	30	3,570	- 8.4	37	255	23.9
600	30	4,190	-12.8	39	256	27.4
550	30	4,843	-17.2	38	254	32.6
500	30	5,557	-22.0		256	39.2
450	30	6,317	-27.7		255	46.6
400	30	7,163	-34.0		253	52.6
350	30	8,084	-41.2		252	55.0
300	30	9,115	-48.4		253	60.2
250	30	10,297	-54.7		257	64.9
200	29	11,716	-55.2		258	67.6
175	29	12,571	-53.9		257	66.6
150	29	13,560	-54.5		255	60.4
125	28	14,723	-56.0		258	52.1
100	28	16,139	-56.5		262	39.2
80	28	17,550	-57.5		255	24.1
70	28	18,399	-57.5		252	19.6
60	28	19,368	-57.6		255	10.9
50	28	20,520	-57.3		272	5.4
40	28	21,935	-55.8		57	6.8
30	27	23,775	-54.4		82	14.0
25	25	24,951	-52.6		80	20.6
20	24	26,396	-51.1		85	23.9
15	21	28,264	-49.2		83	25.4
10	9	30,944	-45.8			
7						

EL PASO, TEXAS
880 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,193	6.2	40	286	4.3
1000	31	126				
950	31	551				
900	31	1,011				
850	31	1,478	8.2	32	272	6.0
800	31	1,977	5.3	32	261	10.3
750	31	2,502	1.8	33	257	16.1
700	31	3,054	- 1.8	35	253	22.5
650	31	3,633	- 5.8	33	255	28.2
600	31	4,263	- 9.8	32	253	31.3
550	31	4,922	-14.2		257	34.8
500	31	5,646	-19.1		257	37.9
450	31	6,415	-24.9		258	41.8
400	31	7,271	-31.3		261	46.0
350	31	8,203	-38.0		260	52.3
300	31	9,249	-45.4		259	60.8
250	31	10,445	-52.6		257	65.9
200	31	11,875	-55.8		256	75.2
175	31	12,723	-56.2		256	77.9
150	31	13,700	-57.5		256	73.6
125	31	14,843	-60.7		259	59.4
100	31	16,223	-63.1		258	46.0
80	30	17,592	-63.8		257	35.2
70	30	18,421	-63.0		254	24.5
60	29	19,369	-61.2		262	10.9
50	28	20,500	-60.7		295	2.1
40	28	21,895	-58.6		79	4.5
30	27	23,710	-56.7		78	11.8
25	26	24,867	-55.2		76	13.4
20	19	26,290	-53.1		86	14.6
15	9	28,165	-48.9			
10						
7						
5						

ELY, NEV.
805 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,908	- 6.8	84	193	5.1
1000	31	180				
950	31	598				
900	31	1,031				
850	31	1,480				
800	31	1,959			201	5.4
750	31	2,472	- 5.1	53	300	3.5
700	31	3,006	- 8.4	54	298	8.9
650	31	3,579	-11.9	53	297	13.4
600	31	4,186	-15.6	46	297	18.3
550	31	4,835	-20.0	42	300	23.1
500	31	5,537	-24.8	38	299	25.8
450	31	6,293	-30.4		295	24.3
400	31	7,121	-36.7		288	20.4
350	31	8,033	-43.3		291	21.8
300	31	9,056	-49.9		290	24.1
250	31	10,233	-55.1		290	26.0
200	31	11,650	-56.4		279	30.5
175	31	12,500	-55.4		280	27.6
150	31	13,486	-54.7		273	26.6
125	31	14,651	-55.4		273	27.4
100	31	16,069	-56.8		266	20.8
80	31	17,484	-56.7		271	13.6
70	31	18,339	-56.4		275	8.9
60	31	19,309	-56.3		277	4.7
50	31	20,468	-55.9		37	3.7
40	30	21,891	-54.8		71	9.1
30	29	23,738	-53.6		80	18.3
25	28	24,918	-52.7		84	21.6
20	26	26,367	-51.4		81	27.8
15	19	28,258	-48.8		84	32.8
10	6	30,947	-44.7			
7						
5						

* FAIRBANKS, ALASKA
999 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	135	-21.2	68	6	3.1
1000	31	127			50	4.5
950	31	511	-15.8	57	88	5.1
900	31	920	-16.7	62	127	4.5
850	31	1,349	-17.1	62	140	1.7
800	31	1,802	-18.4	59	345	.8
750	31	2,280	-20.2	57	318	2.3
700	31	2,790	-22.7	54	285	3.7
650	31	3,327	-25.6	50	278	5.6
600	31	3,907	-29.0	49	282	7.2
550	31	4,518	-32.5	45	282	10.5
500	31	5,191	-36.6	45	275	13.0
450	31	5,913	-41.0		276	15.9
400	31	6,707	-45.5		274	19.2
350	31	7,589	-49.6		275	22.3
300	31	8,593	-51.0		275	26.0
250	31	9,782	-49.1		271	27.8
200	31	11,256	-46.4		273	29.3
175	31	12,144	-45.6		271	29.5
150	31	13,172	-45.3		268	29.1
125	31	14,388	-45.1		270	28.4
100	31	15,878	-45.0		270	24.9
80	31	17,368	-45.1		269	21.2
70	30	18,269	-44.9		269	18.3
60	29	19,302	-44.9		265	15.2
50	28	20,522	-44.6		269	13.2
40	28	22,016	-44.3		268	10.5
30	28	23,945	-44.0		268	7.6
25	28	25,171	-43.3		280	3.9
20	28	26,677	-42.1		322	2.3
15	27	28,630	-40.8		69	2.5
10	25	31,407	-39.5		83	6.8
7	20	33,888	-35.2		66	8.4
5	13	36,251	-32.9			

FLINT, MICH.
986 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	234	- 1.4	75	224	3.7
1000	31	119				
950	31	530	- 2.0	73	252	8.0
900	31	958	- 3.6	68	267	12.0
850	31	1,408	- 5.3	63	269	15.5
800	31	1,883	- 6.9	58	268	19.4
750	31	2,381	- 8.7	56	268	22.7
700	31	2,918	-11.0	52	268	26.0
650	31	3,475	-14.1	50	264	28.0
600	31	4,088	-17.6	48	263	32.2
550	31	4,727	-21.7	48	262	36.9
500	31	5,429	-26.5	45	264	40.0
450	31	6,175	-31.6	47	263	43.3
400	31	7,007	-36.9		259	48.6
350	31	7,919	-42.4		259	51.5
300	31	8,948	-47.8		261	59.1
250	31	10,141	-51.7		262	61.8
200	31	11,582	-52.3		268	62.7
175	31	12,447	-51.6		268	57.5
150	31	13,447	-51.5		268	49.3
125	31	14,629	-52.1		267	43.5
100	31	16,069	-52.9		268	33.0
80	31	17,506	-53.6		268	27.0
70	31	18,370	-53.0		271	20.4
60	31	19,353	-53.9		277	15.0
50	31	20,524	-53.3		292	6.2
40	30	21,968	-52.5		47	3.1
30	30	23,833	-51.1		72	9.7
25	29	25,019	-50.2		75	15.7
20	29	26,481	-48.7		80	18.3
15	25	28,371	-47.4		83	23.5
10	9	31,067	-44.5			
7						
5						

FORT WORTH, TEXAS
994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	180	8.9	73	256	.8
1000	31	127				
950	31	555	9.5	62	195	7.8
900	31	1,002	8.6	58	223	11.7
850	31	1,475	8.2	45	242	12.8
800	31	1,974	5.9	37	256	17.9
750	31	2,500	3.4	31	265	20.6
700	31	3,057	- .3		259	22.9
650	31	3,645	- 4.0	29	254	28.7
600	31	4,273	- 8.7		251	33.0
550	31	4,938	-13.5		245	37.3
500	31	5,661	-18.2		252	41.0
450	31	6,436	-23.6		254	46.4
400	31	7,292	-29.7		253	53.2
350	31	8,231	-36.4		254	62.2
300	31	9,283	-43.8		253	73.2
250	31	10,488	-51.0		254	79.6
200	31	11,922	-55.2		258	88.4
175	31	12,773	-56.0		257	85.1
150	31	13,748	-58.2		256	79.4
125	31	14,887	-61.4		257	66.2
100	31	16,263	-63.4		259	54.4
80	30	17,634	-62.6		258	40.0
70	30	18,460	-63.1		256	29.5
60	29	19,405	-63.0		245	18.3
50	28	20,534	-60.9		245	6.8
40	28	21,931	-57.7		54	2.7
30	28	23,755	-55.6		88	5.8
25	27	24,921	-54.5		74	10.1
20	26	26,361	-52.4		85	15.0
15	24	28,232	-49.1		96	18.5
10	16	30,933	-44.0		101	11.1
7	12	33,349	-39.0		168	7.0
5	[illegible]	35,660	-35.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT.
931 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	696	-8.3	80	63	2.9
1000	31	136				
950	31	537				
900	31	960	-6.4	62	281	4.3
850	31	1,407	-6.9	61	302	13.4
800	31	1,878	-9.2	64	308	16.7
750	31	2,373	-11.7	66	305	20.0
700	31	2,901	-14.4	66	300	23.1
650	31	3,457	-17.5	64	304	26.2
600	31	4,055	-21.3	61	300	28.6
550	31	4,687	-25.4	55	298	30.1
500	31	5,377	-30.0	52	298	32.8
450	31	6,110	-35.4	48	295	36.9
400	31	6,929	-41.4		292	37.7
350	31	7,823	-47.7		290	37.1
300	31	8,828	-52.9		289	39.8
250	31	9,999	-54.6		289	39.8
200	31	11,432	-52.1		291	35.0
175	31	12,300	-50.8		289	30.7
150	31	13,305	-50.3		290	29.7
125	30	14,497	-50.7		288	26.0
100	30	15,948	-51.5		294	20.8
80	30	17,396	-51.3		294	16.7
70	30	18,263	-51.2		299	13.4
60	29	19,267	-51.0		307	9.3
50	28	20,461	-50.3		14	4.3
40	27	21,918	-49.9		63	9.1
30	27	23,799	-49.6		70	14.6
25	27	24,994	-48.9		75	18.8
20	27	26,461	-48.0		78	23.3
15	23	28,375	-46.4		87	27.8
10	15	31,076	-43.9		89	38.9
7	5	33,490	-40.7			
5						

GRAND JUNCTION, COLO.
849 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,474	-1.4	56	117	2.3
1000	31	151				
950	31	567				
900	31	1,009				
850	31	1,468			123	3.9
800	31	1,952	-1.4	45	173	4.3
750	31	2,464	-4.8	48	244	4.7
700	31	3,003	-8.7	53	273	8.2
650	31	3,572	-12.4	55	284	14.0
600	31	4,180	-16.0	52	282	16.5
550	31	4,829	-19.9	46	281	19.4
500	31	5,531	-24.9	45	276	23.5
450	31	6,283	-30.5	43	277	25.3
400	31	7,116	-36.7		276	29.9
350	31	8,027	-43.5		278	33.0
300	31	9,049	-49.8		276	38.7
250	31	10,228	-54.6		282	38.9
200	30	11,654	-55.1		279	38.5
175	30	12,510	-53.7		276	36.1
150	30	13,501	-53.8		274	34.8
125	30	14,668	-55.3		270	31.5
100	30	16,090	-56.3		270	21.2
80	29	17,508	-56.2		263	16.1
70	29	18,366	-56.4		254	10.9
60	29	19,334	-56.5		264	6.8
50	29	20,491	-56.6		296	2.1
40	29	21,911	-55.2		78	4.7
30	29	23,753	-53.7		80	12.2
25	29	24,927	-53.0		78	17.7
20	27	26,371	-52.1		83	24.1
15	25	28,249	-50.0		85	28.9
10	22	30,932	-46.8		90	35.0
7	17	33,311	-44.4		84	32.1
5	14	35,556	-40.9			

GREAT FALLS, MONT.
885 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	26	1,123	-5.8	70	251	8.4
1000	26	149				
950	26	558				
900	26	981				
850	26	1,436	-4.7	50	255	16.3
800	26	1,911	-7.4	56	272	16.5
750	26	2,413	-10.1	58	277	17.3
700	26	2,941	-12.6	60	291	19.8
650	26	3,504	-16.0	61	294	19.8
600	26	4,103	-19.8	59	293	20.8
550	26	4,739	-24.2	56	291	24.5
500	26	5,432	-28.9	51	289	26.6
450	26	6,172	-34.5	45	289	31.5
400	26	6,993	-40.4		287	36.5
350	26	7,892	-46.4		288	37.3
300	26	8,903	-52.0		293	38.9
250	26	10,079	-53.8		297	38.1
200	26	11,514	-52.5		295	33.8
175	26	12,380	-51.1		290	29.5
150	25	13,376	-50.2		292	27.2
125	25	14,568	-50.1		287	22.3
100	22	16,026	-50.8		293	17.9
80	22	17,479	-51.3		301	11.8
70	21	18,351	-50.9		306	9.1
60	21	19,346	-50.9		341	6.2
50	21	20,533	-50.5		44	6.2
40	20	21,990	-50.2		64	10.5
30	20	23,871	-49.8		70	15.5
25	19	25,066	-49.5		74	20.8
20	19	26,531	-48.6		80	25.4
15	17	28,423	-46.6		83	31.5
10	16	31,128	-43.6		89	31.9
7	14	33,538	-41.1		81	38.9
5	11	35,818	-39.0			

GREEN BAY, WIS.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	210	-5.4	77	317	3.3
1000	31	111				
950	31	514	-4.6	68	324	5.2
900	31	941	-6.1	58	308	7.2
850	31	1,387	-7.7	53	294	10.1
800	31	1,857	-9.2	52	284	13.4
750	31	2,353	-10.8	52	275	18.1
700	31	2,883	-13.1	51	276	22.1
650	31	3,443	-16.0	52	274	25.4
600	31	4,044	-19.4	48	274	29.3
550	31	4,682	-23.6	44	275	32.4
500	31	5,376	-27.9	39	269	37.1
450	31	6,123	-33.0		264	43.1
400	31	6,945	-38.6		262	52.4
350	31	7,851	-44.3		258	56.9
300	31	8,872	-49.6		259	59.1
250	31	10,057	-52.1		262	56.7
200	31	11,501	-52.0		260	54.4
175	31	12,369	-50.3		260	53.0
150	31	13,377	-49.8		264	45.6
125	31	14,566	-51.2		260	38.1
100	31	16,014	-51.7		260	31.9
80	31	17,460	-52.0		261	24.1
70	31	18,322	-52.5		264	20.6
60	31	19,320	-52.4		273	11.5
50	31	20,500	-51.9		274	3.1
40	31	21,946	-51.3		64	5.2
30	29	23,814	-50.4		73	13.2
25	29	25,007	-49.1		70	18.1
20	27	26,477	-47.5		78	24.7
15	19	28,369	-44.7		74	23.9
10	5	31,086	-42.4			
7						
5						

GREENSBORO, N. C.
985 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	273	4.8	79	235	3.7
1000	31	148				
950	31	570	6.4	64	254	11.1
900	31	1,012	4.6	62	264	17.3
850	31	1,477	3.7	57	267	22.9
800	31	1,969	2.9	45	266	26.6
750	31	2,490	.8	41	262	28.4
700	31	3,042	-2.0	41	260	35.7
650	31	3,625	-5.2	38	258	39.4
600	31	4,252	-9.3	39	260	45.8
550	31	4,917	-13.3		262	51.5
500	31	5,640	-18.1	40	262	56.5
450	31	6,412	-23.5		263	62.0
400	31	7,272	-29.2		262	70.1
350	31	8,213	-35.8		261	82.0
300	31	9,267	-43.5		261	88.2
250	31	10,471	-51.4		263	93.0
200	31	11,903	-55.7		265	95.8
175	31	12,754	-55.5		266	95.0
150	31	13,734	-56.8		268	87.2
125	31	14,879	-60.4		264	69.2
100	31	16,262	-62.4		264	52.3
80	31	17,640	-62.0		266	40.2
70	31	18,469	-61.6		264	27.6
60	30	19,422	-61.1		271	15.3
50	30	20,557	-59.9		281	8.2
40	29	21,960	-57.5		35	6.4
30	29	23,786	-55.5		60	7.6
25	28	24,950	-54.1		69	11.1
20	24	26,382	-52.6		75	16.5
15	18	28,246	-48.8			
10	7	30,961	-45.4			
7						
5						

GUAM, MARIANA IS.
1000 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	111	24.0	89	71	7.0
1000	31	112			70	8.0
950	31	564	21.8	85	72	18.3
900	31	1,030	19.1	84	77	19.0
850	31	1,521	16.9	77	82	17.1
800	31	2,037	14.8	68	87	13.0
750	31	2,581	12.6	51	79	11.8
700	31	3,160	10.1	43	64	11.7
650	31	3,775	7.6		55	8.7
600	31	4,430	3.9		61	7.0
550	31	5,130	-.1		74	5.4
500	31	5,890	-4.2		61	4.7
450	31	6,709	-9.3		50	4.3
400	31	7,615	-15.0		31	3.5
350	31	8,612	-21.7		36	1.6
300	31	9,728	-30.3		257	1.0
250	31	10,997	-40.6		209	5.1
200	31	12,476	-52.6		194	11.1
175	31	13,325	-59.7		192	12.6
150	31	14,270	-67.5		189	13.4
125	31	15,345	-75.8		173	13.8
100	31	16,609	-82.3		143	10.3
80	31	17,861	-79.1		106	4.9
70	31	18,629	-74.2		4	.4
60	31	19,538	-69.5		265	8.0
50	31	20,636	-65.6		259	14.4
40	30	22,005	-61.7		267	20.6
30	28	23,803	-56.9		271	17.9
25	27	24,969	-53.4		276	14.2
20	26	26,415	-49.8		312	7.6
15	23	28,318	-47.6		17	7.2
10						
7						
5						

HILO, HAWAII
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	11	19.1	90	232	4.5
1000	31	153	20.2	81	208	4.3
950	31	593	17.6	82	130	5.8
900	31	1,056	14.5	84	114	8.0
850	31	1,538	11.7	86	111	8.0
800	31	2,044	9.6	75	113	6.0
750	31	2,579	7.2	62	104	5.2
700	31	3,144	4.5	54	126	2.9
650	31	3,740	.9	52	235	2.9
600	31	4,384	-2.8	44	256	7.2
550	31	5,064	-6.6	36	258	12.0
500	31	5,809	-11.2	39	263	15.5
450	31	6,604	-16.7	40	270	20.2
400	31	7,486	-22.6	37	271	28.2
350	31	8,454	-29.5	38	268	34.8
300	31	9,536	-37.4		266	44.7
250	30	10,771	-45.4		268	56.7
200	30	12,234	-53.6		272	68.2
175	30	13,083	-58.6		272	68.0
150	30	14,040	-63.6		278	62.4
125	30	15,144	-68.9		280	49.9
100	29	16,464	-73.2		278	36.1
80	28	17,771	-72.3		279	22.0
70	28	18,561	-69.2		278	15.9
60	28	19,487	-66.4		274	11.7
50	28	20,596	-64.3		273	11.7
40	28	21,971	-60.8		273	8.4
30	28	23,780	-56.4		272	7.8
25	27	24,941	-54.2		278	8.5
20	27	26,378	-52.0		286	12.0
15	21	28,272	-48.0		276	22.9
10						
7						
5						

HUNTINGTON, W. VA.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	3.9	74	220	3.3
1000	30	143				
950	30	562	4.2	62	233	11.8
900	30	1,000	1.7	65	249	19.8
850	30	1,459	-.1	58	259	23.5
800	30	1,943	-1.8	55	264	27.6
750	30	2,454	-3.6	51	263	30.3
700	30	3,000	-6.1	49	261	32.6
650	30	3,575	-9.3	46	262	35.9
600	30	4,192	-12.7	41	266	39.0
550	30	4,848	-16.7	40	267	45.8
500	30	5,562	-21.3		267	51.1
450	30	6,323	-26.1		268	57.7
400	30	7,175	-31.8		267	64.5
350	30	8,106	-38.0		266	75.0
300	30	9,152	-44.9		266	80.2
250	30	10,353	-51.1		268	81.0
200	30	11,788	-54.9		269	84.7
175	30	12,643	-54.3		270	81.8
150	30	13,630	-55.1		270	75.6
125	29	14,784	-56.7		267	61.8
100	29	16,189	-59.0		270	49.3
80	29	17,592	-58.1		271	33.4
70	29	18,435	-58.4		270	24.5
60	29	19,402	-58.7		271	17.3
50	29	20,550	-57.4		286	6.2
40	28	21,964	-55.8		36	5.1
30	27	23,799	-53.9		63	11.3
25	26	24,972	-53.1		74	16.3
20	25	26,414	-51.6		79	23.1
15	18	28,308	-48.8			
10						
7						
5						

* INTERNAT. FALLS, MINN.
970 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	360	-12.6	74	325	1.9
1000	31	126				
950	31	520	-11.1	71	1	1.4
900	31	935	-12.0	71	277	5.4
850	31	1,371	-12.8	72	290	10.1
800	31	1,833	-13.4	63	297	14.0
750	31	2,323	-14.9	64	290	15.7
700	31	2,842	-17.3	64	286	18.1
650	31	3,389	-20.1	59	285	22.0
600	31	3,984	-23.2	55	281	26.6
550	31	4,612	-26.8	55	281	31.1
500	31	5,298	-31.2	49	279	34.6
450	31	6,031	-36.4	46	276	39.4
400	31	6,844	-42.1		273	43.1
350	31	7,737	-47.6		267	46.4
300	31	8,743	-52.3		268	46.4
250	31	9,918	-53.2		271	47.2
200	31	11,364	-50.1		269	40.8
175	31	12,238	-49.5		271	39.2
150	31	13,247	-49.5		271	34.6
125	31	14,440	-49.8		272	30.1
100	31	15,897	-50.2		271	25.8
80	31	17,356	-50.2		273	19.2
70	31	18,227	-50.6		269	19.0
60	30	19,223	-50.3		273	11.5
50	29	20,423	-49.7		282	8.4
40	29	21,884	-49.6		26	3.7
30	29	23,770	-49.1		60	9.7
25	29	24,968	-48.7		65	13.4
20	29	26,438	-47.7		75	18.6
15	29	28,349	-45.3		69	24.3
10	28	31,074	-42.5		73	31.9
7	25	33,498	-38.9		75	41.6
5	19	35,786	-37.3		67	47.6

JACKSON, MISS.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	94	9.2	81	155	2.3
1000	31	143			141	2.3
950	31	566	9.8	64	189	7.2
900	31	1,019	8.3	57	227	9.5
850	31	1,490	6.5	53	243	12.0
800	31	1,987	5.5	42	254	19.4
750	31	2,514	3.8		257	26.4
700	31	3,072	.9	35	255	30.1
650	31	3,657	-2.3	31	257	36.3
600	31	4,295	-6.8		259	40.8
550	31	4,962	-11.5		257	42.5
500	31	5,694	-16.1		256	47.4
450	31	6,475	-21.1		254	53.0
400	31	7,341	-27.2		254	60.0
350	30	8,287	-34.2		258	66.0
300	30	9,348	-41.9		259	79.3
250	30	10,557	-50.8		262	84.7
200	30	11,988	-56.4		261	83.1
175	30	12,833	-57.3		260	76.3
150	30	13,802	-59.8		258	82.6
125	30	14,931	-63.0		258	71.3
100	30	16,296	-65.2		259	54.0
80	30	17,653	-65.6			
70	30	18,469	-64.9			
60	30	19,407	-64.4			
50	29	20,530	-61.9			
40	29	21,920	-59.2			
30	28	23,737	-56.5		91	5.8
25	26	24,904	-54.8		94	10.1
20	25	26,339	-52.3		93	12.8
15	14	28,221	-49.2			
10						
7						
5						

JACKSONVILLE, FLA.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	12.6	87	244	1.9
1000	31	161	14.6	74	219	1.4
950	31	597	13.7	65	224	9.3
900	31	1,050	11.9	60	239	13.0
850	31	1,527	10.2	55	249	15.7
800	31	2,030	8.9	42	249	20.0
750	31	2,564	6.8	36	260	22.5
700	31	3,126	3.4	38	262	27.6
650	31	3,721	-.3	34	263	33.0
600	31	4,358	-4.5	37	265	38.7
550	31	5,032	-8.1		263	43.1
500	31	5,773	-12.8		265	47.8
450	31	6,563	-18.2		264	56.9
400	31	7,438	-24.4		263	65.9
350	31	8,396	-31.5		265	73.0
300	31	9,469	-39.6		265	85.9
250	31	10,691	-48.7		271	92.7
200	30	12,131	-55.9		269	96.2
175	28	12,972	-58.1		272	95.8
150	27	13,930	-60.8		270	86.1
125	27	15,056	-63.9		266	74.0
100	27	16,412	-66.5		267	63.7
80	27	17,758	-67.3		269	46.0
70	27	18,569	-67.3		272	29.1
60	27	19,496	-65.7		272	13.2
50	27	20,612	-62.7		313	2.7
40	27	22,000	-59.3		62	10.7
30	26	23,814	-56.3		78	18.3
25	26	24,977	-54.5		78	17.1
20	25	26,410	-51.7		81	16.9
15	23	28,293	-46.5		79	14.8
10	17	31,026	-40.2		158	1.4
7	10	33,538	-35.4			
5	6	35,900	-31.9			

JOHN F. KENNEDY INT. AP, N. Y.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	2.5	66	283	5.6
1000	31	134	2.5	64	279	8.4
950	31	547	2.0	61	278	12.8
900	31	984	.2	60	274	15.5
850	31	1,441	-1.7	57	275	19.0
800	31	1,923	-2.9	51	274	22.5
750	31	2,436	-4.8	49	269	26.8
700	31	2,974	-7.4	46	271	30.9
650	31	3,546	-10.8	44	270	34.6
600	31	4,159	-14.1	42	270	41.6
550	31	4,815	-18.2	40	272	45.6
500	31	5,521	-22.5		272	49.7
450	31	6,286	-27.9		273	55.9
400	31	7,123	-33.8		274	60.0
350	31	8,047	-39.9		275	66.8
300	31	9,086	-46.2		275	78.3
250	31	10,282	-52.0		276	84.3
200	31	11,717	-54.1		279	82.9
175	31	12,576	-53.6		276	75.0
150	31	13,566	-54.2		279	63.9
125	31	14,731	-55.8		278	53.2
100	31	16,148	-56.7		277	42.2
80	29	17,563	-57.0		276	30.9
70	29	18,412	-57.0		279	25.8
60	27	19,386	-57.5		284	18.1
50	26	20,541	-56.2		294	7.6
40	26	21,964	-55.0		317	3.3
30	24	23,803	-53.6		62	7.6
25	23	24,981	-52.3		79	15.0
20	18	26,432	-50.8		82	20.0
15	10	28,320	-48.8			
10						
7						
5						

JOHNSTON IS., PACIFIC AREA
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	3	24.3	78	90	12.8
1000	27	131	23.1	78	89	15.0
950	27	574	19.3	79	89	15.7
900	27	1,040	15.9	79	94	14.4
850	27	1,524	12.8	76	96	12.2
800	27	2,032	11.1	56	92	9.1
750	27	2,569	9.1	40	94	8.0
700	27	3,139	6.9		112	3.7
650	27	3,740	4.2		264	1.0
600	27	4,391	.4		303	5.4
550	27	5,078	-3.5		295	10.9
500	27	5,831	-8.5		291	15.3
450	27	6,635	-14.2		292	18.6
400	27	7,524	-20.5		291	21.4
350	26	8,500	-26.7		295	32.6
300	26	9,597	-33.7		292	41.0
250	25	10,853	-42.7		297	44.1
200	25	12,325	-53.1		296	47.8
175	25	13,174	-58.9		291	49.0
150	25	14,126	-65.7		295	46.0
125	24	15,217	-72.7		298	40.2
100	24	16,509	-77.7		295	35.7
80	21	17,791	-76.5		302	19.0
70	21	18,567	-72.1		286	11.1
60	20	19,490	-67.0		242	7.4
50	20	20,602	-63.[illegible]		263	14.6
40	20	21,981	-60.5		272	14.4
30	20	23,791	-56.9		280	13.6
25	20	24,953	-54.4		295	14.0
20	19	26,400	-50.6		291	11.3
15	17	28,293	-47.4		279	11.5
10	10	30,973	-46.2			
7						
5						

KEY WEST, FLORIDA
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	3	22.9	83	102	3.9
1000	28	152	22.1	83	118	6.4
950	28	596	19.2	82	146	7.6
900	28	1,061	16.7	76	173	7.2
850	28	1,547	14.9	68	196	7.0
800	28	2,059	13.1	55	212	6.4
750	28	2,595	10.2	49	238	6.4
700	28	3,170	7.3	43	253	7.8
650	28	3,772	4.4	41	260	11.5
600	28	4,424	.6	41	262	17.1
550	28	5,110	-3.5	40	264	22.0
500	28	5,863	-8.4	38	264	27.6
450	28	6,668	-14.2	37	265	29.3
400	28	7,556	-20.3	39	264	34.6
350	28	8,530	-27.6	40	266	41.6
300	28	9,619	-36.3	41	269	48.2
250	28	10,857	-46.0		269	54.4
200	28	12,307	-56.0		267	59.2
175	28	13,148	-60.2		266	60.6
150	28	14,100	-64.1		267	53.0
125	28	15,204	-68.7		265	47.6
100	28	16,527	-72.6		261	35.0
80	27	17,829	-74.9		266	22.1
70	27	18,606	-73.1		266	13.6
60	27	19,512	-71.1		263	5.2
50	26	20,600	-67.3		269	2.3
40	26	21,963	-61.8		356	3.1
30	25	23,767	-57.2		19	4.9
25	25	24,926	-55.3		15	3.9
20	24	26,358	-52.2		308	5.6
15	22	28,247	-47.6		268	7.8
10	21	30,961	-40.6		250	23.3
7	12	33,416	-37.1		253	38.9
5	6	35,781	-33.9			

KING SALMON, ALASKA
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	15	-10.0	76	22	1.7
1000	31	84			1	3.7
950	31	484	-8.1	64	350	3.1
900	31	902	-9.3	63	305	4.3
850	31	1,343	-11.0	63	293	5.8
800	31	1,807	-12.7	60	287	8.9
750	31	2,298	-14.9	56	280	10.3
700	31	2,817	-17.1	53	276	12.8
650	31	3,370	-20.1	52	274	16.3
600	31	3,958	-23.7	48	271	18.1
550	31	4,590	-27.4	45	268	22.5
500	31	5,270	-31.2	42	270	28.6
450	31	6,008	-35.8		267	34.2
400	31	6,820	-40.7		267	39.8
350	31	7,719	-45.7		266	43.5
300	31	8,736	-49.8		269	43.5
250	31	9,925	-50.5		264	41.6
200	31	11,387	-48.4		264	34.6
175	31	12,269	-47.3		262	30.7
150	30	13,292	-47.2		260	28.0
125	30	14,499	-47.5		259	23.9
100	30	15,973	-47.7		259	20.8
80	30	17,445	-47.9		257	16.3
70	29	18,328	-47.8		252	12.8
60	29	19,342	-47.3		245	10.5
50	29	20,549	-46.9		234	5.4
40	29	22,026	-46.8		220	4.1
30	27	23,936	-45.7		179	3.3
25	27	25,153	-45.0		140	3.3
20	21	26,631	-44.1		137	6.8
15	9	28,547	-43.2			
10						
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

+ KOROR, CAROLINE IS.
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	27.8	82	58	7.4
1000	31	100	27.0	82	60	9.7
950	31	552	23.2	82	62	15.9
900	31	1,025	20.1	81	66	17.3
850	31	1,517	17.5	76	72	16.7
800	31	2,035	15.2	66	71	14.8
750	31	2,579	13.1	49	74	15.5
700	31	3,159	10.3	44	76	14.6
650	31	3,769	7.2	40	77	15.0
600	31	4,427	3.5	37	78	16.5
550	31	5,125	- .4	40	91	15.0
500	31	5,885	- 4.4	33	91	18.1
450	31	6,705	- 9.2		88	20.2
400	31	7,611	-14.6		89	22.0
350	31	8,609	-21.5		94	20.2
300	31	9,726	-30.0		100	19.4
250	31	10,997	-40.5		111	22.7
200	31	12,476	-53.1		113	28.6
175	31	13,323	-60.3		116	30.9
150	31	14,266	-67.9		115	36.3
125	31	15,342	-75.0		114	33.2
100	30	16,612	-80.8		100	17.1
80	30	17,876	-77.0		52	4.9
70	30	18,653	-71.6		322	2.7
60	28	19,576	-66.2		285	8.5
50	27	20,692	-62.9		277	16.7
40	27	22,080	-58.8		270	24.7
30	24	23,884	-56.6		269	24.9
25	19	25,048	-55.1		270	22.7
20	14	26,487	-53.1		270	12.8
15	11	28.350	-49.4			
10						

KOTZEBUE, ALASKA
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	-24.9	67	83	2.9
1000	31	136	-20.3	64	87	4.7
950	31	520	-17.4	59	93	6.4
900	31	925	-17.3	53	89	3.3
850	31	1,353	-17.5	49	10	1.4
800	31	1,806	-18.7	45	333	2.3
750	31	2,286	-20.6	43	311	3.9
700	31	2,794	-23.2	43	303	4.5
650	31	3,330	-26.6	45	288	5.1
600	31	3,907	-30.1	43	273	7.4
550	31	4,517	-33.9		263	8.9
500	31	5,183	-38.2		263	11.8
450	31	5,899	-42.7		258	14.0
400	31	6,688	-47.7		253	15.0
350	31	7,562	-51.7		255	17.5
300	31	8,556	-53.4		254	20.4
250	31	9,734	-51.0		252	23.5
200	31	11,197	-47.8		251	25.6
175	31	12,079	-47.2		250	28.2
150	31	13,102	-46.3		249	28.4
125	31	14,315	-45.3		248	29.5
100	31	15,807	-44.3		245	28.4
80	31	17,304	-43.9		246	27.0
70	31	18,208	-43.8		244	25.1
60	31	19,236	-43.8		243	21.8
50	31	20,461	-43.7		240	19.6
40	30	21,970	-43.6		239	16.9
30	30	23,905	-43.3		241	13.8
25	30	25,133	-42.8		234	11.3
20	29	26,635	-42.2		223	12.2
15	25	28,596	-41.2		219	11.1
10	11	31,310	-41.1			

LAKE CHARLES, LA.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	11.3	89	130	1.9
1000	31	136	13.3	73	121	3.9
950	31	569	12.9	62	185	7.8
900	31	1,022	11.6	50	223	11.1
850	31	1,499	10.5	45	243	17.7
800	31	2,003	8.7	44	244	21.8
750	31	2,533	6.4	40	247	25.4
700	31	3,098	3.4	32	254	29.3
650	31	3,692	- .6	35	247	32.4
600	31	4,329	- 5.1		251	36.5
550	31	5,001	- 9.6		252	41.6
500	31	5,737	-14.4		253	45.6
450	31	6,520	-20.0		255	51.9
400	31	7,393	-25.5		251	62.4
350	31	8,347	-32.7	36	252	70.7
300	31	9,416	-40.5		254	81.6
250	31	10,634	-49.4		256	93.0
200	31	12,071	-55.9		257	91.7
175	31	12,915	-58.0		256	87.8
150	31	13,881	-60.7		257	76.1
125	31	15,007	-63.7		256	66.2
100	30	16,366	-66.9		255	51.7
80	30	17,714	-66.6		255	36.7
70	30	18,527	-66.2		251	22.5
60	30	19,459	-65.0		249	15.3
50	30	20,578	-61.9		234	4.1
40	30	21,969	-58.6		89	3.9
30	29	23,790	-55.9		76	10.5
25	29	24,955	-53.9		78	12.4
20	27	26,397	-51.1		75	12.8
15	20	28,287	-47.1		75	11.7
10	6	31,004	-40.5			

LANDER, WYO.
823 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,696	- 6.7	61	270	4.3
1000	31	148				
950	31	557				
900	31	991				
850	31	1,443				
800	31	1,920	- 4.6	48	283	4.1
750	31	2,421	- 7.1	47	291	7.0
700	31	2,961	- 9.9	47	287	11.7
650	31	3,525	-13.4	46	284	16.3
600	31	4,135	-17.4	44	291	21.4
550	31	4,777	-21.8	41	289	22.7
500	31	5,476	-27.0	37	286	24.7
450	31	6,221	-32.6	33	283	26.4
400	31	7,048	-38.9		280	26.8
350	31	7,953	-45.2		281	29.7
300	31	8,968	-51.1		282	35.4
250	31	10,141	-55.1		282	38.7
200	31	11,568	-54.1		278	37.5
175	31	12,427	-52.2		274	34.8
150	31	13,427	-51.8		279	29.9
125	30	14,610	-52.7		277	24.1
100	30	16,048	-53.6		277	18.8
80	30	17,481	-53.9		279	13.4
70	30	18,337	-54.0		276	9.5
60	30	19,329	-53.6		277	4.1
50	30	20,501	-53.4		39	2.7
40	30	21,939	-52.8		76	9.5
30	30	23,798	-51.8		78	18.6
25	30	24,983	-50.9		80	23.3
20	25	26,443	-49.8		81	30.3
15	13	28,308	-48.5		87	35.0
10						

LAS VEGAS, NEV.
939 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	660	6.2	33	257	4.3
1000	31	134				
950	31	559				
900	31	1,006	8.4	32	334	2.7
850	31	1,476	5.2	35	323	4.9
800	31	1,967	1.7	39	317	5.6
750	31	2,479	- 1.5	43	313	7.4
700	31	3,031	- 5.2	40	294	10.3
650	31	3,601	- 8.8	37	292	14.0
600	31	4,224	-13.1	33	299	15.7
550	31	4,871	-17.7	31	292	19.6
500	31	5,587	-22.6		290	20.8
450	31	6,339	-28.4		293	23.3
400	31	7,185	-34.2		288	27.4
350	31	8,108	-40.4		286	33.8
300	31	9,142	-47.4		287	41.4
250	31	10,328	-54.0		285	44.5
200	31	11,748	-57.0		276	51.3
175	31	12,595	-55.6		277	49.1
150	31	13,579	-55.3		279	41.8
125	30	14,744	-56.7		276	35.7
100	26	16,156	-59.3		275	30.3
80	25	17,557	-59.4		272	20.6
70	25	18,394	-58.4		274	14.6
60	25	19,364	-57.7		284	6.2
50	24	20,518	-57.0		64	2.7
40	24	21,933	-55.9		84	9.3
30	24	23,769	-54.4		83	15.5
25	21	24,935	-53.4		80	19.0
20	20	26,375	-52.2		84	24.5
15	14	28,256	-49.2			
10						

* LIHUE, HAWAII
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	36	21.3	80	60	7.0
1000	31	158	21.0	78	69	9.7
950	31	601	17.5	84	78	12.6
900	31	1,061	14.2	84	83	11.5
850	31	1,542	11.1	83	92	9.5
800	31	2,047	8.9	64	86	7.0
750	31	2,579	6.5	44	107	4.7
700	31	3,143	3.8	38	154	2.5
650	31	3,738	.6	39	197	1.9
600	31	4,380	- 3.2	32	230	4.9
550	31	5,055	- 7.2	28	257	7.8
500	31	5,800	-12.3	30	268	11.3
450	31	6,588	-17.6	35	277	15.9
400	31	7,469	-23.9	32	283	20.6
350	31	8,430	-30.9	33	284	28.0
300	31	9,507	-38.5	26	286	39.0
250	31	10,737	-46.6		283	52.3
200	31	12,195	-53.6		282	62.7
175	31	13,044	-58.4		283	61.4
150	31	14,002	-63.4		284	55.8
125	30	15,108	-68.4		288	46.0
100	30	16,432	-72.2		288	34.4
80	29	17,739	-72.7		282	19.6
70	29	18,528	-69.7		281	11.3
60	28	19,455	-66.3		276	8.0
50	28	20,564	-64.4		279	6.8
40	28	21,938	-61.0		334	2.7
30	28	23,743	-56.8		289	4.7
25	27	24,902	-55.2		313	4.7
20	27	26,332	-53.1		288	8.5
15	26	28,200	-49.5		297	8.9
10	23	30,893	-45.2		258	18.3
7	18	33,320	-39.4		253	21.6
5	12	35,675	-34.5			
4	5	37,230	-32.1			

LITTLE ROCK, ARK.
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	79	7.2	76	215	.8
1000	31	135			199	2.1
950	31	563	7.9	59	214	10.3
900	31	1,005	6.6	56	232	13.6
850	31	1,473	4.7	50	246	16.7
800	31	1,966	3.4	39	259	19.2
750	31	2,488	.8	36	259	22.9
700	31	3,039	- 2.2	36	260	28.0
650	31	3,621	- 5.6		267	33.8
600	31	4,249	- 9.3		271	36.7
550	30	4,913	-13.9		272	41.8
500	29	5,636	-19.1		266	46.2
450	29	6,406	-24.7		264	52.8
400	29	7,260	-30.5		266	57.9
350	29	8,195	-37.3		262	62.4
300	29	9,243	-44.7		257	76.3
250	29	10,443	-51.9			
200	29	11,871	-55.8			
175	28	12,725	-55.8			
150	28	13,703	-57.6			
125	28	14,847	-60.2			
100	28	16,231	-62.3			
80	28	17,609	-62.1			
70	28	18,443	-63.0			
60	28	19,386	-60.9			
50	28	20,521	-60.0			
40	26	21,925	-57.8			
30	26	23,750	-55.3			
25	25	24,917	-53.9			
20	23	26,361	-52.0			
15	20	28,247	-49.1			
10	8	30,949	-44.7			
7						
5						
4						

MCGRATH, ALASKA
1002 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	103	-20.3	62	355	1.4
1000	31	114			5	3.5
950	31	502	-15.4	65	58	6.6
900	31	911	-14.5	64	71	4.7
850	31	1,344	-14.5	61	65	2.1
800	31	1,803	-16.2	61	35	1.4
750	31	2,285	-18.1	55	343	1.2
700	31	2,800	-20.5	52	293	4.1
650	31	3,343	-23.6	50	293	4.3
600	31	3,927	-27.0	47	300	5.8
550	31	4,543	-30.8	48	296	9.1
500	31	5,221	-34.8	48	290	13.0
450	31	5,943	-39.5		287	15.2
400	31	6,748	-44.3		275	17.7
350	31	7,635	-48.3		272	22.9
300	31	8,644	-50.2		265	27.6
250	31	9,837	-48.7		264	30.1
200	31	11,311	-46.5		262	30.9
175	31	12,199	-45.8		263	30.5
150	31	13,226	-45.5		261	29.1
125	31	14,442	-45.2		258	25.6
100	31	15,932	-45.0		255	25.1
80	31	17,421	-45.3		255	17.7
70	31	18,309	-45.2		250	15.3
60	31	19,341	-45.1		249	13.4
50	31	20,559	-44.8		246	11.5
40	30	22,050	-44.4		237	8.2
30	30	23,981	-43.5		225	5.1
25	29	25,206	-42.8		235	4.1
20	26	26,716	-41.9		95	2.1
15	14	28,631	-42.1			
10						
7						
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4						

+ MAJURO, MARSHALL IS.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	28.3	76	71	10.7
1000	31	94	27.0	76	68	13.4
950	31	538	22.8	79	66	18.5
900	31	1,016	19.9	76	72	17.3
850	31	1,509	17.6	69	79	13.4
800	31	2,026	15.7	60	85	10.1
750	31	2,568	13.2	56	103	8.2
700	31	3,151	10.5	47	107	6.2
650	31	3,762	7.4	42	98	6.2
600	31	4,421	3.6	40	108	5.2
550	31	5,117	- .2	36	99	7.2
500	31	5,880	- 4.2		80	8.9
450	31	6,701	- 8.5		59	12.4
400	31	7,610	-14.0		50	13.2
350	31	8,611	-20.6		44	11.1
300	31	9,733	-28.9		43	6.6
250	31	11,011	-39.2		38	1.9
200	31	12,501	-51.5		142	2.9
175	30	13,354	-58.5		119	1.7
150	29	14,307	-66.4		29	3.5
125	29	15,388	-74.7		23	9.1
100	29	16,659	-81.9		52	11.8
80	29	17,914	-78.3		37	1.7
70	28	18,690	-70.8		276	9.7
60	27	19,618	-65.1		270	16.7
50	26	20,739	-61.4		269	21.8
40	25	22,138	-58.0		269	26.8
30	23	23,963	-56.0		267	27.4
25	23	25,125	-55.2		266	23.9
20	22	26,569	-51.6		273	9.3
15	19	28,459	-48.4		85	15.5
10	7	31,102	-44.8			
7						
5						
4						

MARCUS IS., N. PACIFIC
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	20.6	71	47	3.7
1000	31	147	19.5	71	52	4.7
950	31	583	15.7	77	36	2.7
900	31	1,044	12.4	78	267	2.3
850	31	1,522	9.7	75	262	6.4
800	31	2,024	7.5	54	271	10.1
750	31	2,557	5.7	38	272	16.1
700	31	3,119	4.3	37	266	21.6
650	31	3,717	1.1	42	265	27.4
600	31	4,359	- 2.0	39	267	33.6
550	31	5,041	- 5.7	35	266	37.7
500	31	5,789	- 9.5	27	268	45.8
450	31	6,595	-13.7	26	269	53.4
400	31	7,483	-19.1	25	271	61.8
350	31	8,465	-25.0	23	274	73.6
300	31	9,569	-32.1	19	276	84.1
250	31	10,831	-41.5		274	86.6
200	30	12,308	-52.9		272	85.7
175	30	13,157	-59.3		271	83.7
150	30	14,108	-66.1		269	80.6
125	30	15,194	-73.4		269	71.3
100	28	16,481	-76.8		269	55.4
80	25	17,759	-76.1		263	35.9
70	22	18,532	-73.1		261	26.4
60	21	19,444	-69.4		266	19.6
50	20	20,545	-64.7		263	12.4
40	18	21,930	-59.0		265	9.1
30	17	23,748	-55.5		282	3.7
25	16	24,914	-53.5		306	4.7
20	15	26,357	-51.6		319	7.6
15	12	28,239	-49.3		297	10.5
10	9	30,923	-45.5			
7	9	33,321	-40.4			
5	8	35,648	-35.3			
4						

MEDFORD, OREG.
972 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	401	1.8	88	237	1.2
1000	31	166				
950	31	586	3.1	76	281	2.3
900	31	1,020	2.1	71	249	4.3
850	31	1,480	.0	66	235	4.7
800	31	1,963	- 2.8	59	265	8.7
750	31	2,472	- 5.8	60	282	13.6
700	31	3,011	- 8.6	57	287	16.1
650	31	3,577	-11.9	55	291	18.6
600	31	4,191	-15.7	48	295	22.5
550	31	4,840	-20.2	45	295	27.2
500	31	5,542	-25.1	47	296	30.9
450	31	6,294	-30.3	44	300	34.2
400	31	7,128	-36.3	44	299	35.4
350	31	8,042	-42.5		311	37.5
300	31	9,070	-48.6		308	35.9
250	31	10,253	-54.4		309	36.9
200	31	11,669	-57.9		310	34.8
175	31	12,513	-56.0		302	29.9
150	31	13,497	-54.9		300	26.2
125	31	14,663	-54.8		305	22.1
100	31	16,088	-56.2		299	15.9
80	31	17,509	-55.4		303	10.3
70	31	18,360	-55.2		321	5.8
60	31	19,346	-54.8		22	5.1
50	31	20,513	-54.1		65	6.6
40	31	21,946	-53.5		72	11.1
30	31	23,799	-52.5		80	17.5
25	31	24,979	-51.7		80	22.0
20	26	26,433	-50.2		84	27.8
15	22	28,327	-48.3		62	33.8
10	15	31,020	-46.3		79	44.9
7	10	33,395	-43.0			
5						

* MIAMI, FLA.
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	20.8	85	100	2.3
1000	31	156	20.4	82	114	4.5
950	31	596	17.8	81	148	6.8
900	31	1,061	15.4	74	176	6.6
850	31	1,544	13.3	60	220	6.8
800	31	2,053	11.9	45	241	9.3
750	31	2,590	9.6	34	257	11.5
700	31	3,162	6.8	30	257	13.2
650	31	3,766	3.5	28	264	14.8
600	31	4,412	- .6	30	265	19.8
550	31	5,095	- 4.9	29	265	25.8
500	31	5,846	- 9.6	31	266	30.5
450	31	6,642	-14.9	32	264	35.5
400	31	7,533	-21.0	30	267	40.0
350	31	8,506	-28.1	30	269	45.6
300	31	9,593	-36.6	27	270	52.6
250	30	10,831	-46.3		271	56.7
200	30	12,281	-55.9		270	65.1
175	30	13,123	-59.6		268	67.0
150	30	14,077	-64.0		270	59.6
125	30	15,183	-68.6		265	49.7
100	30	16,505	-72.5		266	40.8
80	30	17,808	-74.2		266	25.3
70	30	18,592	-72.6		271	15.0
60	30	19,500	-70.1		272	9.1
50	29	20,592	-67.0		282	6.2
40	29	21,958	-61.1		331	5.2
30	26	23,770	-56.9		26	4.7
25	26	24,929	-55.3		349	4.3
20	26	26,362	-52.2		297	6.6
15	25	28,241	-47.7		270	12.4
10	24	30,963	-40.4		254	20.4
7	18	33,388	-37.3		253	33.6
5	8	35,708	-32.2			

* MIDLAND, TEXAS
913 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	874	5.7	58	223	2.9
1000	31	118				
950	31	545				
900	31	991	8.0	52	218	4.1
850	31	1,464	8.8	40	255	10.1
800	31	1,964	6.5	37	265	14.4
750	31	2,492	3.1	34	261	19.6
700	31	3,046	- .5	34	262	21.6
650	31	3,634	- 4.3	32	263	25.6
600	31	4,260	- 8.9	35	259	30.9
550	31	4,925	-13.7	37	259	35.4
500	31	5,646	-18.8	34	258	40.4
450	31	6,419	-24.2	34	255	46.2
400	31	7,272	-30.5	31	254	50.3
350	31	8,207	-37.3	33	253	57.9
300	31	9,255	-44.8		252	68.4
250	31	10,454	-51.5		252	80.8
200	31	11,890	-55.0		252	88.2
175	30	12,748	-56.1		251	85.3
150	30	13,724	-58.4		252	79.8
125	30	14,861	-61.7		254	71.1
100	30	16,234	-64.1		257	60.6
80	29	17,599	-64.0		253	42.3
70	29	18,425	-63.6		255	32.4
60	29	19,366	-62.4		254	17.7
50	29	20,494	-61.6		257	4.1
40	29	21,883	-58.8		67	4.1
30	28	23,698	-56.9		80	10.5
25	28	24,855	-55.8		77	12.4
20	27	26,279	-53.9		78	15.9
15	26	28,134	-51.3		86	13.2
10	15	30,781	-45.5			
7						
5						

MONTGOMERY, ALA.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	9.0	77	341	1.7
1000	31	154	10.4	67	30	.8
950	31	577	9.9	59	225	4.7
900	31	1,030	8.4	54	251	10.7
850	31	1,501	7.7	43	251	15.7
800	31	2,000	6.5	38	250	21.4
750	31	2,526	4.4		256	25.4
700	31	3,086	1.5		254	30.7
650	31	3,675	- 2.0		257	36.5
600	31	4,311	- 6.2	39	257	40.8
550	31	4,982	-10.4		258	45.6
500	31	5,715	-14.4		258	48.6
450	31	6,500	-19.9		258	56.9
400	31	7,368	-26.5		258	60.4
350	31	8,319	-33.5		258	69.7
300	31	9,384	-41.1		261	79.8
250	31	10,600	-50.1		261	89.2
200	31	12,038	-56.3		262	87.8
175	31	12,884	-57.1		263	84.1
150	30	13,852	-59.5		265	80.2
125	29	14,980	-63.3		265	66.0
100	27	16,340	-66.2		265	57.7
80	27	17,690	-66.2		263	42.7
70	26	18,513	-65.3		266	29.9
60	26	19,446	-63.6		266	22.0
50	25	20,569	-62.1		273	10.5
40	22	21,963	-59.4		59	3.1
30	22	23,775	-56.6		70	9.1
25	22	24,935	-55.3		69	9.5
20	19	26,359	-53.0		75	13.4
15	13	28,232	-49.7			
10						
7						
5						

NANTUCKET, MASS.
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	14	1.3	79	293	3.5
1000	30	119	1.9	71	267	7.4
950	30	530	1.4	65	271	15.7
900	30	968	- .4	64	276	17.5
850	30	1,424	- 1.8	58	277	20.4
800	30	1,905	- 3.6	55	276	22.5
750	30	2,412	- 5.6	50	276	26.6
700	30	2,953	- 8.2	47	270	33.0
650	30	3,521	-11.3	42	272	34.6
600	30	4,136	-15.0	39	269	44.3
550	30	4,784	-19.1	40	269	47.4
500	30	5,493	-23.3	40	272	52.6
450	30	6,247	-28.6		272	50.3
400	30	7,088	-34.2		272	58.1
350	30	8,012	-40.1		273	63.7
300	30	9,051	-45.6		273	69.5
250	30	10,252	-50.8		273	76.1
200	30	11,693	-53.6		277	71.7
175	29	12,547	-52.5		277	62.9
150	29	13,541	-53.5		270	58.9
125	28	14,708	-54.7		269	47.4
100	26	16,126	-55.6		271	36.7
80	26	17,548	-56.1		272	28.4
70	26	18,392	-56.7		271	21.2
60	26	19,374	-56.0		277	13.2
50	26	20,535	-54.9		293	6.0
40	26	21,963	-54.4		45	6.0
30	26	23,813	-52.6		77	15.7
25	26	24,993	-51.5		83	20.0
20	24	26,444	-49.8		79	23.9
15	20	28,335	-46.7		78	26.6
10	6	31,074	-39.6			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MARCH 1964

NASHVILLE, TENN.
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	177	5.6	76	217	2.3
1000	31	147			24	1.9
950	31	564	5.0	63	218	10.7
900	31	1,006	3.4	62	241	19.0
850	31	1,469	2.0	58	259	19.2
800	31	1,957	.2	55	268	21.6
750	31	2,472	- 1.7	49	265	26.0
700	31	3,020	- 4.3	42	268	29.1
650	31	3,596	- 7.0	34	269	34.4
600	31	4,221	-10.6		268	43.3
550	31	4,878	-14.5		265	50.7
500	31	5,602	-19.3		263	56.1
450	31	6,375	-24.3		260	60.6
400	31	7,227	-30.4		257	68.6
350	31	8,163	-36.6		260	76.3
300	31	9,214	-44.2		258	79.4
250	31	10,414	-51.9		260	84.5
200	28	11,853	-55.9		261	93.0
175	28	12,700	-56.0		263	87.6
150	28	13,683	-57.1		262	83.9
125	28	14,829	-59.5		262	69.3
100	28	16,219	-60.6		261	53.6
80	28	17,608	-60.9		259	37.9
70	28	18,440	-60.9		259	27.6
60	28	19,396	-60.3		267	13.2
50	28	20,536	-59.4		269	6.0
40	28	21,940	-57.0		228	.2
30	28	23,772	-54.6		79	13.6
25	28	24,942	-53.4		79	16.9
20	28	26,384	-51.6		80	23.1
15	25	28,265	-48.3		81	27.8
10	9	30,964	-43.5			
7						
5						

NOME, ALASKA
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	7	-20.1	76	55	6.4
1000	31	122	-15.0	59	71	8.7
950	31	513	-14.2	57	90	8.9
900	31	921	-14.6	55	75	7.6
850	31	1,353	-15.5	53	75	5.2
800	31	1,809	-17.2	49	84	4.9
750	31	2,289	-19.3	47	45	2.3
700	31	2,801	-22.1	45	35	1.0
650	31	3,338	-25.1	42	291	3.3
600	31	3,918	-28.7	43	271	6.4
550	31	4,529	-32.7	46	258	8.9
500	31	5,201	-37.0	45	250	11.8
450	31	5,915	-41.6		253	16.3
400	31	6,714	-46.3		253	17.5
350	31	7,592	-50.5		256	19.8
300	30	8,593	-52.0		251	26.0
250	30	9,778	-49.9		249	30.1
200	29	11,254	-47.0		251	30.5
175	29	12,140	-46.4		251	31.3
150	29	13,166	-45.7		249	32.1
125	29	14,381	-45.3		246	31.7
100	29	15,872	-44.7		244	29.1
80	29	17,366	-44.4		242	27.4
70	29	18,262	-44.5		246	25.6
60	29	19,292	-44.4		242	21.8
50	29	20,513	-44.6		235	15.7
40	29	22,006	-44.3		240	14.0
30	28	23,935	-43.6		225	11.8
25	27	25,162	-42.5		218	9.1
20	26	26,676	-41.8		217	8.7
15	11	28,615	-40.8			
10						
7						
5						

NORFOLK, VA.
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	6.6	78	204	1.6
1000	31	143	7.5	65	235	3.9
950	31	564	6.0	59	259	10.9
900	31	1,007	4.2	57	258	15.9
850	31	1,472	3.1	46	265	19.8
800	31	1,962	1.9	37	262	23.5
750	31	2,480	- .2		263	28.7
700	31	3,031	- 2.9		265	32.1
650	31	3,611	- 6.3		264	37.3
600	31	4,236	-10.3		265	42.5
550	31	4,895	-14.5		265	48.6
500	31	5,618	-18.8		265	53.8
450	31	6,391	-24.2		265	60.4
400	31	7,244	-30.4		267	68.2
350	31	8,181	-36.5		266	79.3
300	31	9,234	-43.7		266	87.2
250	31	10,437	-51.4		270	94.0
200	31	11,868	-55.2		271	94.2
175	31	12,721	-54.8		272	90.1
150	30	13,706	-56.2		273	75.8
125	30	14,854	-59.9		272	70.5
100	28	16,238	-60.9		272	57.5
80	27	17,622	-60.5		273	35.5
70	27	18,459	-60.5		277	24.9
60	27	19,414	-60.2		287	12.0
50	27	20,554	-58.6		318	4.9
40	26	21,963	-56.2		44	7.8
30	25	23,801	-54.3		79	20.2
25	23	24,978	-53.0		81	24.7
20	21	26,422	-50.3		83	24.9
15	9	28,286	-48.4			
10						
7						
5						

NORTH PLATTE, NEBR.
914 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	848	- 5.1	75	340	3.5
1000	31	129				
950	31	538				
900	31	965	- 3.8	70	330	5.2
850	31	1,418	- 2.9	60	314	11.5
800	31	1,897	- 4.0	56	313	13.2
750	31	2,405	- 6.3	52	305	13.8
700	31	2,941	- 9.4	51	295	16.5
650	31	3,509	-12.7	52	288	18.8
600	31	4,116	-16.4	52	277	22.5
550	31	4,764	-20.5	49	273	25.4
500	31	5,464	-25.4	49	270	26.0
450	31	6,214	-29.3	48	272	30.7
400	31	7,044	-37.4	46	267	32.6
350	31	7,953	-44.0		266	38.3
300	31	8,971	-50.7		269	42.3
250	31	10,146	-55.1		270	45.8
200	31	11,567	-55.0		261	45.1
175	31	12,423	-53.3		263	44.5
150	31	13,416	-53.2		263	42.7
125	31	14,589	-53.9		263	33.6
100	31	16,017	-54.8		265	27.0
80	31	17,442	-55.2		268	20.4
70	31	18,297	-55.4		267	16.1
60	31	19,276	-55.7		264	7.4
50	31	20,438	-55.2		304	2.3
40	30	21,867	-54.6		57	5.8
30	30	23,714	-53.1		73	13.2
25	29	24,892	-51.9		84	17.3
20	29	26,341	-51.0		80	23.9
15	28	28,223	-48.8		80	32.4
10	27	30,910	-45.0		84	34.8
7	20	33,317	-41.2		89	34.6
5	18	35,619	-38.7			

*** OAKLAND, CALIF.**
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	8.3	78	327	3.5
1000	31	150	8.5	70	320	4.1
950	31	575	7.6	61	331	8.5
900	31	1,019	6.2	51	333	9.5
850	31	1,486	4.0	48	322	9.1
800	31	1,976	1.4	43	311	10.9
750	31	2,490	- 1.7	40	316	13.4
700	31	3,040	- 4.6	38	317	16.5
650	31	3,613	- 8.2	38	313	18.3
600	31	4,237	-12.3	39	309	22.3
550	31	4,893	-16.6	42	310	26.6
500	31	5,607	-21.6	41	309	31.3
450	31	6,371	-27.2	42	311	37.5
400	31	7,215	-33.5	41	310	39.0
350	31	8,139	-40.3	46	309	42.2
300	31	9,174	-47.7		307	44.9
250	31	10,358	-55.1		303	44.5
200	31	11,767	-59.0		298	43.7
175	31	12,608	-56.9		291	40.6
150	31	13,586	-56.5		288	37.3
125	31	14,740	-57.4		287	31.7
100	31	16,145	-58.9		290	27.4
80	31	17,547	-58.3		293	16.9
70	31	18,385	-58.2		303	11.1
60	30	19,356	-57.1		335	5.9
50	29	20,515	-56.6		25	4.7
40	27	21,936	-55.7		66	8.4
30	25	23,778	-54.2		71	15.2
25	24	24,948	-53.2		73	18.1
20	23	26,386	-52.1		80	22.5
15	21	28,259	-50.2		84	28.4
10	18	30,934	-46.1		86	33.2
7	10	33,329	-42.5			
5						

OKLAHOMA CITY, OKLA.
968 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	392	2.9	74	77	.8
1000	31	124				
950	31	544	4.8	62	167	2.3
900	31	983	5.3	55	228	8.0
850	31	1,450	5.7	49	246	16.1
800	31	1,945	3.6	37	256	19.0
750	31	2,463	.6	36	259	22.5
700	31	3,016	- 3.1	36	260	27.0
650	31	3,596	- 6.6	32	258	30.9
600	31	4,220	-10.7		255	36.9
550	31	4,880	-15.4	35	255	41.4
500	31	5,597	-20.4		255	44.7
450	31	6,362	-25.8		254	46.8
400	31	7,212	-31.9	33	255	51.9
350	31	8,141	-39.0		252	58.5
300	31	9,182	-46.6		251	67.0
250	31	10,372	-53.2		252	82.2
200	31	11,799	-55.2		255	86.4
175	31	12,652	-55.0		254	85.9
150	31	13,634	-56.4		254	76.3
125	30	14,786	-58.6		255	67.4
100	30	16,184	-59.9		255	49.0
80	30	17,575	-60.6		256	32.8
70	30	18,411	-60.4		252	22.1
60	30	19,367	-60.0		245	15.0
50	30	20,509	-58.9		198	3.5
40	29	21,917	-57.0		66	6.0
30	28	23,747	-54.9		70	13.2
25	28	24,916	-53.6		79	18.5
20	23	26,348	-51.8		81	18.6
15	17	28,216	-49.1			
10	8	30,875	-45.7			
7						
5						

OMAHA, NEBR.
966 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	403	- 3.5	74	360	2.7
1000	31	127				
950	31	534	- 2.8	64	336	3.9
900	31	964	- 2.3	55	301	6.0
850	31	1,418	- 2.5	52	295	10.7
800	31	1,898	- 4.1	50	290	14.0
750	31	2,401	- 6.6	48	285	16.1
700	31	2,942	- 9.1	46	281	22.7
650	31	3,510	-12.2	44	281	26.2
600	31	4,121	-15.9	40	274	29.1
550	31	4,767	-20.3	38	269	33.4
500	31	5,471	-24.9		268	38.5
450	31	6,222	-30.4		267	42.2
400	31	7,058	-36.5		266	47.4
350	31	7,971	-43.2		264	53.0
300	31	8,993	-50.1		264	58.1
250	31	10,170	-54.8		263	58.9
200	31	11,597	-54.1		263	58.7
175	31	12,458	-52.4		265	52.4
150	31	13,455	-52.7		265	47.4
125	31	14,630	-53.1		264	42.3
100	31	16,065	-54.1		263	32.2
80	31	17,495	-54.4		266	23.7
70	31	18,348	-55.0		266	19.4
60	31	19,334	-55.0		270	14.0
50	31	20,500	-54.1		288	4.9
40	31	21,934	-53.4		64	4.5
30	30	23,791	-51.9		81	12.0
25	28	24,971	-50.7		80	15.7
20	27	26,432	-49.2		77	21.8
15	19	28,345	-47.1		79	28.0
10	8	31,010	-44.2			
7						
5						

PEORIA, ILL.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	200	- .5	82	274	1.4
1000	31	131				
950	31	543	- .4	71	255	6.4
900	31	974	- 1.0	69	268	11.3
850	31	1,429	- 2.0	62	276	15.7
800	31	1,909	- 3.7	56	280	20.8
750	31	2,416	- 6.1	53	279	24.3
700	31	2,954	- 8.8	54	281	28.4
650	31	3,523	-11.8	49	280	31.9
600	31	4,135	-15.5	45	278	37.5
550	31	4,785	-19.4	41	275	41.2
500	31	5,488	-24.1	39	271	45.3
450	31	6,241	-29.3	40	268	48.8
400	31	7,079	-35.5	42	267	55.6
350	31	7,996	-41.9		265	61.2
300	31	9,025	-48.2		259	71.9
250	31	10,211	-53.3		258	75.4
200	31	11,641	-53.7		258	75.0
175	31	12,503	-52.4		262	66.0
150	31	13,498	-53.1		262	61.8
125	31	14,671	-54.0		260	52.8
100	31	16,098	-55.2		260	39.2
80	31	17,522	-55.5		259	27.8
70	31	18,378	-55.8		260	19.8
60	31	19,354	-55.7		260	11.7
50	31	20,517	-54.8		280	2.7
40	31	21,947	-53.8		66	6.0
30	31	23,800	-52.6		75	13.0
25	31	24,982	-51.1		76	17.5
20	31	26,438	-49.5		79	25.3
15	29	28,337	-47.4		82	31.1
10	22	31,065	-42.1		84	40.6
7	15	33,540	-38.7		81	42.5
5	11	35,781	-36.7			

PITTSBURGH, PA.
972 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	353	1.4	74	231	1.9
1000	31	129				
950	31	543	1.6	68	230	5.8
900	31	978	- .1	67	252	13.2
850	31	1,434	- 1.9	62	261	20.0
800	31	1,916	- 3.5	53	263	22.9
750	31	2,425	- 5.5	48	259	25.8
700	31	2,964	- 7.8	48	259	29.5
650	31	3,533	-10.6	48	257	30.9
600	31	4,150	-14.3	41	255	34.8
550	31	4,799	-18.5	42	256	40.4
500	31	5,509	-23.5	43	257	46.6
450	31	6,266	-28.9	40	261	51.1
400	31	7,106	-34.4		264	58.1
350	31	8,028	-40.3		265	64.7
300	31	9,065	-46.6		263	71.7
250	31	10,261	-51.6		263	80.2
200	31	11,697	-54.6		266	79.1
175	30	12,550	-52.8		270	67.2
150	30	13,542	-53.8		272	62.5
125	30	14,709	-54.9		269	50.7
100	29	16,128	-55.7		270	42.3
80	29	17,551	-55.6		270	25.6
70	29	18,400	-56.6		267	20.4
60	29	19,378	-56.1		270	15.3
50	29	20,537	-55.7		291	7.2
40	28	21,966	-54.2		25	2.7
30	26	23,813	-52.7		70	10.9
25	26	24,994	-51.6		76	15.3
20	26	26,444	-50.6		83	20.8
15	26	28,328	-48.5		84	28.4
10	23	31,027	-43.3		79	28.2
7	21	33,464	-39.2		76	28.0
5	19	35,767	-35.7			

POINT ARGUELLO, CALIF.
1004 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	113	6.7	89	4	2.9
1000	31	147			3	5.4
950	31	575	9.2	58	357	9.9
900	31	1,018	7.6	51	350	10.7
850	31	1,487	5.2	44	339	11.5
800	31	1,980	3.0	39	331	12.0
750	31	2,503	.4	31	322	13.4
700	31	3,051	- 2.2	31	317	16.1
650	31	3,632	- 5.6	29	315	19.6
600	31	4,259	- 9.9	30	312	23.7
550	31	4,919	-14.5	31	307	25.8
500	31	5,641	-19.5	31	306	28.2
450	31	6,412	-25.1	32	303	34.2
400	31	7,261	-31.6	36	305	35.3
350	31	8,191	-39.1	36	304	42.5
300	31	9,230	-46.9		303	46.0
250	30	10,415	-54.6		299	47.0
200	30	11,823	-59.3		290	47.6
175	30	12,661	-58.0		286	49.5
150	30	13,634	-57.3		287	45.6
125	30	14,785	-58.4		283	42.3
100	30	16,180	-60.7		284	34.2
80	30	17,568	-60.5		286	22.7
70	30	18,400	-60.0		286	15.5
60	29	19,363	-59.6		293	10.3
50	29	20,509	-58.1		336	5.8
40	29	21,919	-56.7		69	7.6
30	28	23,749	-55.1		77	12.4
25	28	24,916	-54.0		85	18.1
20	28	26,352	-52.4		86	22.5
15	28	28,224	-49.5		85	27.4
10	23	30,907	-44.9		89	28.4
7	17	33,334	-39.5		88	27.2
5	10	35,677	-34.5			

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	39	27.9	77	56	8.4
1000	31	85	27.3	78	58	10.5
950	31	532	23.3	82	64	17.3
900	31	1,009	19.9	85	69	17.9
850	31	1,502	17.3	79	75	15.9
800	31	2,019	15.8	64	80	12.0
750	31	2,561	13.6	52	87	9.1
700	31	3,146	10.9	47	94	8.7
650	31	3,755	7.6	45	101	9.1
600	31	4,417	3.8	41	94	10.5
550	31	5,111	.4		90	14.2
500	31	5,881	- 3.9		91	15.7
450	31	6,701	- 8.8		87	17.5
400	31	7,611	-14.3		81	19.6
350	31	8,611	-20.7		74	17.7
300	31	9,733	-28.9		87	15.5
250	31	11,010	-39.4		105	14.6
200	31	12,497	-52.0		122	16.3
175	31	13,348	-59.2		119	17.9
150	31	14,297	-66.9		109	16.9
125	31	15,375	-75.2		97	19.6
100	31	16,645	-81.7		95	19.6
80	31	17,903	-77.3		76	6.4
70	31	18,680	-71.3		298	4.3
60	31	19,604	-65.7		273	11.8
50	31	20,723	-61.7		271	18.5
40	30	22,114	-58.9		272	26.8
30	29	23,930	-56.3		268	27.6
25	27	25,090	-54.8		268	21.2
20	25	26,528	-51.9		263	11.1
15	18	28,408	-48.8		102	14.2
10	5	31,069	-46.3			

PORTLAND, ME.
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	20	- 3.1	79	307	2.9
1000	31	116	- 1.7	67	307	4.5
950	31	525	- 2.4	61	310	8.0
900	31	953	- 3.8	62	299	10.1
850	31	1,403	- 5.1	60	284	14.0
800	31	1,879	- 6.3	57	279	18.8
750	31	2,382	- 8.0	51	277	25.6
700	31	2,917	-10.3	46	273	29.7
650	31	3,482	-13.1	45	274	32.4
600	31	4,091	-16.9	44	278	34.6
550	31	4,737	-21.0	41	274	37.9
500	31	5,438	-25.6	41	273	43.3
450	31	6,189	-30.9	41	273	45.5
400	31	7,022	-36.4		274	52.4
350	31	7,937	-41.9		274	61.4
300	31	8,969	-47.5		274	66.4
250	31	10,162	-51.4		275	70.7
200	31	11,606	-52.6		274	67.0
175	30	12,468	-51.3		274	62.5
150	30	13,469	-51.8		272	51.5
125	30	14,649	-52.6		270	43.3
100	30	16,086	-53.6		271	36.1
80	30	17,520	-54.0		276	23.7
70	30	18,380	-54.2		275	19.8
60	30	19,364	-54.3		285	12.8
50	30	20,536	-53.4		318	4.7
40	29	21,972	-52.7		47	5.8
30	28	23,834	-51.6		71	13.4
25	26	25,024	-50.2		75	17.9
20	16	26,476	-49.6		69	18.1
15	10	28,366	-46.6		74	22.0
10	7	31,057	-42.2			

RAPID CITY, S. DAK.
901 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	966	- 5.3	70	334	7.0
1000	31	138				
950	31	545				
900	31	975			336	6.8
850	31	1,425	- 4.0	52	313	14.8
800	31	1,902	- 6.1	53	311	16.1
750	31	2,399	- 8.9	54	313	16.1
700	31	2,936	-11.7	55	303	16.9
650	31	3,497	-15.1	55	297	20.4
600	31	4,101	-18.5	49	291	23.3
550	31	4,739	-22.8	45	286	25.4
500	31	5,437	-27.8	42	283	26.8
450	31	6,177	-33.6		279	30.1
400	31	7,002	-39.8		277	34.8
350	31	7,902	-46.0		275	39.0
300	31	8,913	-52.1		277	42.9
250	31	10,083	-54.8		276	41.4
200	31	11,511	-53.7		272	38.7
175	31	12,372	-51.9		272	38.3
150	31	13,373	-51.2		273	32.8
125	31	14,556	-52.1		267	28.7
100	31	15,996	-53.1		271	24.3
80	31	17,434	-53.3		271	19.4
70	31	18,295	-53.6		269	12.6
60	29	19,284	-53.4		272	6.6
50	29	20,458	-53.0		352	1.9
40	28	21,898	-52.3		54	6.6
30	26	23,759	-51.8		75	17.5
25	24	24,937	-51.2		75	21.6
20	22	26,393	-49.3		81	28.9
15	10	28,256	-47.5			
10						

ST. CLOUD, MINN.
977 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	316	- 8.9	77	342	2.7
1000	31	129				
950	31	528	- 8.0	66	349	3.9
900	31	948	- 8.1	59	324	6.0
850	31	1,393	- 8.0	52	310	11.3
800	31	1,863	- 9.4	48	308	15.2
750	31	2,358	-10.9	47	307	17.5
700	31	2,888	-13.6	51	299	20.0
650	31	3,446	-16.1	50	288	23.3
600	31	4,048	-19.5	50	282	27.4
550	31	4,684	-23.7	48	276	31.7
500	31	5,379	-28.4	48	273	35.7
450	31	6,119	-33.9	49	272	39.4
400	31	6,941	-39.9		269	42.3
350	31	7,841	-46.1		269	46.6
300	31	8,854	-51.5		270	49.3
250	31	10,029	-54.3		270	52.4
200	31	11,465	-51.7		270	45.3
175	31	12,334	-50.5		267	43.3
150	31	13,340	-50.4		271	38.5
125	30	14,525	-50.7		270	34.4
100	30	15,975	-52.0		269	27.8
80	29	17,425	-51.8		270	22.5
70	29	18,293	-52.1		268	17.7
60	29	19,288	-52.2		267	12.8
50	29	20,469	-51.5		286	4.5
40	28	21,918	-51.1		47	3.3
30	28	23,791	-50.4		72	12.4
25	28	24,982	-49.6		72	16.3
20	28	26,446	-48.6		75	22.5
15	22	28,356	-46.5		79	23.9
10	5	31,028	-44.5			

ST. PAUL IS., ALASKA
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	10	- 4.9	88	58	5.6
1000	31	74			67	7.4
950	31	476	- 6.9	78	59	8.7
900	31	897	- 8.8	73	79	5.2
850	31	1,338	-10.5	65	82	4.1
800	31	1,803	-12.4	57	207	1.4
750	31	2,296	-14.9	53	244	4.7
700	31	2,814	-17.6	52	226	6.2
650	31	3,365	-20.5	48	239	9.3
600	31	3,955	-23.3	44	235	10.9
550	31	4,588	-26.9	43	240	15.7
500	31	5,269	-31.2		241	18.5
450	31	6,008	-35.9	43	236	22.7
400	31	6,620	-41.1		233	28.0
350	31	7,717	-46.5		232	33.0
300	30	8,737	-51.1		236	39.0
250	30	9,920	-51.3		240	41.6
200	30	11,380	-48.4		240	36.7
175	30	12,260	-47.6		235	34.6
150	30	13,278	-47.3		236	33.0
125	29	14,478	-47.3		231	27.8
100	29	15,953	-47.4		229	25.3
80	29	17,429	-47.1		229	21.6
70	29	18,318	-47.2		221	16.9
60	29	19,333	-47.1		218	13.6
50	28	20,544	-46.7		204	11.5
40	27	22,023	-46.6		188	10.3
30	26	23,934	-46.0		157	8.2
25	26	25,148	-45.4		141	9.5
20	26	26,640	-44.5		127	11.5
15	17	28,611	-42.6		125	15.7
10						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALEM, OREG. 1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	3.7	90	187	5.8
1000	31	151			199	6.6
950	31	567	3.6	72	223	9.3
900	31	1,006	1.3	68	235	10.7
850	31	1,465	- 1.1	65	244	12.4
800	31	1,946	- 3.8	63	256	14.2
750	31	2,449	- 6.4	56	276	16.1
700	31	2,990	- 9.6	52	281	19.2
650	31	3,554	-12.9	47	286	20.6
600	31	4,165	-16.7	47	287	23.7
550	31	4,805	-21.2	49	287	25.8
500	31	5,509	-26.3	49	286	28.4
450	31	6,257	-31.6	48	291	30.1
400	31	7,087	-37.1	47	296	35.9
350	31	7,999	-42.8		304	38.5
300	31	9,025	-48.9		308	41.4
250	31	10,206	-54.4		311	42.2
200	31	11,626	-56.5		309	38.1
175	31	12,477	-54.6		306	33.4
150	31	13,467	-53.3		302	31.5
125	31	14,640	-53.7		305	25.3
100	31	16,073	-53.9		310	17.7
80	31	17,504	-54.0		317	13.2
70	31	18,361	-53.7		334	8.9
60	31	19,353	-53.3		4	5.8
50	31	20,529	-52.5		50	8.2
40	31	21,974	-51.7		68	11.7
30	31	23,842	-50.8		76	18.6
25	29	25,031	-50.3		82	22.5
20	26	26,492	-49.1		83	27.2
15	18	28,372	-47.8		82	31.9
10						
7						
5						

SALT LAKE CITY, UTAH 871 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,288	- 2.5	76	172	4.7
1000	31	173				
950	31	585				
900	31	1,022				
850	31	1,478	- .8	61	183	4.9
800	31	1,961	- 2.8	55	221	6.2
750	31	2,470	- 6.3	60	263	8.7
700	31	3,006	- 9.9	63	281	12.8
650	31	3,570	-13.3	60	286	17.3
600	31	4,179	-17.2	58	286	19.2
550	31	4,821	-21.6	55	285	21.4
500	31	5,521	-26.6	49	283	27.0
450	31	6,269	-31.8	44	288	27.6
400	31	7,097	-37.9		286	29.7
350	31	8,004	-44.3		280	31.9
300	31	9,023	-50.4		280	30.9
250	31	10,198	-54.9		278	35.2
200	31	11,621	-54.9		279	34.0
175	31	12,476	-54.0		278	32.2
150	31	13,466	-53.8		273	30.9
125	31	14,637	-54.2		275	25.6
100	31	16,065	-55.3		272	21.4
80	31	17,488	-55.4		275	14.4
70	31	18,346	-55.5		274	8.9
60	31	19,322	-55.2		260	3.7
50	31	20,486	-54.9		29	2.5
40	31	21,915	-54.0		73	9.3
30	29	23,768	-53.0		76	15.9
25	25	24,938	-52.2		75	19.8
20	22	26,385	-51.2		77	26.0
15	14	28,251	-48.8		83	30.3
10	6	30,945	-45.7			
7						
5						

SAN ANTONIO, TEXAS 987 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	243	11.4	77	228	.8
1000	31	128				
950	31	559	12.0	67	169	6.6
900	31	1,011	11.4	51	204	11.3
850	31	1,488	9.8	44	224	16.1
800	31	1,991	8.3	36	242	18.3
750	31	2,519	6.0	31	245	21.0
700	31	3,084	2.4	31	246	24.9
650	31	3,675	- 1.5	31	250	29.9
600	31	4,312	- 6.0	31	249	34.4
550	31	4,980	-10.7	29	246	40.2
500	31	5,715	-15.9		250	46.8
450	31	6,497	-21.0		249	56.7
400	31	7,364	-26.7		248	66.4
350	31	8,315	-33.5		249	78.7
300	31	9,380	-41.4		247	86.6
250	31	10,594	-50.2		247	98.5
200	31	12,029	-56.5		250	102.2
175	31	12,873	-58.3		250	95.8
150	31	13,837	-61.0		251	88.4
125	31	14,958	-64.9		253	74.8
100	31	16,311	-67.1		255	58.9
80	30	17,656	-67.4		253	42.5
70	30	18,469	-67.3		252	29.9
60	28	19,390	-66.6		249	18.5
50	28	20,499	-64.1		244	8.5
40	27	21,877	-60.4		197	1.2
30	25	23,688	-56.9		70	5.1
25	23	24,844	-55.7		71	6.6
20	20	26,272	-53.6		80	6.4
15	12	28,135	-50.9			
10	-					
7						
5						

SAN DIEGO, CALIF. 1001 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	124	9.4	80	358	1.2
1000	31	134			68	1.4
950	31	561	10.3	57	317	4.7
900	31	1,011	8.4	51	301	5.2
850	31	1,481	6.0	45	299	4.7
800	31	1,975	3.4	37	297	7.2
750	31	2,491	.7	31	294	9.5
700	31	3,048	- 2.5	27	290	12.8
650	31	3,627	- 5.8	24	291	17.7
600	31	4,256	- 9.7		289	23.1
550	31	4,914	-13.9		292	27.0
500	31	5,641	-18.9		290	31.1
450	31	6,406	-24.8		289	33.4
400	31	7,264	-31.3		290	37.1
350	31	8,197	-38.2		283	38.5
300	31	9,241	-45.5		279	45.1
250	31	10,437	-52.8		281	48.0
200	31	11,855	-58.4		276	52.3
175	31	12,696	-57.4		271	57.1
150	31	13,669	-57.7		274	55.6
125	31	14,817	-59.4		270	46.0
100	31	16,208	-60.5		271	35.5
80	31	17,593	-61.5		271	22.9
70	31	18,429	-60.8		270	15.9
60	31	19,284	-59.5		274	8.9
50	31	20,527	-58.3		293	2.9
40	30	21,934	-57.0		61	3.9
30	29	23,764	-55.3		81	11.3
25	28	24,929	-54.1		81	16.7
20	26	26,363	-52.5		85	21.4
15	20	28,234	-49.2		88	20.2
10	7	30,885	-44.0			
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5						

* SAN JUAN, P. R. 1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	23.9	79	91	4.3
1000	31	150	23.2	75	90	10.7
950	31	593	20.0	73	88	14.4
900	31	1,061	17.0	69	84	13.8
850	31	1,546	13.9	64	84	13.0
800	31	2,056	11.5	56	88	10.5
750	31	2,589	9.8	35	81	9.3
700	31	3,166	8.6	22	70	8.9
650	31	3,769	6.2	18	61	9.5
600	31	4,428	2.7	15	45	9.3
550	31	5,116	- 1.5	15	30	10.3
500	31	5,878	- 6.3	16	6	8.9
450	31	6,685	-11.9	16	349	8.9
400	31	7,585	-18.6	16	331	10.1
350	31	8,565	-26.2	16	325	14.4
300	31	9,661	-34.4	17	312	21.8
250	31	10,911	-43.6		296	29.1
200	31	12,376	-54.1		294	34.6
175	31	13,222	-59.4		300	32.8
150	31	14,172	-65.0		291	27.6
125	31	15,266	-70.8		297	23.7
100	31	16,571	-76.0		323	15.9
80	31	17,849	-77.6		342	12.0
70	31	18,629	-73.6		344	8.2
60	31	19,531	-69.1		324	8.4
50	31	20,632	-65.1		296	8.4
40	31	22,013	-59.2		299	9.9
30	31	23,836	-54.8		294	8.0
25	31	25,009	-52.0		271	10.7
20	31	26,465	-48.7		263	15.3
15	31	28,372	-44.4		250	19.0
10	28	31,103	-43.2		240	15.2
7	24	33,544	-36.3		278	9.9
5	15	35,922	-29.7		5	2.7

SAN NICOLAS, CALIF. 995 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	174	9.8	78	326	9.3
1000	31	130				
950	31	557	10.4	51	321	11.7
900	31	1,006	8.6	44	323	7.0
850	31	1,477	6.7	39	323	6.8
800	31	1,972	4.2	36	319	8.5
750	31	2,492	1.3	32	313	10.7
700	31	3,047	- 1.8	28	312	14.4
650	31	3,627	- 5.3	28	309	17.3
600	31	4,257	- 9.0	28	309	19.4
550	31	4,917	-13.4	28	305	25.1
500	31	5,644	-18.5	30	302	27.4
450	31	6,411	-24.5	30	302	29.9
400	31	7,269	-31.0	30	302	32.6
350	31	8,201	-38.4	36	302	36.5
300	31	9,242	-46.4		297	38.3
250	31	10,432	-54.0		294	42.0
200	31	11,843	-59.1		286	48.6
175	31	12,684	-57.2		284	49.7
150	31	13,659	-57.5		278	46.2
125	31	14,806	-59.2		276	38.1
100	31	16,198	-61.6		282	35.4
80	31	17,579	-61.6		279	24.7
70	30	18,408	-60.9		279	17.9
60	30	19,371	-59.5		283	11.8
50	30	20,515	-58.5		301	6.4
40	29	21,921	-57.5		33	3.3
30	29	23,747	-55.7		76	8.2
25	29	24,912	-54.7		78	12.2
20	29	26,345	-53.0		77	16.1
15	29	28,211	-50.3		84	19.0
10	29	30,888	-45.1		86	19.2
7	25	33,297	-39.4		83	15.5
5	10	35,630	-34.4			

SANTA MONICA, CALIF. 1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	38	11.1	65	22	3.7
1000	31	133	11.3	61	24	4.1
950	31	559	10.0	52	9	4.1
900	31	1,009	8.0	45	350	4.3
850	31	1,479	5.7	38	334	4.3
800	31	1,973	2.9	32	314	5.1
750	31	2,491	.0	27	311	8.5
700	31	3,042	- 3.2		311	13.4
650	31	3,623	- 6.7		301	16.9
600	31	4,247	-10.9		303	21.6
550	31	4,903	-15.2		303	26.0
500	31	5,625	-19.9		301	29.7
450	31	6,390	-25.9		300	33.6
400	31	7,242	-32.3		295	34.0
350	31	8,170	-39.4		297	36.3
300	31	9,208	-47.0		297	37.7
250	31	10,395	-54.5		292	41.4
200	31	11,804	-59.2		283	47.4
175	31	12,643	-57.5		281	48.8
150	31	13,618	-57.3		277	48.6
125	31	14,765	-59.4		277	40.6
100	31	16,154	-61.2		277	34.0
80	30	17,541	-61.8		280	22.3
70	29	18,378	-60.5		277	16.7
60	29	19,335	-59.4		286	11.7
50	29	20,480	-58.5		342	3.7
40	29	21,887	-57.5		80	4.3
30	28	23,711	-56.2		74	10.7
25	27	24,876	-54.8		75	16.3
20	27	26,308	-53.1		82	21.0
15	24	28,173	-51.2		82	25.8
10	13	30,837	-46.0		85	22.3
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SAULT STE. MARIE, MICH. 986 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	221	- 7.9	85	27	3.1
1000	31	112				
950	31	510	- 7.3	77	309	1.4
900	31	932	- 8.2	71	300	5.2
850	31	1,375	- 8.9	61	302	8.5
800	31	1,843	-10.6	57	284	12.2
750	31	2,337	-12.3	53	279	15.2
700	31	2,864	-14.2	51	274	19.2
650	31	3,418	-17.3	54	273	22.1
600	31	4,018	-20.7	53	272	25.4
550	31	4,654	-24.7	50	269	28.9
500	31	5,344	-29.4	49	266	33.2
450	31	6,085	-34.2	48	264	37.7
400	31	6,903	-39.6		263	42.5
350	31	7,806	-44.7		261	51.7
300	31	8,825	-49.[illegible]		260	53.2
250	31	10,008	-52.4		259	54.4
200	31	11,450	-51.5		263	47.8
175	31	12,322	-49.4		267	44.5
150	30	13,330	-49.7		266	39.0
125	30	14,521	-49.9		264	33.8
100	30	15,976	-50.8		263	30.7
80	30	17,428	-51.2		267	22.3
70	30	18,298	-51.2		268	16.7
60	30	19,296	-51.5		272	10.9
50	29	20,479	-50.8		276	4.7
40	28	21,933	-50.3		29	2.1
30	27	23,815	-49.3		57	9.5
25	27	25,011	-48.7		64	14.2
20	26	26,481	-47.4		78	19.6
15	26	28,390	-45.9		79	24.9
10	20	31,108	-42.9		81	27.4
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SHEMYA, ALASKA 1002 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	38	.1	81	103	1.4
1000	30	53			230	3.7
950	30	460	- 3.4	75	153	3.3
900	30	886	- 6.6	79	179	4.1
850	30	1,330	- 9.7	80	190	4.7
800	30	1,796	-12.0	71	193	6.6
750	30	2,286	-14.4	57	206	8.2
700	30	2,809	-17.1	51	211	9.3
650	30	3,361	-20.2	47	215	10.5
600	30	3,951	-23.7	47	221	15.5
550	30	4,579	-27.8	45	221	17.3
500	30	5,261	-32.4	48	223	19.6
450	30	5,994	-37.2	47	225	21.2
400	30	6,802	-42.9		224	23.3
350	30	7,692	-48.2		224	25.3
300	30	8,697	-52.6		225	28.7
250	30	9,872	-52.9		223	27.8
200	29	11,322	-49.6		229	31.5
175	29	12,199	-48.7		228	29.7
150	29	13,213	-48.3		226	29.7
125	29	14,414	-48.0		224	28.4
100	29	15,886	-47.5		219	28.6
80	29	17,362	-47.2		215	22.5
70	29	18,252	-47.0		209	21.6
60	29	19,267	-47.2		201	18.6
50	28	20,476	-47.4		190	14.4
40	27	21,954	-47.4		172	13.4
30	27	23,855	-47.4		145	13.0
25	27	25,060	-47.1		132	14.2
20	25	26,535	-46.6		117	17.3
15	20	28,446	-46.0		105	22.5
10						
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* SHREVEPORT, LA. 1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	79	10.2	81	143	4.7
1000	31	135			147	4.7
950	31	568	10.2	62	177	10.5
900	31	1,014	8.7	60	209	13.0
850	31	1,486	7.1	54	235	16.1
800	31	1,983	4.9	45	252	18.3
750	31	2,505	3.2	32	264	23.1
700	31	3,065	.5	29	265	28.6
650	31	3,650	- 3.2	28	261	35.9
600	31	4,285	- 7.5	29	254	40.6
550	31	4,948	-12.2	30	250	45.1
500	30	5,681	-17.4	28	252	49.0
450	30	6,457	-22.8	27	251	57.5
400	30	7,317	-28.7	29	253	64.5
350	30	8,261	-35.1	29	251	75.8
300	30	9,318	-42.8		251	88.4
250	30	10,525	-51.0		254	101.2
200	30	11,956	-56.0		257	101.4
175	30	12,803	-57.0		259	94.2
150	30	13,775	-58.8		256	91.1
125	30	14,910	-62.3		257	77.1
100	30	16,281	-64.0		258	57.7
80	30	17,643	-64.8		257	42.0
70	30	18,466	-65.0		262	27.6
60	29	19,401	-63.8		251	13.2
50	29	20,526	-61.5		265	4.9
40	27	21,917	-58.7		94	1.7
30	27	23,734	-56.1		81	8.5
25	27	24,897	-54.6		88	9.7
20	27	26,331	-52.6		84	12.6
15	25	28,204	-49.1		79	15.3
10	16	30,888	-44.2		86	12.6
7						
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SPOKANE, WASH. 929 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	722	- 1.1	77	189	5.2
1000	31	130				
950	31	543				
900	31	976	- .2	63	218	7.8
850	31	1,433	- 2.2	57	245	11.5
800	31	1,912	- 5.1	57	255	11.8
750	31	2,412	- 8.5	58	270	13.0
700	31	2,948	-12.0	57	279	15.9
650	31	3,507	-15.7	55	281	18.5
600	31	4,110	-19.5	51	286	21.4
550	31	4,746	-23.7	50	293	26.4
500	31	5,442	-28.3	46	295	29.1
450	31	6,180	-33.7	46	298	32.2
400	31	7,004	-40.0		300	34.2
350	31	7,903	-46.2		299	38.7
300	31	8,916	-51.0		304	43.1
250	31	10,092	-54.4		307	47.0
200	31	11,521	-53.6		307	36.3
175	31	12,383	-51.9		299	29.3
150	31	13,384	-51.3		297	26.0
125	31	14,570	-51.5		304	21.4
100	31	16,015	-51.8		304	17.3
80	30	17,463	-51.9		308	13.0
70	30	18,328	-51.2		320	10.3
60	30	19,331	-51.3		360	7.2
50	30	20,518	-50.4		17	6.4
40	30	21,976	-50.3		57	10.3
30	29	23,859	-49.5		71	16.7
25	29	25,056	-48.6		75	21.0
20	26	26,525	-47.6		77	23.9
15	14	28,432	-45.7		68	26.8
10						
7						

SWAN ISLAND, W. I. 1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	10	25.9	78	107	11.5
1000	31	123	25.0	79	105	14.6
950	31	573	21.7	78	110	16.5
900	31	1,042	18.7	72	118	17.1
850	31	1,531	15.9	63	116	17.1
800	31	2,045	13.8	49	114	15.5
750	31	2,584	11.6	44	109	14.6
700	31	3,162	9.7	31	105	12.2
650	31	3,768	6.7		101	8.7
600	31	4,427	3.0		117	5.4
550	31	5,116	- 1.1		123	5.6
500	31	5,881	- 5.8		139	4.1
450	31	6,693	-11.5		181	4.5
400	31	7,592	-17.8		224	3.7
350	31	8,576	-25.3		267	5.4
300	31	9,676	-33.8		291	9.3
250	31	10,927	-44.0		285	15.7
200	30	12,388	-55.1		270	21.2
175	30	13,228	-61.1		263	21.8
150	29	14,168	-67.1		261	22.7
125	29	15,254	-72.4		261	17.3
100	28	16,545	-78.2		241	8.0
80	28	17,814	-78.8		148	4.9
70	28	18,587	-75.4		123	4.1
60	28	19,482	-71.0		218	.4
50	28	20,574	-66.5		302	6.4
40	27	21,943	-61.0		288	11.7
30	26	23,757	-55.2		295	11.3
25	25	24,924	-52.9		287	12.2
20	21	26,382	-49.3		277	14.2
15	16	28,295	-45.1		277	9.7
10						
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TAMPA, FLA. 1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	8	16.3	86	108	3.5
1000	31	154	17.1	78	121	6.4
950	31	587	16.1	67	172	8.2
900	31	1,051	14.4	60	214	10.1
850	31	1,533	13.0	49	238	13.2
800	31	2,042	11.0	43	254	15.9
750	31	2,571	8.8	39	257	19.6
700	30	3,147	5.9	33	260	20.6
650	30	3,744	2.0	37	259	25.1
600	30	4,391	- 2.2	40	260	29.9
550	30	5,066	- 6.0	35	259	33.4
500	30	5,818	-10.5		262	38.7
450	30	6,607	-15.9		260	43.1
400	30	7,499	-22.3		262	51.3
350	30	8,467	-29.1		261	57.9
300	30	9,549	-37.6		262	66.0
250	30	10,780	-46.9		266	74.4
200	30	12,226	-56.0		266	80.6
175	30	13,069	-58.5		266	77.1
150	30	14,028	-62.4		265	70.3
125	30	15,141	-64.8		262	62.5
100	30	16,474	-70.3		261	52.6
80	30	17,794	-71.7		262	35.5
70	30	18,589	-70.8		264	24.7
60	30	19,502	-69.0		267	13.8
50	30	20,601	-65.8		270	5.6
40	29	21,970	-60.3		20	5.4
30	27	23,781	-56.6		45	6.4
25	26	24,945	-54.6		57	6.8
20	25	26,384	-51.7		1	3.5
15	13	28,286	-47.0		311	2.7
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* TATOOSH IS., WASH 1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	31	5.9	85	202	4.5
1000	31	119	5.5	82	222	5.6
950	31	534	2.6	82	230	8.7
900	31	972	.0	81	239	10.9
850	31	1,428	- 2.6	81	245	13.8
800	31	1,907	- 5.3	74	252	15.2
750	31	2,412	- 8.0	71	264	16.5
700	31	2,944	-11.4	60	266	17.7
650	31	3,506	-14.9	55	274	20.0
600	31	4,110	-18.6	58	278	24.1
550	31	4,750	-22.7	57	285	23.5
500	31	5,448	-27.3	54	284	27.0
450	31	6,193	-32.4	52	287	30.9
400	31	7,020	-38.3	49	291	34.2
350	31	7,927	-44.1		289	38.1
300	31	8,948	-49.8		289	42.9
250	31	10,126	-54.9		287	41.2
200	31	11,547	-55.1		284	34.0
175	31	12,403	-53.2		289	31.3
150	30	13,402	-52.8		289	26.2
125	30	14,579	-53.0		296	21.8
100	30	16,017	-52.8		304	15.7
80	30	17,457	-52.7		316	10.1
70	30	18,322	-52.6		328	8.7
60	30	19,315	-52.0		356	7.6
50	30	20,497	-51.4		24	6.0
40	30	21,947	-50.8		38	8.9
30	29	23,822	-49.9		54	13.2
25	29	25,015	-49.4		80	17.7
20	27	26,480	-48.5		74	21.0
15	25	28,372	-47.2		80	27.6
10	16	31,055	-45.5		73	35.9
7	9	33,470	-42.3			

TOPEKA, KANS. 983 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	269	.2	74	261	.6
1000	31	128				
950	31	538	.8	62	258	2.3
900	31	974	.8	54	264	7.0
850	31	1,434	.8	49	270	12.2
800	31	1,920	- .8	47	268	17.9
750	31	2,432	- 3.3	47	267	21.2
700	31	2,976	- 6.5	48	270	22.9
650	31	3,549	- 9.9	47	266	27.0
600	31	4,165	-13.7	44	267	34.4
550	31	4,818	-18.3	42	264	39.0
500	31	5,527	-23.3	41	262	42.7
450	31	6,282	-28.8	37	263	42.2
400	31	7,123	-34.8		260	45.1
350	31	8,040	-41.9		260	49.5
300	31	9,067	-49.0		262	53.2
250	31	10,248	-54.3		261	60.0
200	31	11,672	-54.7		260	66.2
175	31	12,530	-53.5		263	63.7
150	31	13,521	-54.1		261	61.0
125	31	14,687	-55.1		263	53.4
100	31	16,106	-56.5		265	38.1
80	31	17,521	-56.6		266	26.6
70	31	18,369	-56.6		257	18.3
60	31	19,345	-56.5		250	12.0
50	31	20,502	-56.2		257	4.1
40	31	21,924	-54.8		69	6.4
30	31	23,771	-53.1		78	12.2
25	30	24,943	-52.3		81	15.0
20	28	26,388	-50.7		83	22.0
15	23	28,282	-48.1		84	26.2
10	17	30,989	-43.9			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	TRUK, CAROLINE IS. + 1010 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	2	28.6	71	45	13.0
1000	31	93	27.6	72	51	14.4
950	31	540	23.3	79	67	17.3
900	31	1,017	19.9	77	73	17.5
850	31	1,510	17.6	68	79	13.8
800	31	2,027	15.8	52	87	10.9
750	31	2,574	13.7	44	91	10.5
700	31	3,153	10.4	43	90	10.9
650	31	3,765	7.5	32	91	13.4
600	31	4,424	4.1		91	14.2
550	31	5,121	- .1		95	15.5
500	31	5,885	- 4.2		96	17.5
450	31	6,704	- 8.8		97	18.1
400	31	7,615	-14.5		97	20.0
350	31	8,615	-20.9		90	18.6
300	31	9,735	-29.2		101	19.0
250	31	11,011	-39.6		116	19.2
200	31	12,497	-52.0		128	19.8
175	31	13,349	-59.1		128	19.4
150	31	14,298	-66.8		121	21.4
125	31	15,378	-75.0		112	24.1
100	31	16,650	-81.2		105	21.0
80	31	17,916	-76.4		98	5.2
70	30	18,697	-70.6		234	1.7
60	29	19,625	-65.1		275	11.3
50	29	20,744	-62.0		276	19.0
40	29	22,136	-58.4		276	24.7
30	27	23,952	-56.4		275	24.1
25	26	25,115	-54.3		274	22.0
20	22	26,553	-51.7		255	6.2
15	15	28,428	-48.7			
10						
7						
5						
4						

Standard pressure surface (mb)	TUCSON, ARIZ. 923 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	789	6.9	52	156	5.8
1000	31	124				
950	31	549				
900	31	998	9.9	39	173	5.6
850	31	1,471	7.3	39	222	4.3
800	31	1,967	3.9	40	243	7.8
750	31	2,485	.6	38	243	[illegible]
700	31	3,039	- 2.6	33	248	14.4
650	31	3,617	- 6.0	30	264	17.3
600	31	4,246	-10.0		266	22.3
550	31	4,907	-14.4		265	28.2
500	31	5,628	-19.3		263	31.3
450	31	6,398	-25.1		262	35.9
400	31	7,249	-31.2		263	40.0
350	31	8,182	-37.9		264	42.7
300	31	9,226	-45.7		265	46.0
250	31	10,420	-52.5		269	52.8
200	31	11,848	-55.6		265	57.9
175	31	12,699	-55.6		263	61.6
150	31	13,680	-56.5		265	55.8
125	31	14,829	-59.2		265	50.5
100	31	16,217	-61.8		267	42.7
80	31	17,596	-62.0		265	34.8
70	31	18,425	-61.1		262	30.5
60	31	19,384	-59.7		263	17.5
50	31	20,526	-59.2		260	3.7
40	30	21,932	-57.5		83	6.2
30	30	23,756	-55.6		80	13.6
25	30	24,922	-54.3		82	16.7
20	27	26,355	-52.2		83	22.3
15	25	28,231	-48.5		85	22.9
10	22	30,924	-43.5		82	16.7
7	7	33,224	-37.6			
5						
4						

Standard pressure surface (mb)	* WAKE IS., PACIFIC AREA 1014 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	5	24.4	74	52	9.9
1000	31	131	23.2	76	57	12.0
950	31	575	19.4	81	65	12.6
900	31	1,041	16.5	77	72	9.4
850	31	1,527	14.0	70	84	6.4
800	31	2,037	12.0	56	75	2.7
750	30	2,573	10.0	39	14	2.9
700	30	3,148	7.9	33	338	3.3
650	30	3,753	5.0	29	310	7.2
600	30	4,405	1.6	26	288	11.5
550	30	5,098	- 2.1	22	276	16.0
500	30	5,853	- 6.3	19	275	20.6
450	30	6,669	-11.5	17	284	26.2
400	30	7,565	-16.8	17	287	33.2
350	30	8,555	-23.1	16	289	38.7
300	30	9,666	-31.2	15	291	42.3
250	30	10,934	-40.6		292	45.3
200	30	12,414	-52.4		290	46.6
175	30	13,265	-59.0		287	44.1
150	30	14,215	-66.2		284	41.2
125	30	15,299	-74.0		280	36.9
100	30	16,576	-80.5		278	29.9
80	30	17,834	-79.5		278	20.2
70	30	18,598	-75.2		275	14.2
60	30	19,504	-69.9		258	11.7
50	29	20,603	-64.8		260	9.9
40	29	21,979	-60.7		259	7.0
30	29	23,789	-55.8		252	5.4
25	29	24,956	-53.4		282	5.2
20	29	26,401	-50.6		308	6.0
15	29	28,292	-47.2		295	10.5
10	27	30,996	-43.4		280	10.3
7	24	33,415	-38.2		272	8.0
5	19	35,778	-32.8		191	5.2
4	9	37,359	-30.9			

Standard pressure surface (mb)	WALLOPS IS. VA. NASA 1016 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	20	3	4.3	79	275	1.7
1000	20	134	4.8	60	304	4.9
950	20	555	4.3	61	[illegible]	11.8
900	20	993	2.5	56	295	[illegible]
850	20	1,455	1.8	46	285	16.7
800	20	1,943	.8	48	278	22.1
750	20	2,460	- 1.0	35	275	28.0
700	20	3,009	- 3.2	32	271	31.5
650	20	[illegible]	- 6.7	33	271	[illegible]
600	20	4,212	-11.[illegible]	36	274	41.4
550	20	4,874	-15.[illegible]	39	277	49.1
500	20	5,590	-19.6	39	277	[illegible]
450	20	6,362	-24.7	35	277	62.2
400	20	7,213	-30.6	34	276	64.9
350	20	8,150	-36.9	36	274	68.6
300	20	9,201	-43.9		275	77.1
250	20	10,406	-51.4		276	85.1
200	19	11,839	-54.[illegible]		281	102.8
175	19	12,697	-53.7		282	90.3
150	19	13,684	-55.6		275	72.3
125	18	14,830	-58.2		274	65.7
100	18	16,231	-59.1		273	59.1
80	18	17,632	-58.8		278	38.4
70	17	18,469	-58.7		274	31.1
60	17	19,431	-59.0		287	23.7
50	17	20,577	-57.8		279	11.4
40	17	21,981	-55.9		276	13.0
30	17	23,829	-54.2		4	4.1
25	17	25,000	-53.4		89	12.0
20	17	26,442	-51.6		83	14.6
15	11	28,303	-48.4		84	28.4
10	9	31,006	-42.6			
7	8	33,445	[illegible]			
5						
4						

Standard pressure surface (mb)	WASHINGTON, D. C. 1006 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	84	2.5	82	281	2.5
1000	31	134			[illegible]	3.1
950	31	551	3.0	66	[illegible]	9.7
900	31	988	1.1	65	263	13.6
850	31	1,448	.5	57	267	20.0
800	31	1,933	- 1.[illegible]	[illegible]	271	21.8
750	31	2,445	[illegible]	44	[illegible]	24.5
700	31	2,990	[illegible]	42	[illegible]	27.2
650	31	3,564	- 8.8	42	[illegible]	32.6
600	30	4,181	-12.7	44	264	36.1
550	30	4,835	-17.1	43	265	39.6
500	30	5,548	-22.1	40	264	46.0
450	30	6,307	-27.2	4[illegible]	264	[illegible]
400	30	7,155	-32.8		264	61.8
350	30	8,083	-39.2		[illegible]	70.9
300	30	9,123	-45.9		264	78.5
250	30	10,319	[illegible]		266	88.4
200	30	11,752	[illegible]		268	83.9
175	29	12,608	-54.2		272	77.9
150	28	13,588	-55.3		272	[illegible]
125	28	14,745	-57.5		266	57.9
100	27	16,153	[illegible]		268	43.9
80	27	17,557	-58.6		[illegible]	30.7
70	27	18,405	-58.8		268	22.7
60	27	[illegible]	-58.4		276	12.8
50	27	[illegible]	-57.6		[illegible]	6.6
40	27	21,925	-56.0		[illegible]	2.9
30	25	23,765	[illegible]		[illegible]	11.1
25	24	[illegible]	-53.3		75	11.7
20	[illegible]	26,375	-51.9		[illegible]	18.1
15	19	28,237	-49.6		85	21.8
10	13	30,918	-44.[illegible]			
7						
5						
4						

Standard pressure surface (mb)	WINNEMUCCA, NEV. 868 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	1,310	- .8	68	219	1.0
1000	31	163				
950	31	578				
900	31	1,014				
850	31	1,475	1.1	49	233	3.3
800	31	1,961	- 1.5	49	269	7.6
750	31	2,471	- 5.2	53	286	10.9
700	31	3,010	- 8.9	54	289	14.2
650	31	3,579	-12.0	48	295	17.7
600	31	4,189	-15.8	45	298	20.4
550	31	4,835	-20.2	43	296	23.9
500	31	5,539	-24.9	44	302	27.8
450	31	6,292	-30.5	42	306	29.1
400	31	7,123	-37.0		305	30.7
350	31	8,034	-43.4		311	30.1
300	31	9,059	-49.0		319	30.9
250	31	10,240	-54.3		297	30.1
200	31	11,661	-56.1		292	32.1
175	31	12,514	-54.3		293	32.8
150	31	13,504	-53.7		288	28.4
125	31	14,673	-54.5		291	24.7
100	31	16,099	-55.5		285	15.3
80	30	17,522	-54.6		287	8.9
70	30	18,382	-55.1		290	4.7
60	30	19,361	-54.7		352	2.5
50	30	20,529	-54.2		59	6.0
40	30	21,962	-53.3		76	12.4
30	30	23,818	-52.3		81	18.3
25	30	25,000	-51.2		84	23.7
20	28	26,456	-49.8		86	26.4
15	16	28,360	-47.7		87	35.5
10						

Standard pressure surface (mb)	WINSLOW, ARIZ. 849 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	1,492	- 1.0	60	230	4.3
1000	31	158				
950	31	576				
900	31	1,017				
850	31	1,479			230	2.5
800	31	1,967	1.2	41	283	5.1
750	31	2,482	- 1.6	41	266	8.7
700	31	3,030	- 4.8	40	268	10.7
650	31	3,606	- 8.3	41	275	11.8
600	31	4,226	-12.6	39	277	17.1
550	31	4,879	-16.6	31	274	22.3
500	31	5,595	-21.4		273	24.9
450	31	6,352	-27.2		272	30.9
400	31	7,201	-33.4		270	36.7
350	31	8,124	-40.3		272	43.1
300	30	9,157	-47.6		272	49.5
250	30	10,342	-54.4		273	52.6
200	30	11,763	-55.6		272	54.4
175	30	12,516	-54.5		270	54.8
150	30	13,602	-55.2		270	47.6
125	30	14,760	-57.6		265	46.2
100	30	16,162	-59.0		263	35.2
80	30	17,560	-59.1		262	26.8
70	30	18,407	-58.7		262	18.6
60	30	19,368	-58.1		267	11.1
50	29	20,512	-58.5		264	2.5
40	26	21,918	-56.2		82	6.2
30	24	23,748	-55.5		84	8.7
25	20	24,915	-54.5		88	11.5
20	14	26,351	-52.6		79	14.6
15	10	28,223	-50.7			
10						

Standard pressure surface (mb)	YAKUTAT, ALASKA 1006 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	12	- 3.8	85	92	3.9
1000	31	59			95	5.2
950	31	463	- 3.7	75	120	7.6
900	31	891	- 6.2	77	153	4.9
850	31	1,336	- 9.1	79	183	3.9
800	31	1,803	-11.7	75	209	4.5
750	31	2,290	-14.4	73	227	6.8
700	31	2,815	-17.5	69	236	8.5
650	31	3,363	-20.8	64	251	12.0
600	31	3,953	-24.6	61	254	15.5
550	31	4,578	-28.4	54	262	20.8
500	31	5,261	-32.3	50	264	26.4
450	31	5,993	-36.9	47	266	31.5
400	31	6,805	-41.6		268	37.7
350	31	7,700	-46.5		273	42.7
300	31	8,716	-49.8		276	43.1
250	31	9,908	-49.5		281	38.3
200	31	11,375	-47.5		285	31.3
175	31	12,258	-47.4		283	28.2
150	31	13,278	-46.9		282	26.4
125	31	14,486	-46.8		283	23.3
100	31	15,964	-47.2		290	21.4
80	31	17,440	-47.2		290	15.5
70	31	18,324	-46.8		299	11.1
60	31	19,345	-47.1		308	8.5
50	31	20,551	-47.0		309	7.2
40	31	22,031	-46.6		356	3.7
30	31	23,943	-45.3		38	5.8
25	30	25,162	-44.3		51	5.8
20	30	26,660	-43.4		60	11.5
15	24	28,596	-42.3		66	14.0
10	7	31,357	-39.2			

Standard pressure surface (mb)	YAP, CAROLINE IS. + 1009 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	17	27.6	80	49	11.8
1000	31	97	26.7	80	56	13.9
950	31	547	22.6	80	65	18.3
900	31	1,019	19.3	79	69	14.8
850	31	1,511	16.9	69	74	14.2
800	31	2,028	15.4	50	72	17.1
750	31	2,573	13.2	39	74	16.5
700	31	3,151	10.4	34	74	15.5
650	31	3,764	7.1		79	14.8
600	31	4,419	3.6		86	14.0
550	31	5,115	- .2		91	16.7
500	31	5,878	- 4.5		92	17.5
450	31	6,695	- 9.2		91	16.9
400	31	7,605	-14.9		91	17.6
350	31	8,601	-21.9		94	16.5
300	31	9,717	-30.4		97	16.7
250	31	10,986	-40.7		112	18.1
200	31	12,465	-53.0		125	22.3
175	31	13,312	-60.3		124	22.9
150	31	14,255	-68.1		126	26.2
125	31	15,328	-76.0		112	24.1
100	31	16,596	-81.6		113	16.3
80	31	17,858	-77.1		83	4.9
70	31	18,632	-72.7		306	3.9
60	31	19,552	-66.7		290	10.9
50	31	20,665	-63.0		281	16.1
40	30	22,053	-59.2		272	19.8
30	30	23,870	-56.[illegible]		268	22.7
25	30	25,034	-54.1		262	18.1
20	26	26,476	-51.2		256	[illegible]
15	16	28,347	-48.6		124	10.3
10	6	31,026	-43.8			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 880 MB					
					Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	1,196	- .6	45	[illegible]	1.5
1000	31	152				
950	31	568				
900	31	1,011				
850	31	1,474	3.8	36	[illegible]	[illegible]
800	31	1,964	1.1	36	304	[illegible]
750	31	2,476	- 1.7	34	316	8.4
700	31	3,026	[illegible]	34	305	8.4
650	31	3,598	- 9.3	[illegible]	296	10.1
600	31	4,218	-13.5	[illegible]	[illegible]	14.8
550	31	4,868	-18.1	[illegible]	294	[illegible]
500	31	5,579	-23.1		[illegible]	[illegible]
450	31	6,334	-28.6		293	[illegible]
400	31	7,176	-34.8		[illegible]	31.9
350	31	8,036	-41.1		286	[illegible]
300	30	9,125	-48.[illegible]		[illegible]	41.6
250	30	10,311	-53.7		282	48.8
200	30	11,733	-57.0		[illegible]	49.0
175	30	12,580	-55.7		273	49.0
150	30	13,564	[illegible]		278	42.2
125	30	14,727	-56.0		276	[illegible]
100	29	16,142	-58.1		[illegible]	[illegible]
80	28	17,545	[illegible]		[illegible]	18.6
70	28	18,388	[illegible]		[illegible]	12.8
60	28	[illegible]	[illegible]		[illegible]	[illegible]
50	28	20,514	-56.6		[illegible]	[illegible]
40	26	21,935	-55.6		[illegible]	[illegible]
30	25	23,772	-54.2		[illegible]	[illegible]
25	24	24,946	[illegible]		[illegible]	[illegible]
20	21	26,381	[illegible]		[illegible]	[illegible]
15	11	[illegible]	[illegible]			
10						

Note: All observations scheduled at 1200, G. C T Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or observations at a standard pressure [illegible] available

Relative humidity data are [illegible] Unless otherwise indicated, they are obtained from lithium chloride hygristors

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in meters [illegible] humidity in percent, and [illegible]

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations [illegible]

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. MARCH 1964

Sun's zenith distance

Date	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, N. MEX.

Date	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Mar.									
1-----	0.77	0.91	1.04	1.23	1.33	1.23	1.07	0.96	0.85
4-----	----	----	----	----	1.37	1.19	.93	.79	.67
5-----	.97	1.06	1.14	1.31	1.41	1.26	1.09	.96	.86
6-----	.73	.84	.99	----	1.11	1.15	----	----	----
7-----	.91	1.01	1.12	1.21	D	----	----	----	----
8-----	----	----	----	1.04	----	----	----	----	----
9-----	.95	1.07	1.16	1.31	1.40	1.27	1.11	.97	.86
10----	.85	.96	1.07	1.25	----	----	----	----	----
11----	.91	1.02	1.12	1.27	(1.30)	----	----	----	----
12----	.85	.97	1.09	1.26	----	----	----	----	----
13----	----	----	----	----	----	----	----	.86	.74
14----	----	----	----	1.26	1.41	1.25	1.09	.93	.84
15----	----	----	1.11	1.26	1.31	1.15	1.03	----	----
17----	.57	.69	.82	.99	----	----	----	----	----
19----	.78	.89	1.01	1.20	----	----	----	----	----
20----	.63	.75	.88	1.05	1.20	1.07	.93	.83	.74
21----	.79	.89	.99	(1.10)	(1.19)	1.07	.89	.77	.65
22----	.72	.82	.94	1.07	----	----	----	----	----
23----	----	----	----	1.14	----	(1.02)	(.83)	(.67)	(.57)
24----	.78	.90	1.04	1.17	----	----	----	(.55)	(.54)
25----	.78	.91	1.03	1.21	----	----	1.00	.91	.79
26----	.82	.95	1.06	1.21	1.35	----	----	----	----
27----	.69	.81	.96	1.13	1.32	1.11	.92	.81	.70
28----	.72	.82	.95	1.15	1.32	1.14	.93	.80	.67
29----	.71	.84	.98	1.17	1.35	(1.04)	(.61)	(.35)	(.30)
30----	.64	.76	.92	1.12	1.31	(1.02)	.94	.78	.69
Averages	0.78	0.89	1.02	1.18	1.32	1.17	0.99	0.86	0.76

OMAHA, NEBR.

Date	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Mar.									
1-----	----	----	----	HS1.22	HS1.36	----	----	----	----
5-----	0.85	0.96	1.09	1.26	HS1.33	----	----	----	----
9-----	HM .85	HM .96	HM1.06	HM1.21	HS1.34	HS1.16	†	HS0.84	HS0.75
14----	----	----	----	HM1.24	HM1.37	HS1.20	----	----	----
16----	----	----	----	----	HM1.22	HI1.10	----	----	----
22----	----	----	----	----	----	HM .92	HM0.60	----	----
26----	----	----	----	----	HM1.28	HM1.10	HM .80	----	----
27----	HI .63	----	----	----	----	----	----	----	----
30----	----	----	HM .92	HS1.10	HS1.34	HS1.18	HS1.00	HS .87	----
31----	----	----	----	HS1.14	HS1.32	----	HS .88	HS .73	----
Averages	0.78	0.96	1.02	1.20	1.32	1.11	0.82	0.81	0.75

GUAM, M. I.

Date	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observation due to cloudiness

D Dust
† Pole Shadow
( ) Clouds present
HS Slight haze
HM Moderate haze
HI Intense haze
S Slight haze - indeterminable
* Values corresponding to true solar noon.

BLUE HILL OBS. MASS.

Date	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Mar.									
1-----	0.81	0.91	1.05	1.25	1.39	1.17	0.91	0.75	0.62
2-----	.60	.69	.88	1.06	1.18	.98	.67	----	----
4-----	.67	.75	.87	1.06	----	----	----	----	----
6-----	.84	.95	1.07	1.29	1.42	1.29	1.10	.98	.87
7-----	.84	.95	1.08	1.22	----	1.08	.89	.71	.59
13----	.76	.84	1.01	1.24	1.40	1.20	1.06	.91	.79
16----	.74	.82	.98	1.16	1.33	1.29	1.11	.98	.88
19----	.84	.91	1.06	1.28	1.42	1.16	.96	.86	.72
20----	.84	.96	1.08	1.25	1.37	1.18	.96	.82	.70
23----	.53	.67	.84	1.06	1.30	1.13	.94	.79	.67
24----	.75	.87	1.01	1.18	1.33	----	----	----	----
27----	.65	.77	.91	1.12	1.35	1.11	.87	.70	.59
28----	.67	.77	.90	1.10	----	----	----	----	----
30----	.75	.86	.99	1.17	1.35	----	----	----	----
31----	.82	.88	1.04	1.22	1.41	1.20	1.00	.84	.74
Averages	0.74	0.84	0.98	1.18	1.35	1.16	0.95	0.83	0.72

MADISON, WIS.

Date	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Mar.									
2-----	S 0.62	S 0.73	S 0.87	S 1.04	----	----	----	----	----
5-----	----	----	----	----	S 1.35	S 1.25	S 1.07	S 0.94	S 0.83
10----	----	----	----	S 1.22	----	----	----	----	----
18----	----	----	S 1.02	S 1.19	----	----	----	----	----
28----	----	----	----	----	1.30	----	----	----	----
Averages	0.62	0.73	0.95	1.15	1.33	1.25	1.07	0.94	0.83

TUCSON, ARIZ.

Date	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Mar.									
4-----	0.81	0.90	----	----	----	----	1.13	1.01	0.90
5-----	.86	1.10	----	----	----	----	----	1.05	----
6-----	.77	.91	----	----	----	----	----	1.04	.91
7-----	.74	.78	0.95	----	----	----	----	----	----
9-----	.86	.95	1.08	----	----	----	----	----	----
10----	----	.93	1.06	----	----	----	----	----	----
11----	.48	.61	----	----	----	----	----	.77	.70
14----	----	.59	.80	----	----	----	----	----	----
15----	----	.88	1.04	----	----	----	----	----	----
20----	.74	.88	----	----	----	----	----	----	----
21----	.73	.87	1.03	----	----	----	1.11	----	.91
23----	----	.85	----	----	----	----	.96	.84	----
25----	----	.80	.94	1.13	----	----	----	.83	.71
26----	.76	.88	----	----	----	----	----	----	----
27----	----	----	----	----	----	----	----	.81	.69
28----	----	----	----	----	----	----	.97	.79	.67
30----	.75	.85	----	----	----	----	----	----	----
Averages	0.75	0.85	----	----	----	----	1.04	0.89	0.78

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol 8, No 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

MARCH 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	551	334	256	562	541	570	569	248	612	422	611	455	226	656	634	444	562	400	634	671	661	530	---	566	632	614	701	712	718	704	456	542
AMES IOWA	372	351	186	102	430	123	355	81	438	374	180	423	216	462	437	415	359	321	89	153	452	480	185	122	125	524	363	486	438	504	518	325
APALACHICOLA FLORIDA	483	151	199	137	528	586	531	326	286	579	517	466	440	227	252	469	597	590	259	596	616	613	386	178	437	77	613	431	488	664	620	430
ARGONNE NAT. LAB.	315	160	59	44	421	370	291	111	72	353	343	390	398	358	469	451	492	534	381	80	413	460	431	240	54	290	401	401	291	555	551	328
ASTORIA OREGON	197	285	74	97	160	299	319	81	225	101	169	241	240	71	411	306	169	302	365	187	345	441	229	549	86	280	517	545	532	146	137	261
ATLANTA GEORGIA	73	30	381	213	419	555	294	419	261	339	575	587	515	95	347	582	588	589	145	149	157	611	584	248	45	575	636	452	663	676	524	398
BARROW ALASKA	114	105	129	129	115	131	145	164	157	134	172	160	175	174	192	200	206	222	196	---	---	---	---	---	---	---	---	---	---	---	---	---
BETHEL ALASKA	194	176	144	243	219	175	205	168	242	334	327	335	340	347	377	359	352	374	393	241	225	342	372	266	290	403	277	368	380	448	459	302
BISMARCK N.DAK.	235	274	353	214	282	400	281	325	260	335	424	384	362	452	258	343	292	83	90	477*	421	133	177	---	525	464	515	527	565	516	513	349*
BLUE HILL MASS.	350	411	302	361	47	468	400	160	101	37	372	282	502	415	89	516	113	213	554	558	406	134	562	509	406	63	588	547	260	508	641	351
BOSTON MASSACHUSETTS	---	---	233	312	42	434	423	152	67	41	306	244	495	374	96	495	117	245	540	520	480	100	520	462	318	43	554	514	---	---	590	323
BROWNSVILLE TEXAS	95	549	548	539	566	552	269	525	456	464	192	413	289	130	378	567	387	180	591	550	571	376	---	301	199	385	223	314	346	87	---	381
BURLINGTON VERMONT	136	198	370	221	39	438	346	265	32	57	418	299	503	162	248	491	248	299	287	510	413	280	532	355	46	54	297	412	185	365	576	293
CANTON ISLAND P.I.	696	689	672	696	709	642*	580	653	692	675	678	690	688	691	695	688	697	692	694	678	656	---	689	712	---	---	---	---	---	---	---	680*
CAPE HATTERAS N.C.	329	437	345	228	268	516	378	420	493	341	533	428	546	315	148	545	327	560	558	62	308	272	580	561	313	226	620	138	578	426	623	401
CARIBOU MAINE	311	286	343	249	27	333	285	436	100	333	449	341	480	214	135	432	430	399	227	357	484	342	---	428	270	124	405	563	141	371	483	326
CHARLESTON S.C.	277	389	116	252	461	563	470	333	409	544	478	567	530	264	321	620	621	615	417	98	142	641	611	348	194	160	656	87	620	682	662	424
CLEVELAND OHIO	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	477	115	163	442	468	415	99	157	407	65	343	319	264	---
COLUMBIA MISSOURI	428	350	389	44	509	411	84	37	34	497	124	475	393	366	516	412	496	525	46	45	177	546	282	329	35	539	192	528	533	479	602	336
CORVALLIS OREGON	202	226	129	130	229	231	243	118	183	192	126	265	283	133	474	383	231	254	407	175	361	455	410	524	166	236	555	553	514	436	254	293
DAVIS CALIFORNIA	172	494	488	472	500	366	527	515	384	518	159	285	536	508	560	558	534	555	558	530	356	99	258	480	570	593	596	578	523	563	125	450
E. LANSING MICHIGAN	141	328	130	138	56	419	126	129	131	235	435	290	389	231	435	396	427	430	528	84	328	552	505	443	84	332	405	193	320	451	340	304
EL CENTRO CALIF. NPF	403	198	418	424	426	423	433	450	440	---	422	422	425	462	420	436	347	453	464	476	402	392	253	402	492	499	488	497	434	405	479	423
EL PASO TEXAS	550	571	435	581	586	584	571	---	653	634	640	622	602	597	643	---	489	167	542	660	664	597	624	598*	---	684	600	619	605	---	429	576*
ELY NEVADA	260	344	543	488	321	487	---	552	312	558	373	227	---	552	385	581	563	604	500	497	302	462	510	---	---	---	626	614	599	606*	578	478*
EPPLEY,NEWPORT R.I.	340	377	211	353	79	454	300	153	100	---	368	143	477	363	89	497	241	238	508	484	375	167	507	485	454	64	529	493	303	374	574	337
FLAMING GORGE UTAH	375	193	434	320	295	257	460	528	237	489	496	292	337	522	413	556	512	231	298	550	446	138	310	305	420	402	288	604	607	603	398	397
FORT WORTH TEXAS	345	403	497	320	541	293	64	169	82	562	550	572*	311	491	592	579	554	149	278	540	609	599	231	181	524	632	585	603	601	556	594	439*
FRESNO CALIFORNIA	296	479	465	462	456	211	397	485	455	493	328	145	521	516	519	545	535	523	518	484	308	127	218	315	585	575	551	558	525	491	253	430
GAINESVILLE FLORIDA	437	359	447	610	522	614	564	491	485	530	534	309	600	396	440	421	592	647	494	607	---	---	573	283	467	130	601	144	560	704	703	492
GLASGOW MONTANA	144	378	365	231	257	377	224	359	284	367	380	309	409	439	282	403	412	133	253	327	334	293	321	536	535	454	520	457	557	541	506	367
GRAND JUNCTION COLO.	447	143	441	417	---	366	353	548	382	550	526	125	495	562	311	580	560	392	335	581	475	339	351	221	506	431	327	626	624	612	396	434
GREAT FALLS MONTANA	282	324	232	252	275	---	---	394	406	397	249	---	282	259	---	---	---	---	368	401	206	341	---	512*	---	314	528	510	478	424	441	358*
GREENSBORO N.C.	202	250	450	100	418	522	315	402	220	514	548	536	541	63	98	573	550	590	516	57	319	582	543	462	93	337	611	571	629	632	557	413
GRIFFIN EXP.STA.GA.	118	61	465	241	518	635	457	545	287	560	659	674	591	239	307	672	671	672	167	214	226	695	639	197	94	584	728	584	744	755	610	471
INDIANAPOLIS INDIANA	410	166	143	29	130	507	152	83	39	351	355	346	534	126	529	549	566	534	356	100	47	601	535	523	117	285	525	255	357	603	490	334
ITHACA NEW YORK	130	341	354	70	258	332	310	46	38	25	282	204	318	99	348	457	247	22	335	454	61	207	546	325	47	124	223	409	251	294	386	251
LAKE CHARLES LA.	36	433	81	465	552	399	86	---	250	573	410	520	171	65	485	593	569	367	505	558	605	422	204	93	82	501	471	359	584	592	612	388
LAKELAND FLORIDA	358	477	389	387	207	578	544	453	468	258	534	338	519	357	427	286	399	603	567	519	527	626	569	355	425	328	232	339	691	629	662	453
LANDER WYOMING	350	247	474	480	452	374	467	521	454	483	457	359	545	513	530	558	534	565	432	491	488	331	590	594	627	584	340	---	---	582	477	479
LARAMIE WYOMING	343	141	324	384	360	456	242	504	397	398	453	435	416	495	433	495	461	239	399	535	421	382	497	304	521	242	385	553	544	545	511	413
LAS VEGAS NEVADA	381	304	500	497	500	418	266	535	466	510	523	354	564	575	423	553	555	554	578	579	529	436	475	584	621	604	624	632	528	569	624	512
LITTLE ROCK ARKANSAS	320	208	434	231	483	348	113	219	63	503	444	510	285	266	522	509	487	410	147	403	356	543	347	119	241	560	473	416	480	556	527	371
LOS ANGELES CALIF.WB	423	428	505	476	463	503	499	544	510	458	485	272	506	552	500	480	558	528	469	521	264	282	241	564	580	593	572	567	559	429	209	469
LOS ANGELES CALIF. U	479	525	548	503	480	517	452	577	508	502	514	283	495	590	517	550	550*	546*	437	547	249	274	183	409	596	598	574	597	561	429	176	476*
MADISON WISCONSIN	389	378	47	44	489	203	---	---	393	---	437	435	168	339	511	426	527	518	321	195	449	284	404	338	125	586	318	626	453	565	552	376
MANHATTAN KANSAS	427	407	238	66	456	438	210	120	484	242	414	500	388	531	492	433	520	508	36	102	593	539	496	105	360	589	313	596	614	593	584	400
MAUNA LOA OB.HAWAII	720	---	448	396	569	533	740	486	532	404	498	320	612	528	533	704	704	661	306	538	493	341	375	536	---	470	525	572	270	438	---	509
MEDFORD OREGON	243	251	114	129	162	312	330	331	373	348	49	162	401	154	456	465	389	483	481	226	243	386	248	236	436	523	540	523	362	475	300	327
MIAMI FLORIDA	288	493	474	523	467	545	462	479	512	506	445	475	516	462	511	462	359	608	496	137	277	596	543	425	499	485	292	301	205	655	502	452
MIDLAND TEXAS	454	509	---	461	527	476	491	315	561	557	565	541	544	515	594	---	510	115	572	573	599	579	591	563	604	620	543	596	593	359	566	520
NASHVILLE TENNESSEE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	567	591	76	398	109	524	553	389	110	508	578	176	490	625	550	---
NEW YORK N.Y. U	335	342	151	166	151	471	222	168	93	32	193	55	488	227	108	532	248	478	539	454	135	367	529	400	386	109	560	499	417	259	537	311
NORTH OMAHA NEBRASKA	467	105	173	151	475	180	386	178	542	325	359	508	437	558	530	536	408	389	54	215	636	577	391	171	291	648	447	578	663	624	616	407
OAK RIDGE TENNESSEE	51	43	196	71	83	423	159	160	212	66	454	450	454	24	289	479	481	501	215	79	87	318	485	398	36	540	538	405	529	560	477	299

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

MARCH 1964

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
OKLAHOMA CITY OKLA.	459	372	271	138	495	449	117	61	204	505	488	519	458	479	535	478	522	240	110	108	575	553	498	355	123	586	563	552	390	174	512	383
PAGE ARIZONA	399	181	389	457	390	395	232	459	436	429	487	265	471	508	312	511	507	452	440	531	439	393	373	227	559	512	542	551	534	546	418	430
PHOENIX ARIZONA	478	165	336	509	521	504	390	490	536	412	539	511	459	569	552	479	423	504	553	587	568	436	309	485	590	592	599	577	485	556	478	490
PORTLAND MAINE	222	375	313	305	28	434	416	256	49	70	371	183	478	334	89	474	139	317	498	505	197	117	522	454	112	40	523	445	186	490	411	302
RAPID CITY S.DAK.	274	124	295	278	241	378	339	430	394	275	424	396	277	445	369	409	282	189	171	460	433	259	339	427	489	306	426	390	493	502	497	355
RIVERSIDE CALIFORNIA	512	481	585	551	512	349	466	609	584	558	---	60	519	604	505	599	603	604	544	582	290	280	186	279	651	629	627	626	582	509	204	490
SAINT CLOUD MINN.	395*	207*	79	395	433	265	450	331	439	428	336	422	317	445	417	408	472	194*	134	274	518	385	197	535	400	565	476	550	587	483	576	391*
SAN ANTONIO TEXAS	76	---	413	569	562	463	214	181	---	577	296	504	201	446	620	547	509	178	585	587	607	412	352	242	322	638	349	475	559	510	276	423
SANTA MARIA CALIF.	403	501	502	491	508	496	400	527	523	512	411	355	520	539	523	559	564	550	510	332	501	130	366	406*	595	591	581	561	546	395	319	475*
SAULT STE MARIE MICH	352	327	293	46	275	335	303	329	435	475	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SEATTLE TACOMA WASH.	174	315	95	151	223	231	219	75*	---	69	144	223	242	133	175	124	61	152	296	222	215	328	310	463	75	211	392	490	485	311	264	229*
SEATTLE WASH. UNIV.	168	272	76	176	95	164	183	94	214	70	182	252	190	171	238	105	91	186	271	191	218	337	389	399	77	185	312	457	456	276	261	218
SHREVEPORT LOUISIANA	151	287	373	379	558	417	95	296	83	594	576	606	102	142	622	623	598	218	436	506	641	625	211	102	204	655	619	412	642	610	597	419
SPOKANE WASHINGTON	410	244	167	93	301	255	452	115	392	251	91	339	474	190	481	185	60	436	424	235	256	298	536	527	205	308	490	527	540	522	316	326
STATE COLLEGE PENN.	306	371	138	26	305	469	346	121	121	92	322	173	455	69	243	520	235	378	558	404	81	77	541	420	208	288	400	380	405	365	286	293
STERLING VIRGINA	255	---	---	63	366	461	237	155	308	---	440	154	474	106	94	498	447	531	531	282	90	345	534	448	371	391	543	501	413	439	482	356
STILLWATER OKLAHOMA	468	405	238	113	478	464	70	67	90	502	489	516	395	458	525	476	527	309	74	90	560	539	440	121	145	557	539	555	495	169	518	367
SWAN ISLAND W.I.	612	622	626	642	659	578	404	667	689	673	619	591	658	654	647	671	691	644	657	691	693	621	588	699	695	625	716	673	712	731	446	642
TAMPA FLORIDA	294	514	514	456	168	585	556	538	522	203	523	301	422	454	538	284	407	607	576	578	545	609	528	319	476	309	244	135	443	653	686	451
TUCSON ARIZONA	269	163	248	489	476	510	443	319	560	411	509	489	463	511	521	331	347	235	547	631	568	404	541	259	589	617	598	557	435	579	321	450

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

MARCH 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	71	35	47	67	12	34	34	125	42	73	82	41	-10	101	-22	161	115	37	41	58	119	-17	-11	-48	-13	-53	-49	15	131	187	183	51

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Huntley Exp. Station. The instrument with which they were measured has not been checked by the Weather Bureau.

TOTAL OZONE DATA

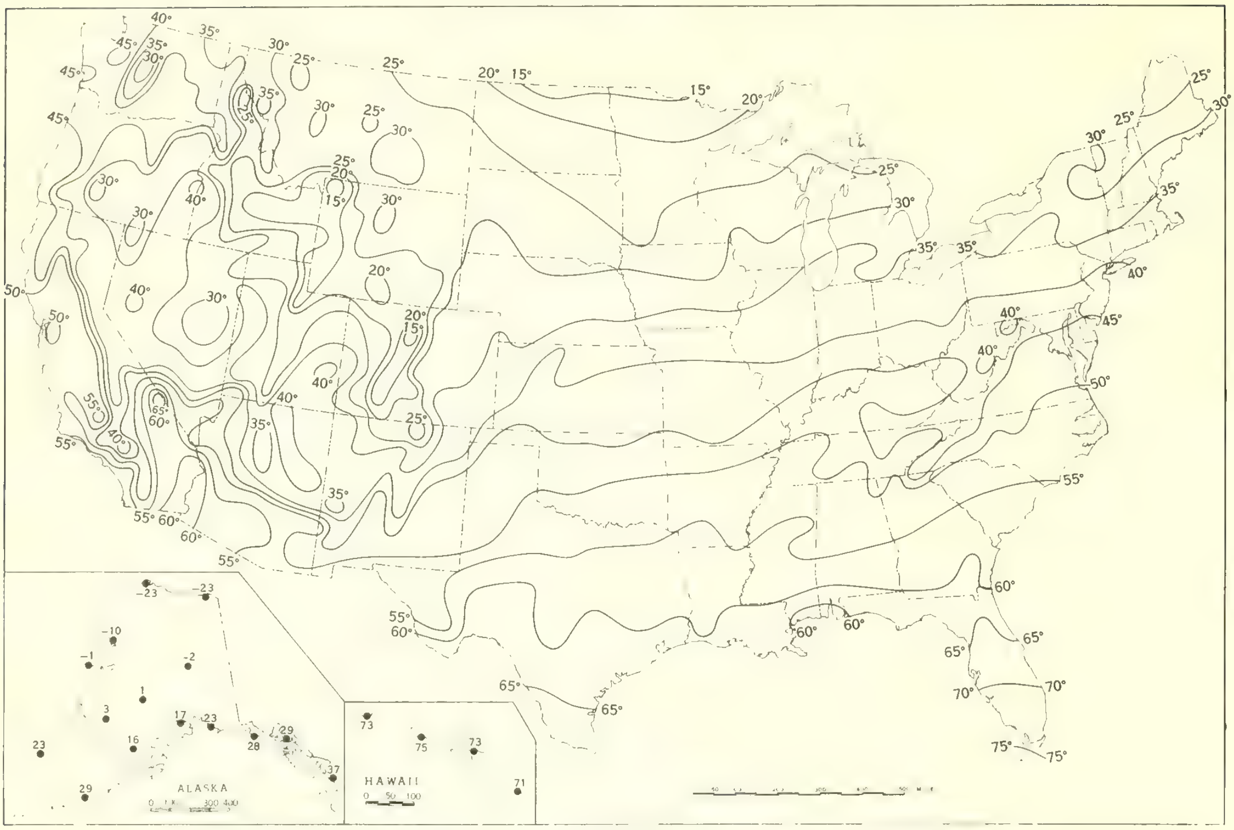
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code ʌ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

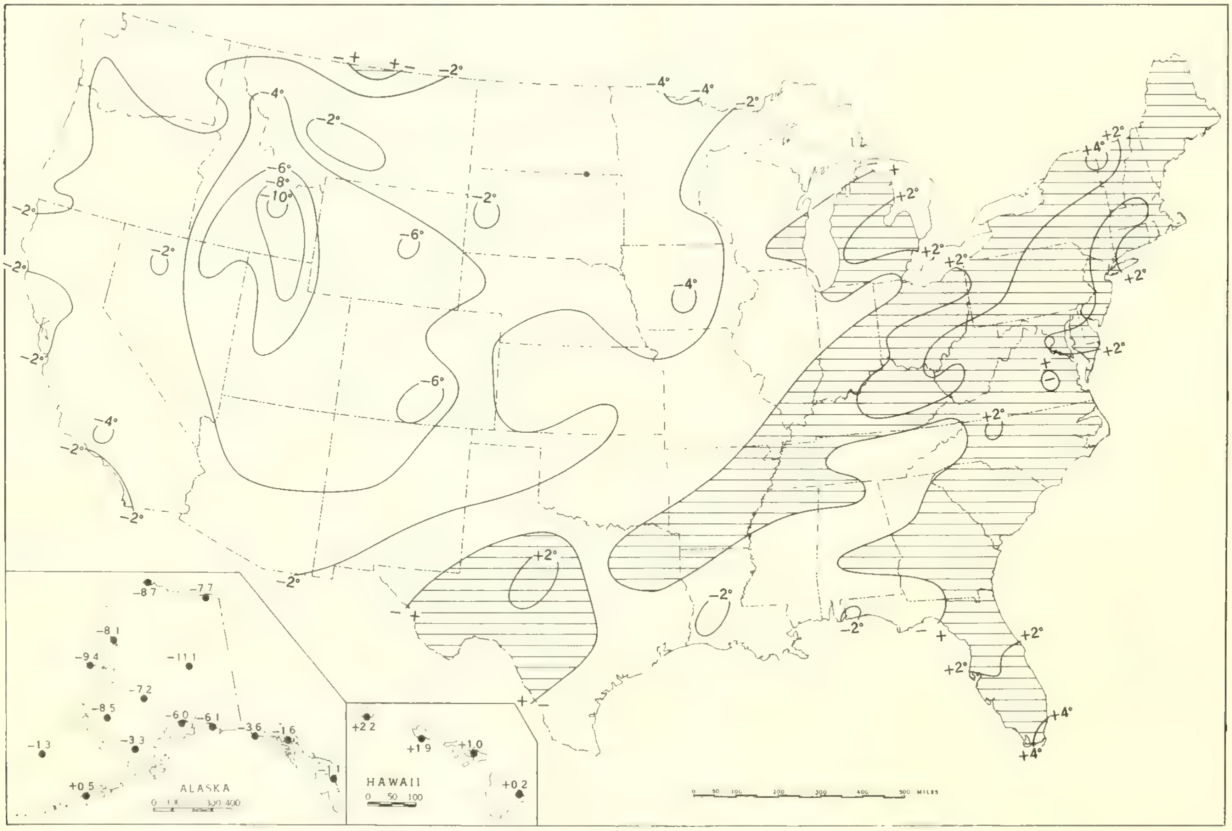
Station	Day of month																															Mean O3
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Albuquerque, N.Mex.	00348	05334	06427	00388	00331	00353	00324	-----	00338	05379	00360	06334	06329	00316	00308	05304	06310	05324	00363	00346	05306	06321	02323	06339	06364	00342	00360	00344	00325	00324	05281	327
Bedford, Mass.	-----	00378	00358	00350	-----	00329	-----	-----	05384	-----	00412	00452	00409	-----	-----	00413	35395	00448	00435	00365	-----	-----	00410	00390	00401	05452	00418	-----	-----	00455	00486	407
Bismarck, N. Dak.	04375	00419	00463	05443	00425	00424	00406	35447	35417	00436	00446	00406	00430	00445	05396	00417	00380	05403	05396	00381	00402	04417	-----	00441	00448	06472	00491	00430	00403	00371	00352	419
Caribou, Maine	00387	00403	00402	00378	-----	00414	00401	00435	-----	05387	00423	35458	00469	34450	35427	00464	00425	00473	05466	00427	00407	05453	00459	00407	00420	35415	38494	00434	-----	35490	00512	435
Green Bay, Wis.	00442	04377	04410	04466	00447	00433	00426	04413	00414	00413	04466	00430	04430	00449	00451	00441	-----	00399	05390	05419	00400	00446	00413	00394	04426	00457	00470	00491	00545	00489	00495	438
Nashville, Tenn.	04347	05313	04311	06297	06386	00312	04316	05308	04318	05336	00333	00368	00345	-----	00327	00318	00315	00336	04316	00311	05385	00323	00357	00322	05349	00378	00365	05407	00405	00405	00395	343
Sterling, Va.	05354	00346	04322	07327	05275	00302	05306	05313	06304	00330	00337	05436	00368	00339	06363	00330	00353	00391	00363	04362	-----	05383	00347	00352	06343	00328	00358	00364	00415	04483	00461	355

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code ʌ s designates the type of measurement made.

Chart I. A. Average Temperature (°F.) at Surface, March 1964.



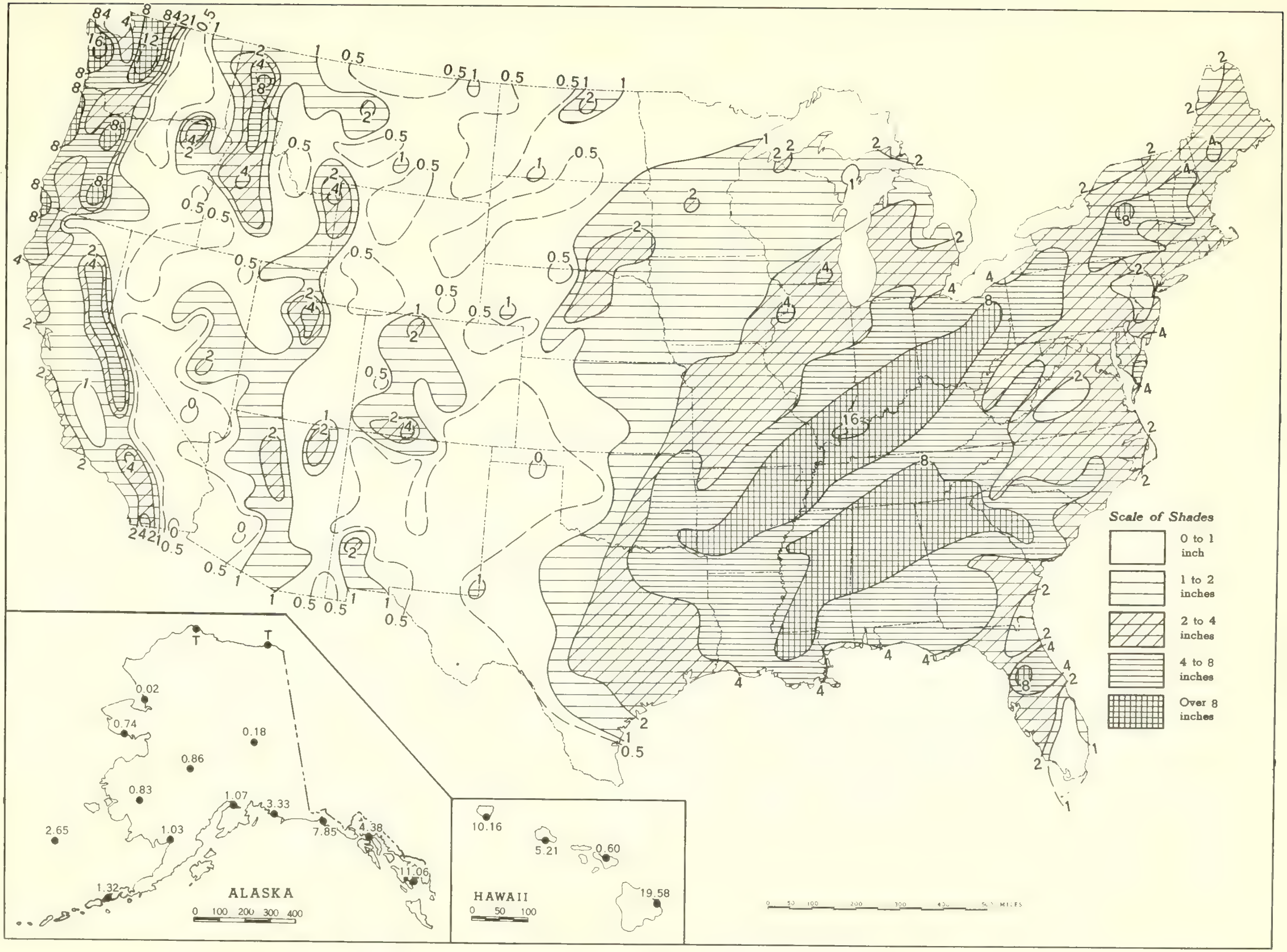
B. Departure of Average Temperature from Normal (°F.), March 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

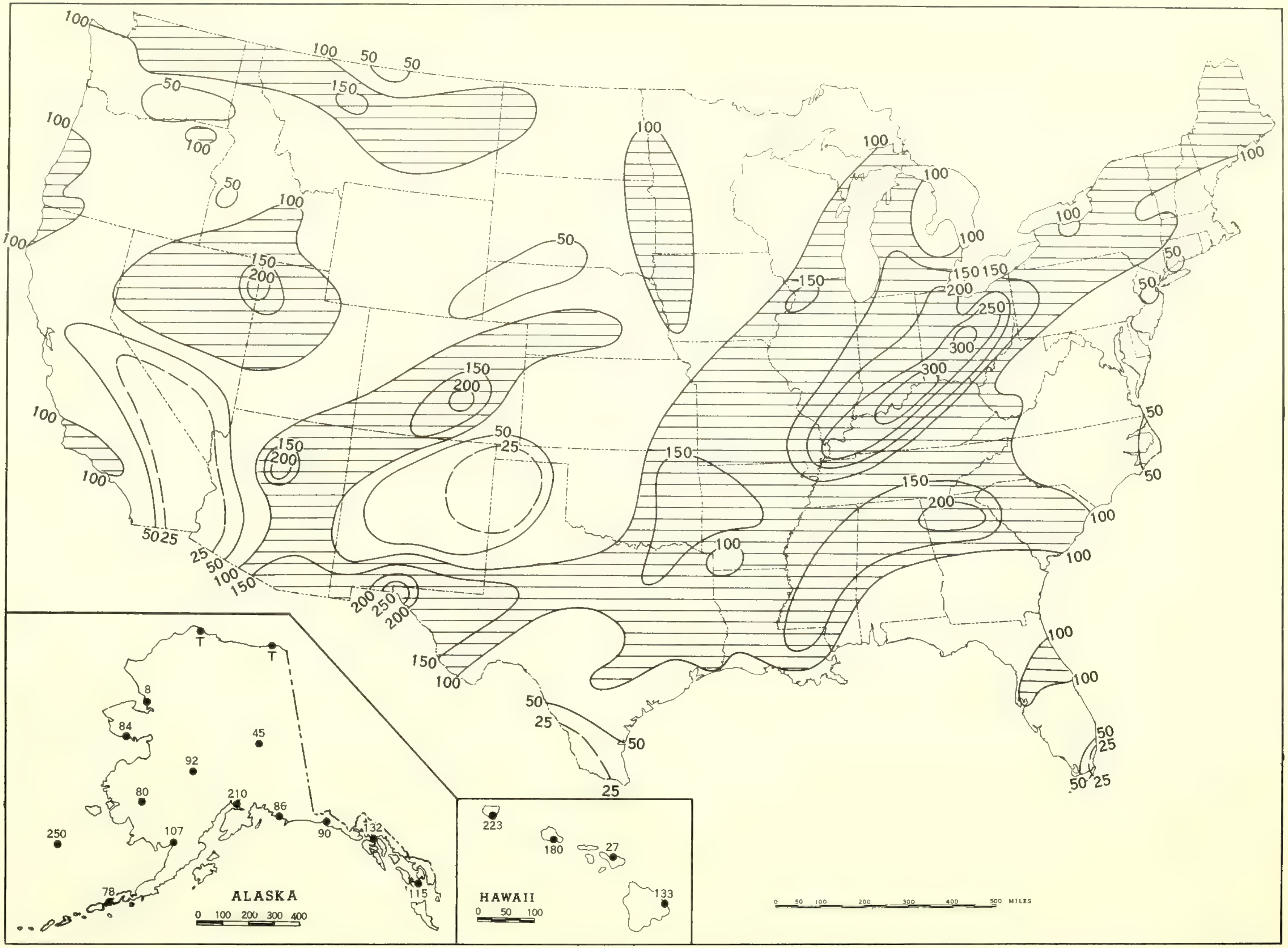
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), March 1964.



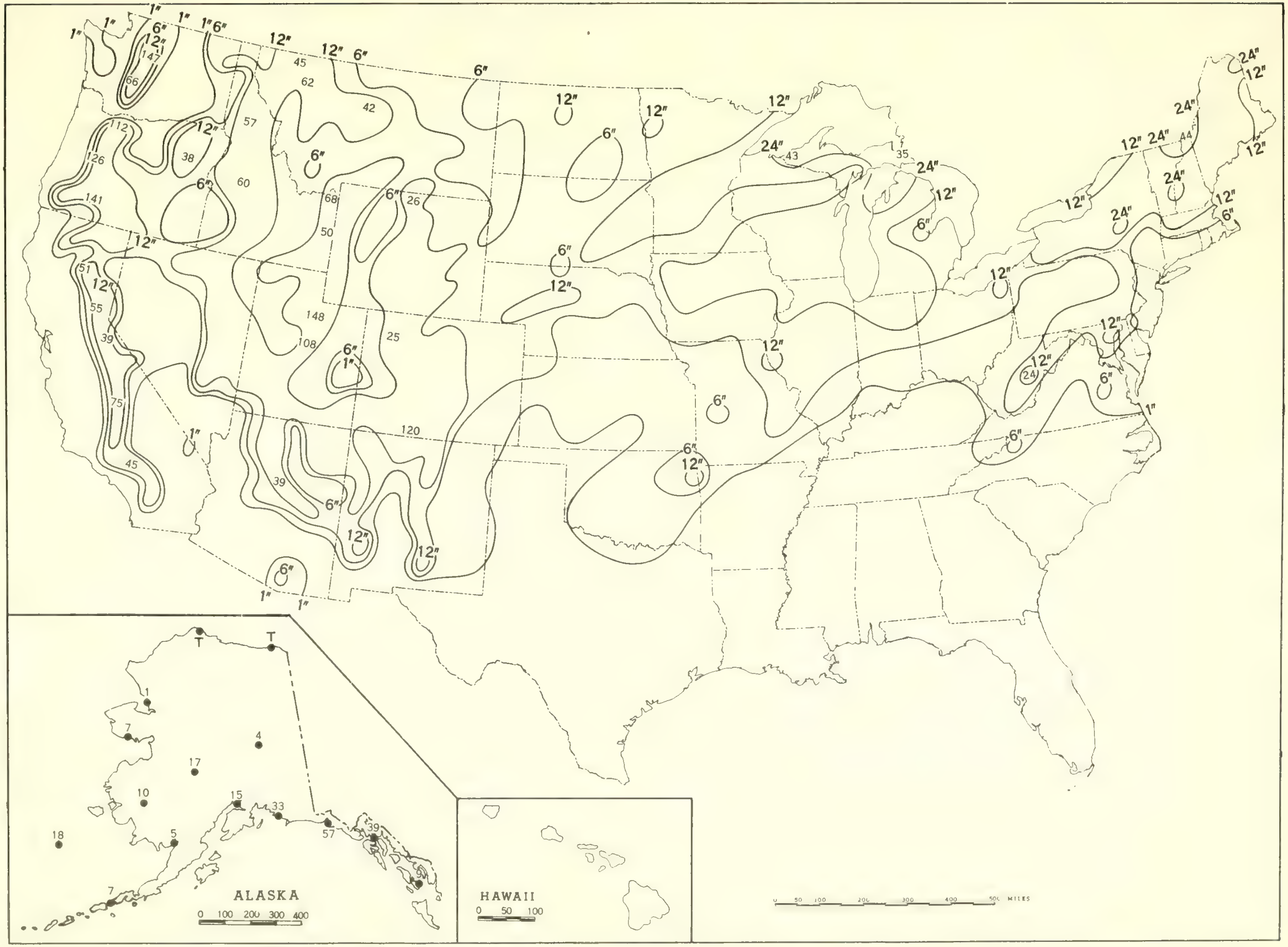
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, March 1964.



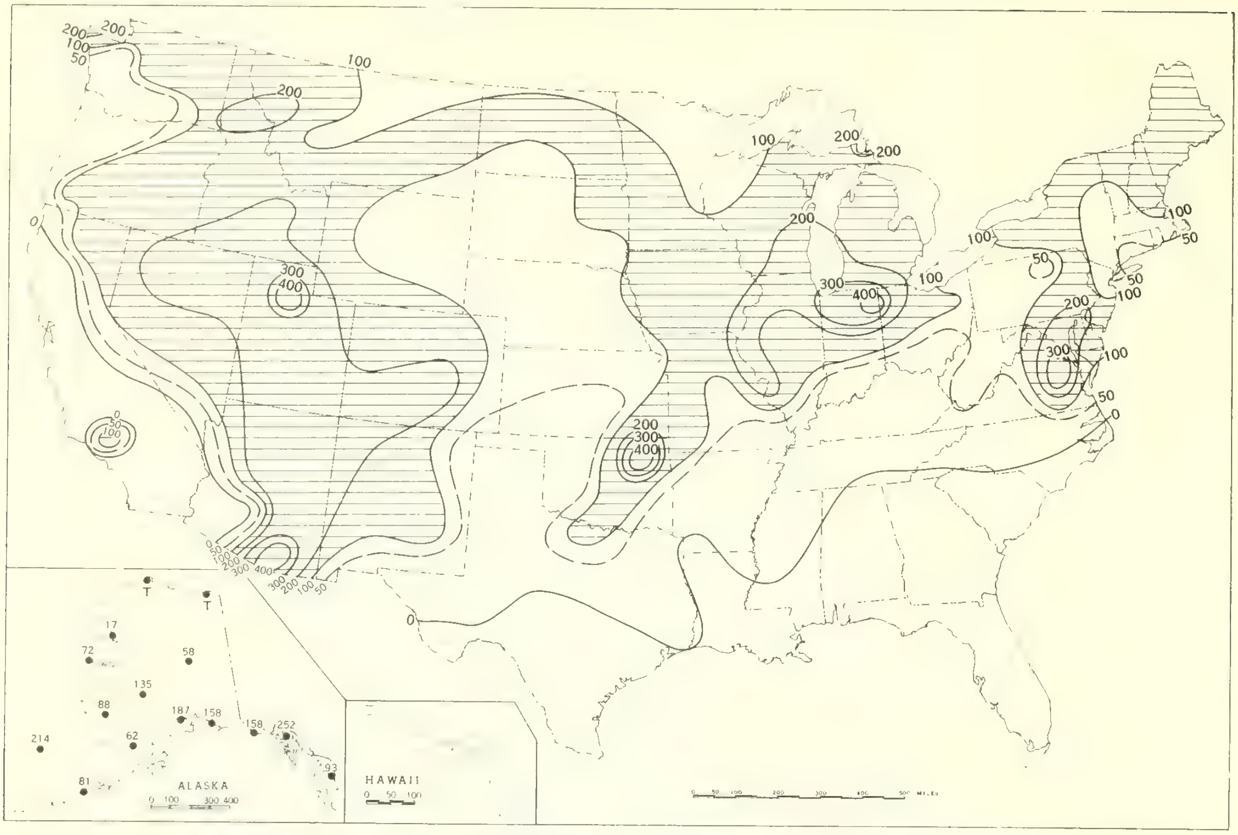
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), March 1964.

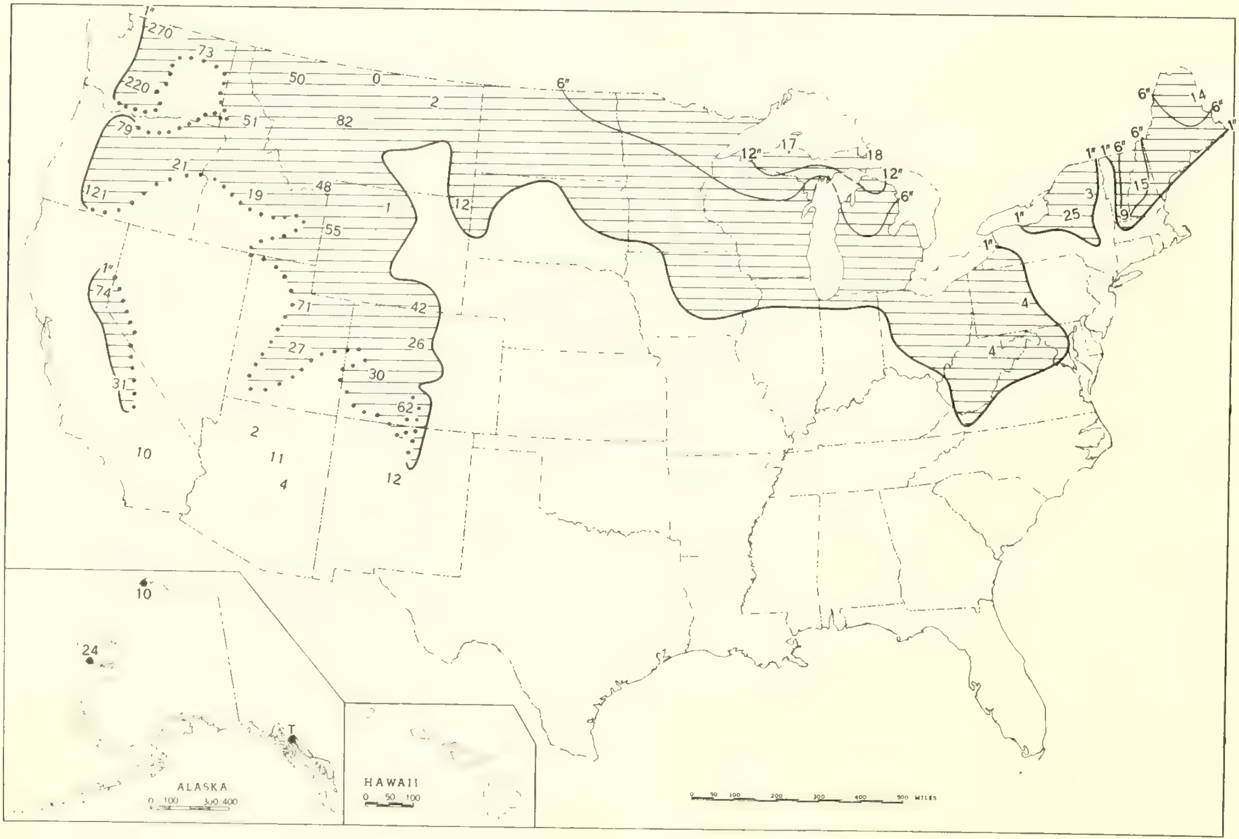


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, March 1964.

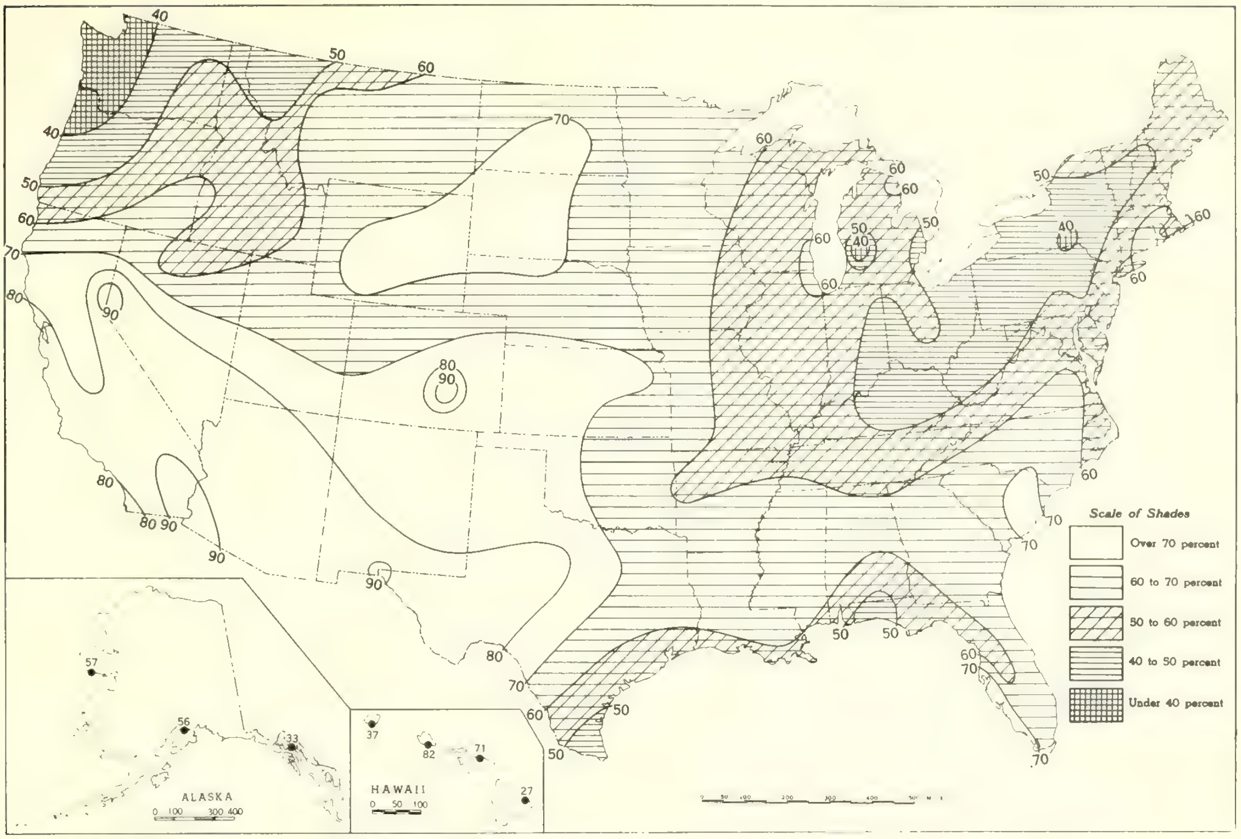


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., March 30, 1964.

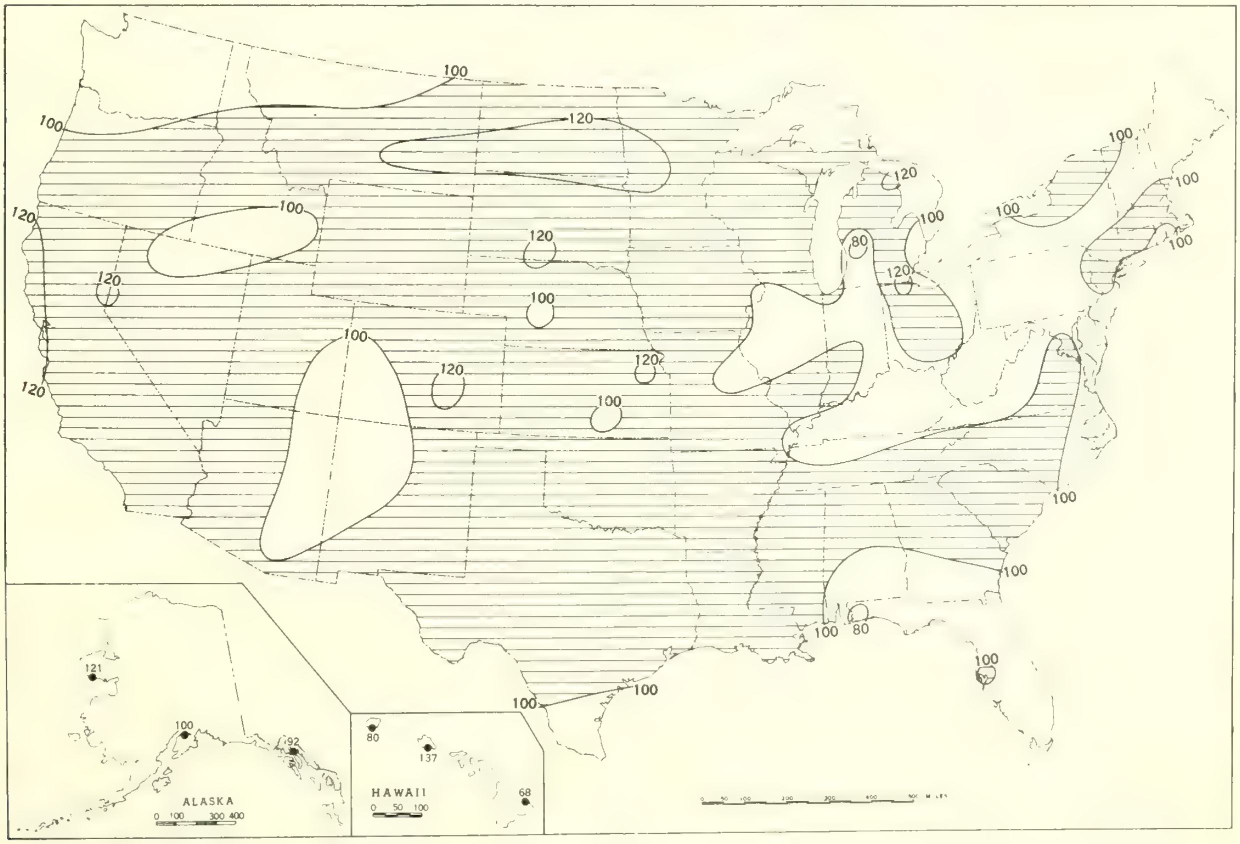


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, March 1964.

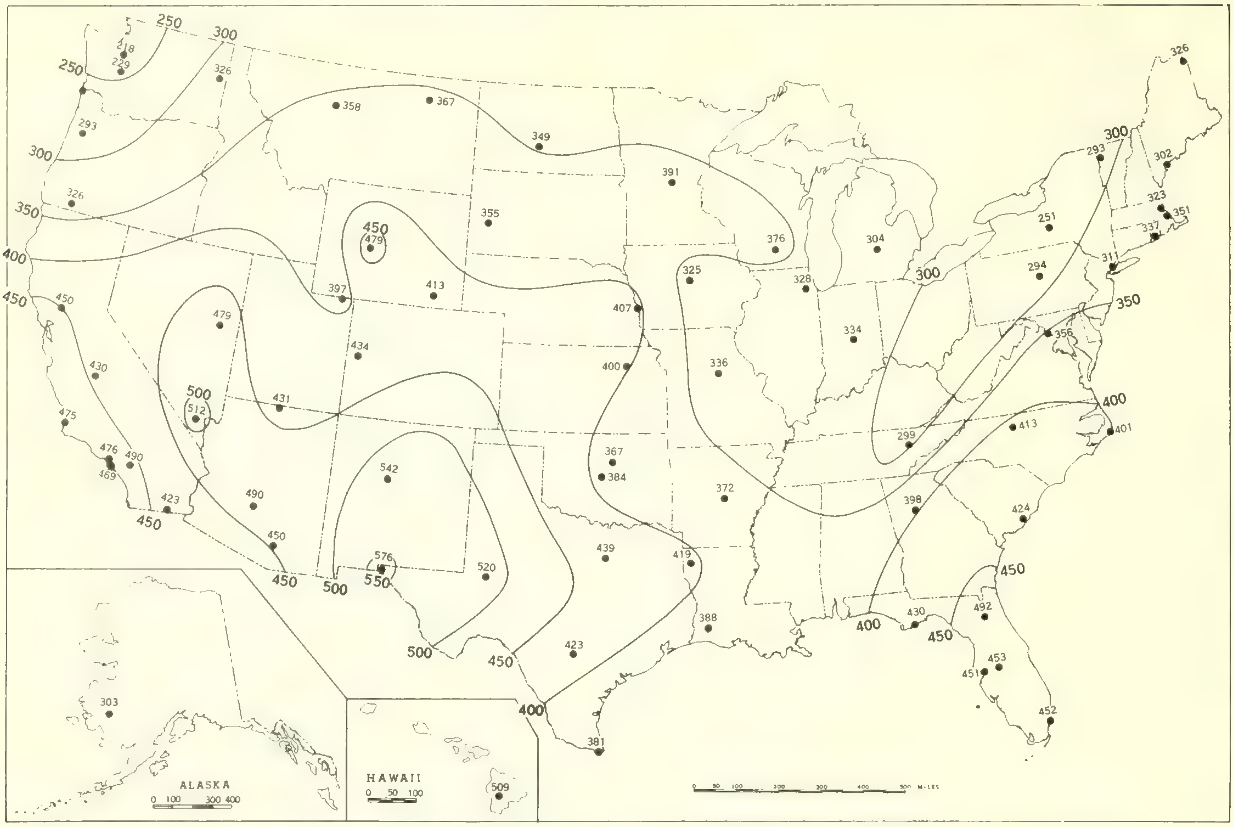


B. Percentage of Mean Monthly Sunshine, March 1964.

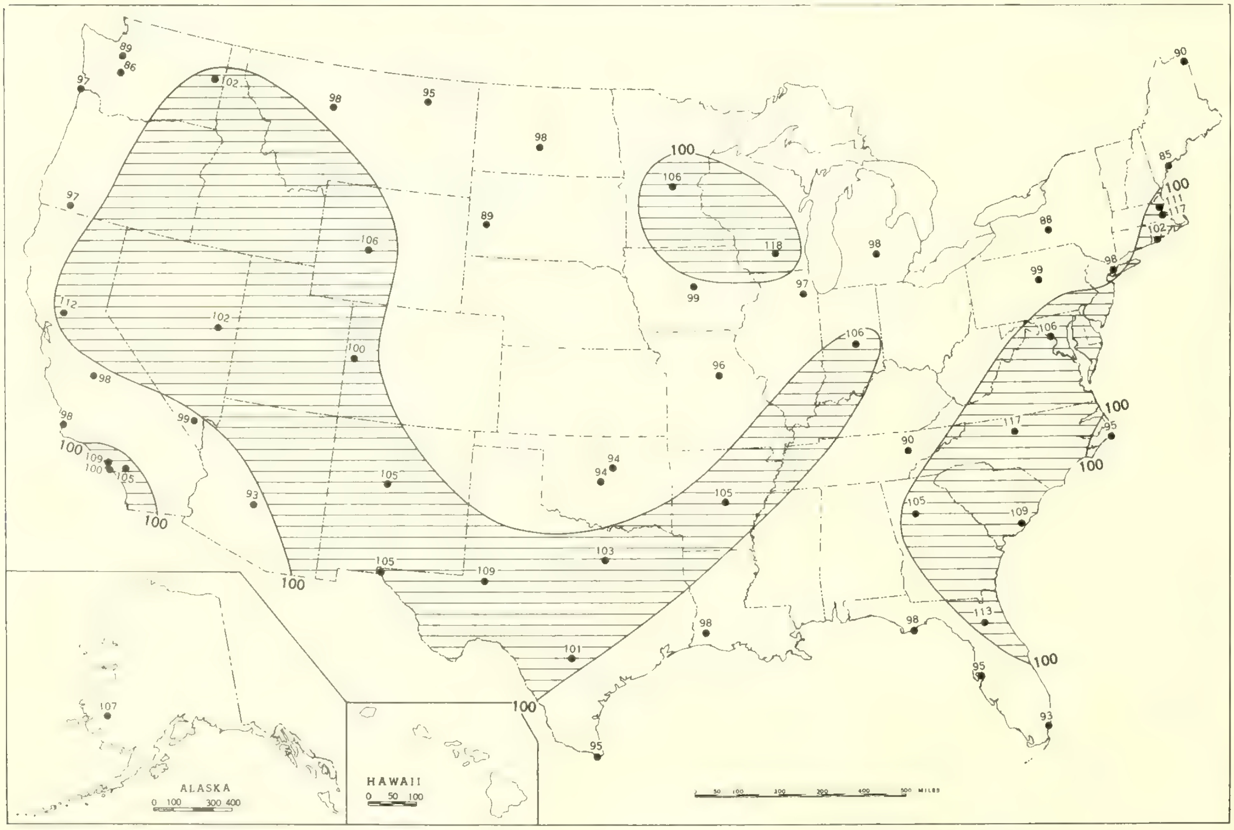


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, March 1964.

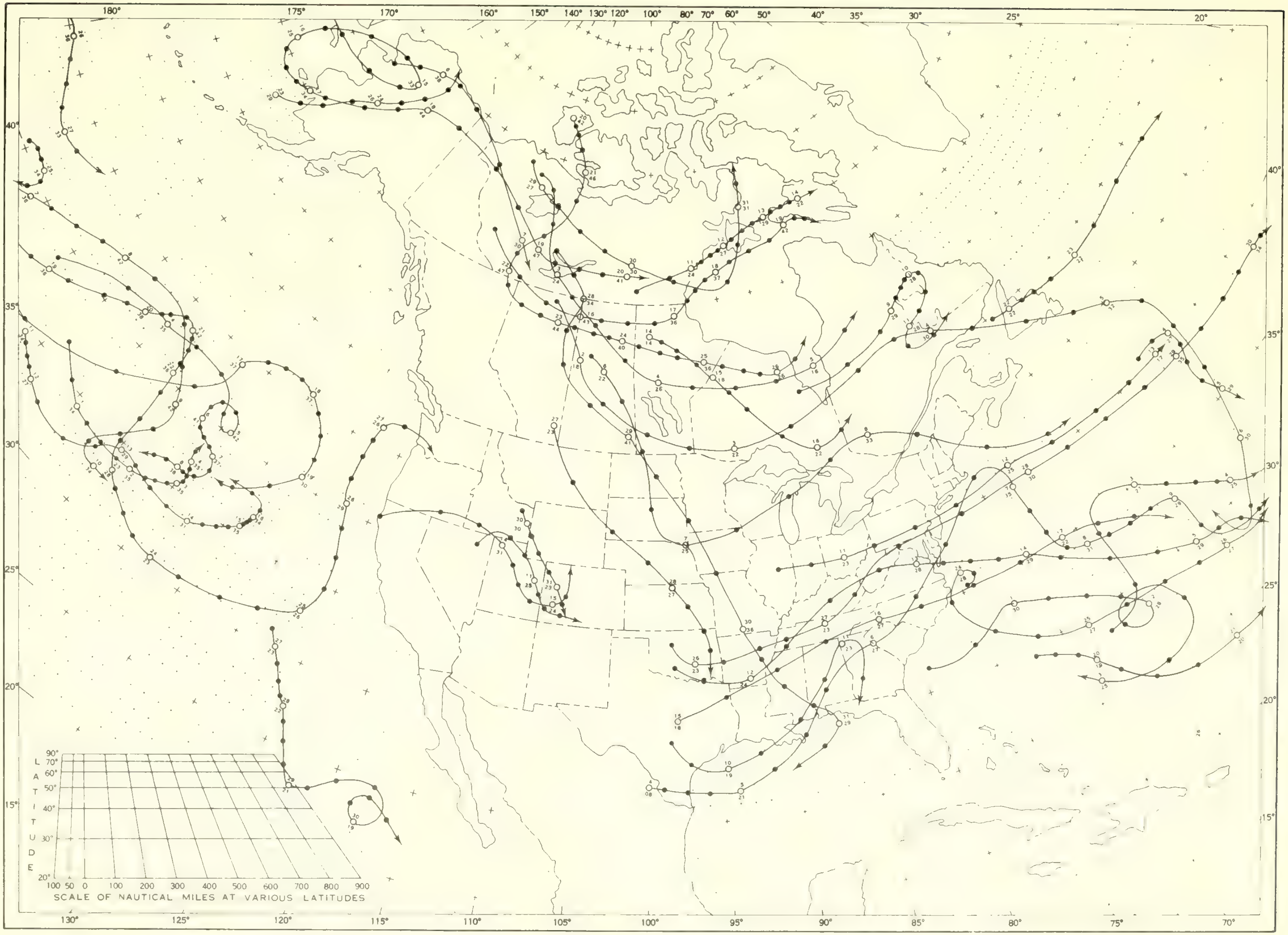


B. Percentage of Mean Daily Solar Radiation, March 1964.



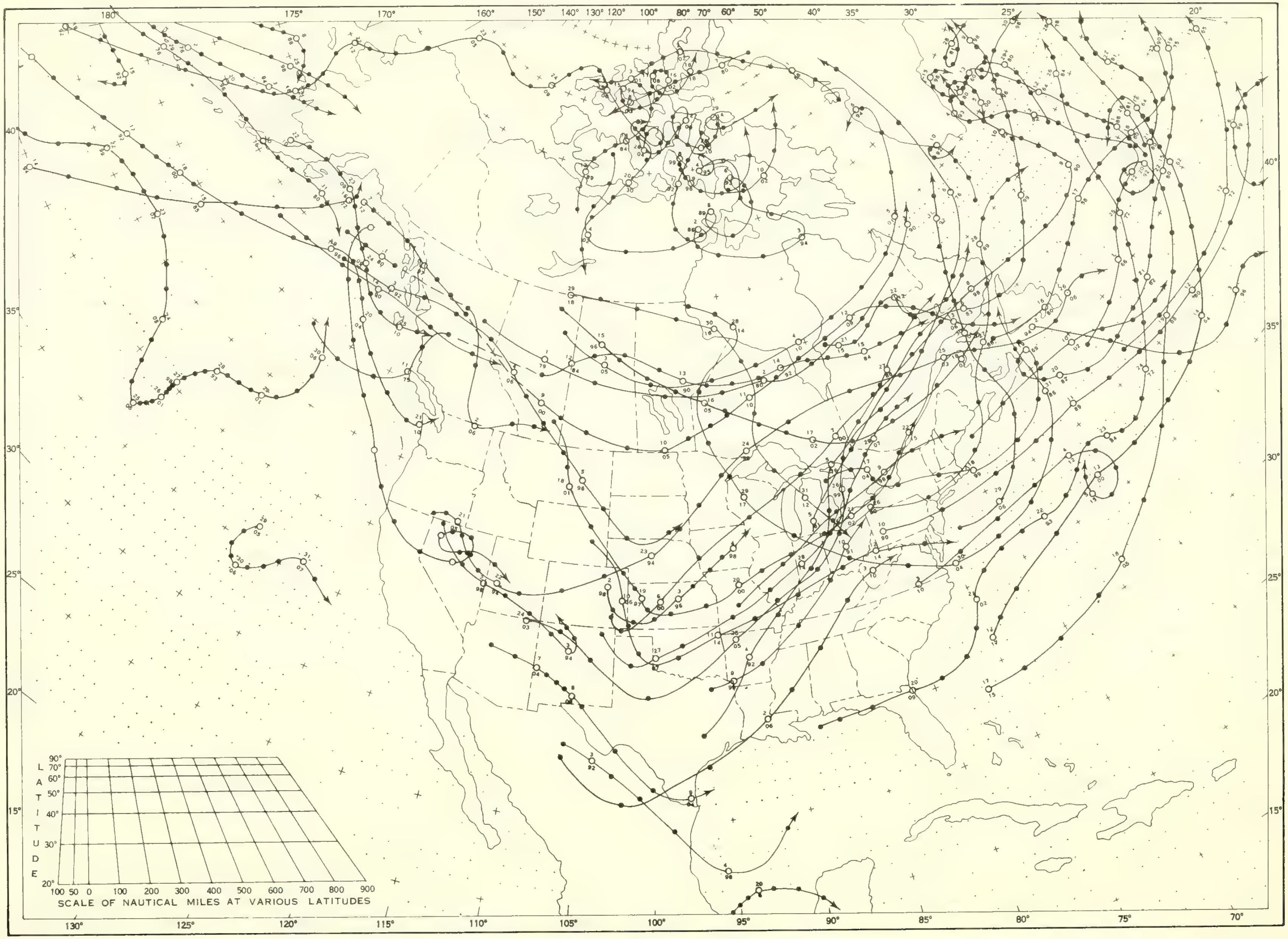
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, March 1964.



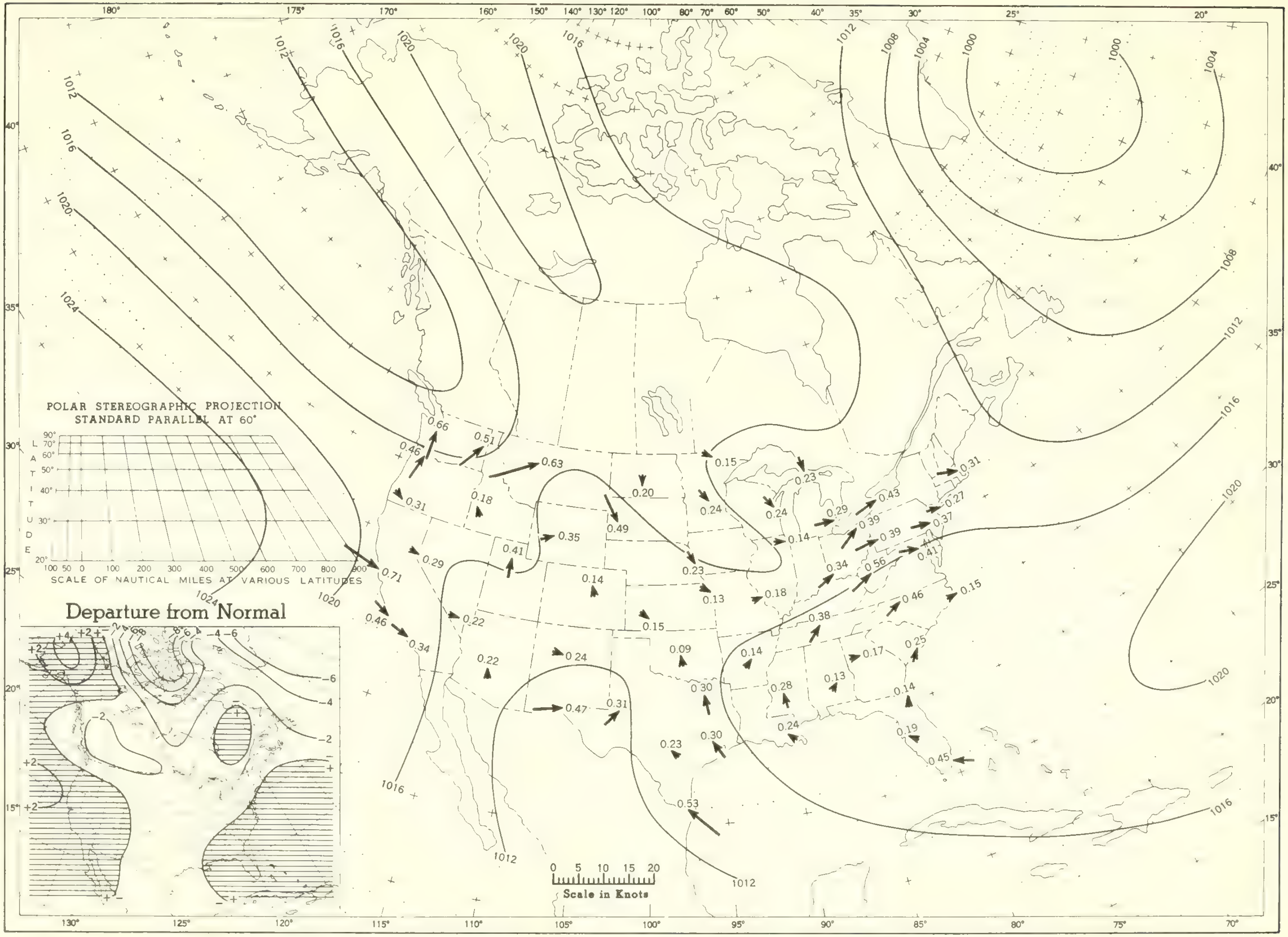
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, March 1964.



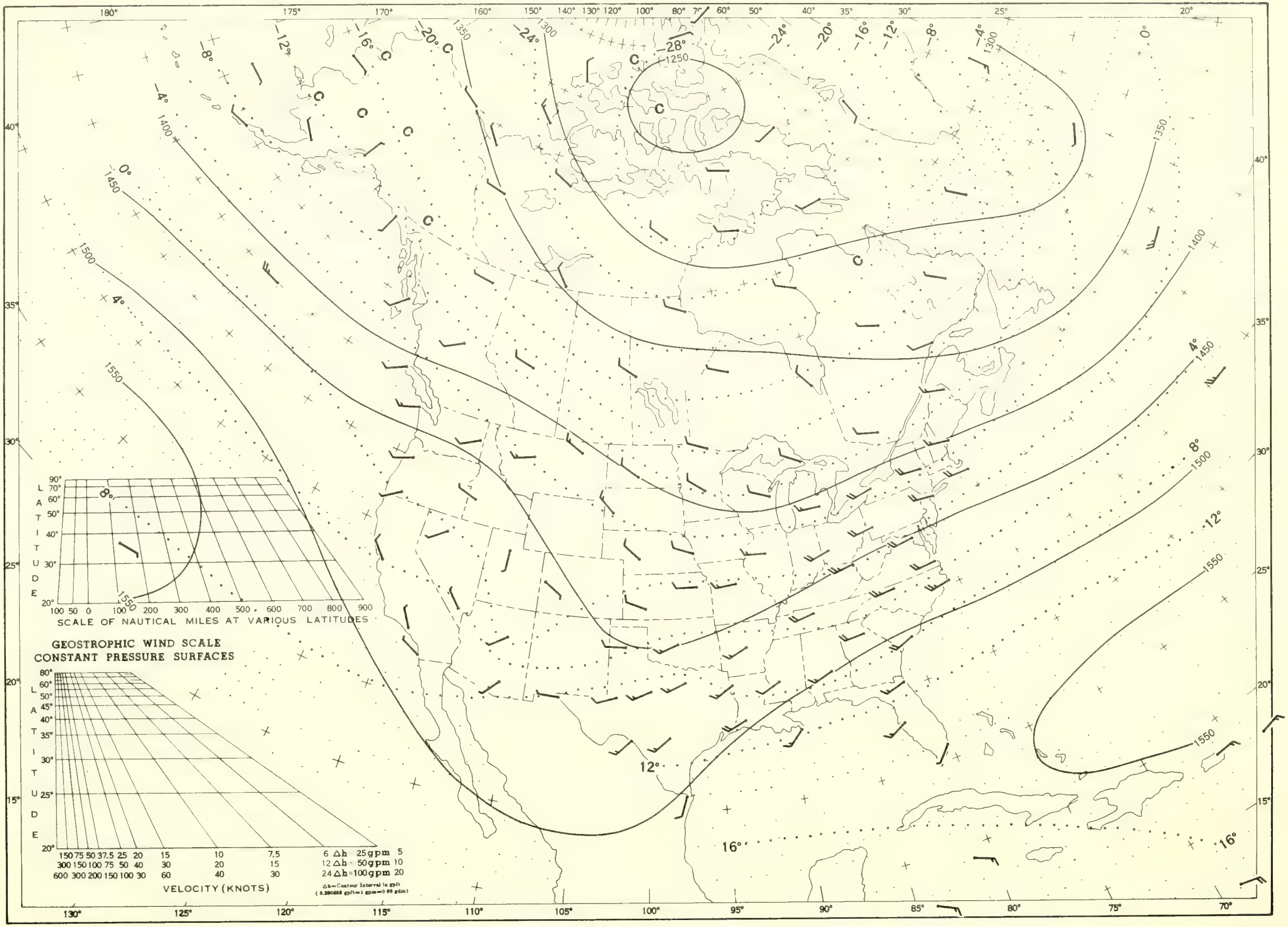
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, March 1964. Inset: Departure of Average Pressure (mb.) from Normal, March 1964.



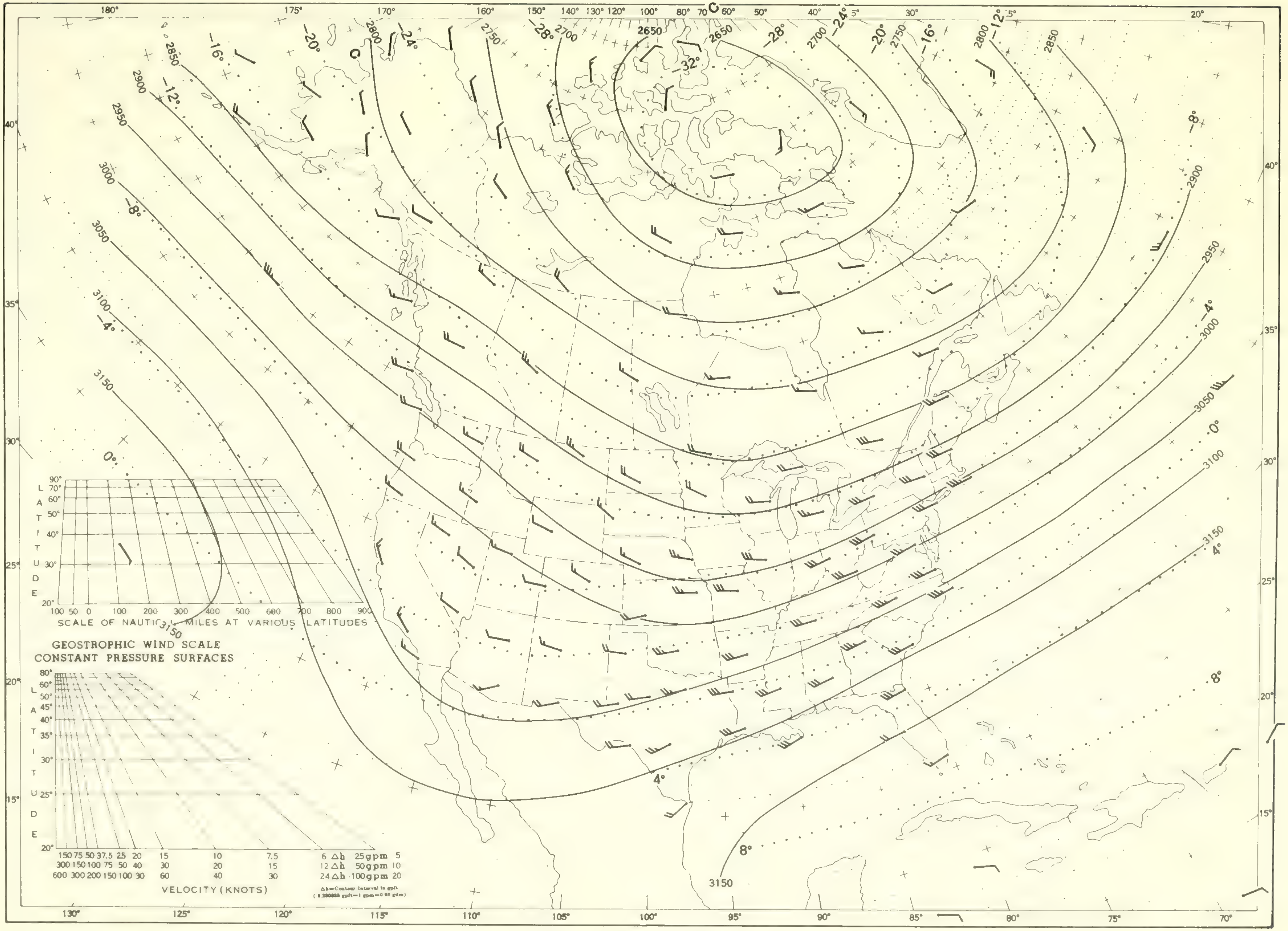
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, March **1964**. Average Height and Temperature, and Resultant Winds.



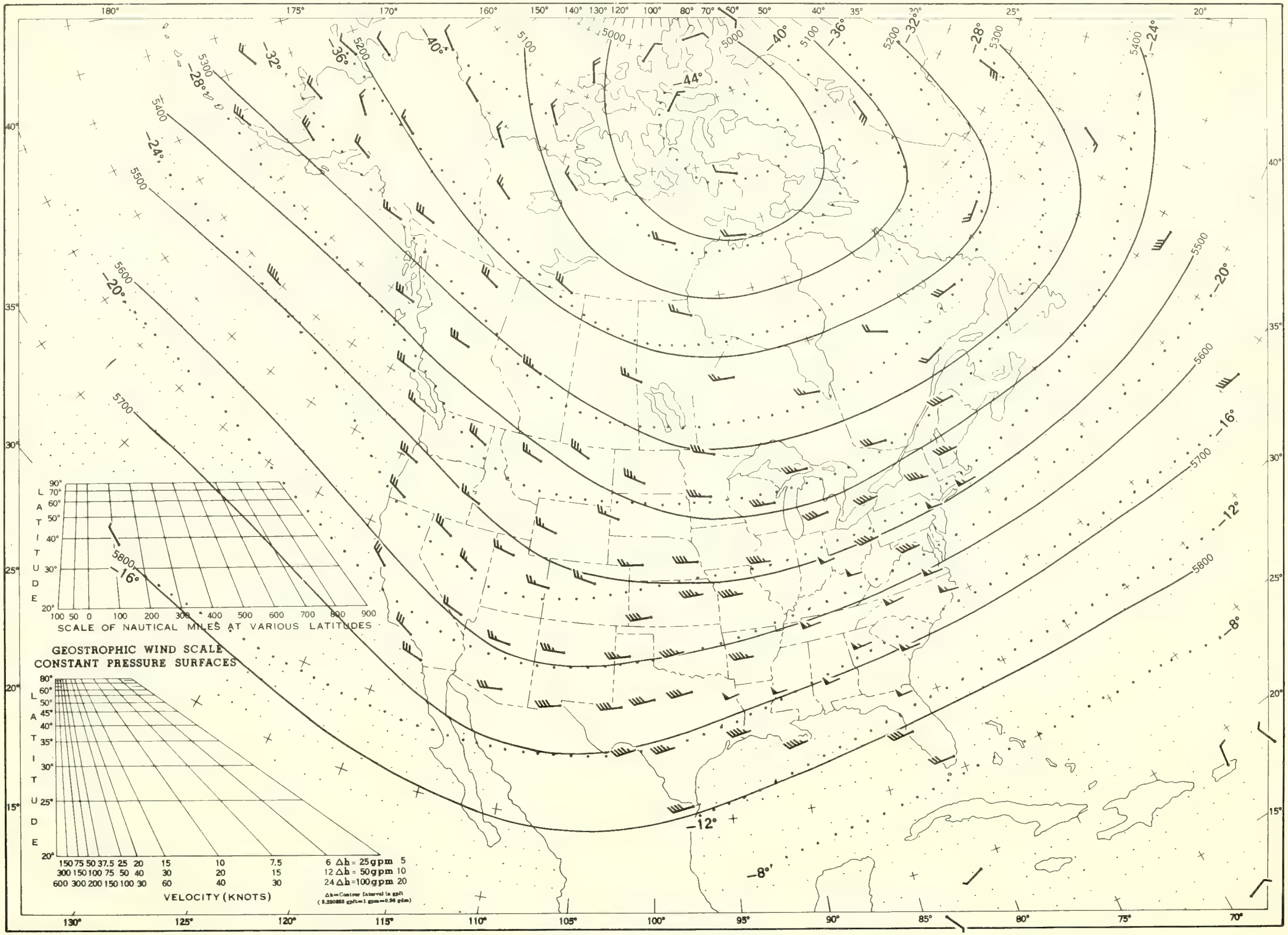
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, March 1964. Average Height and Temperature, and Resultant Winds.



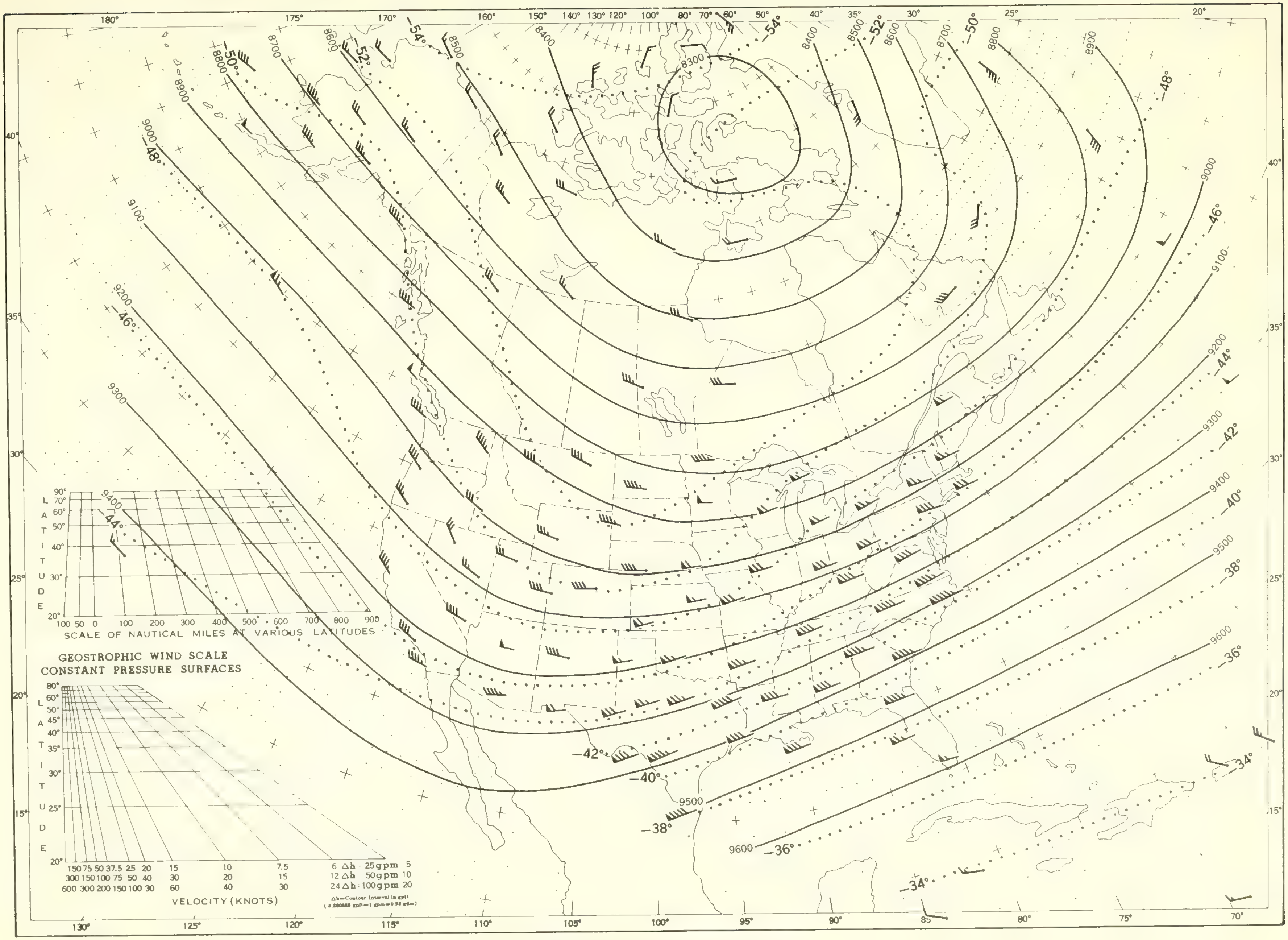
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, March 1964. Average Height and Temperature, and Resultant Winds.



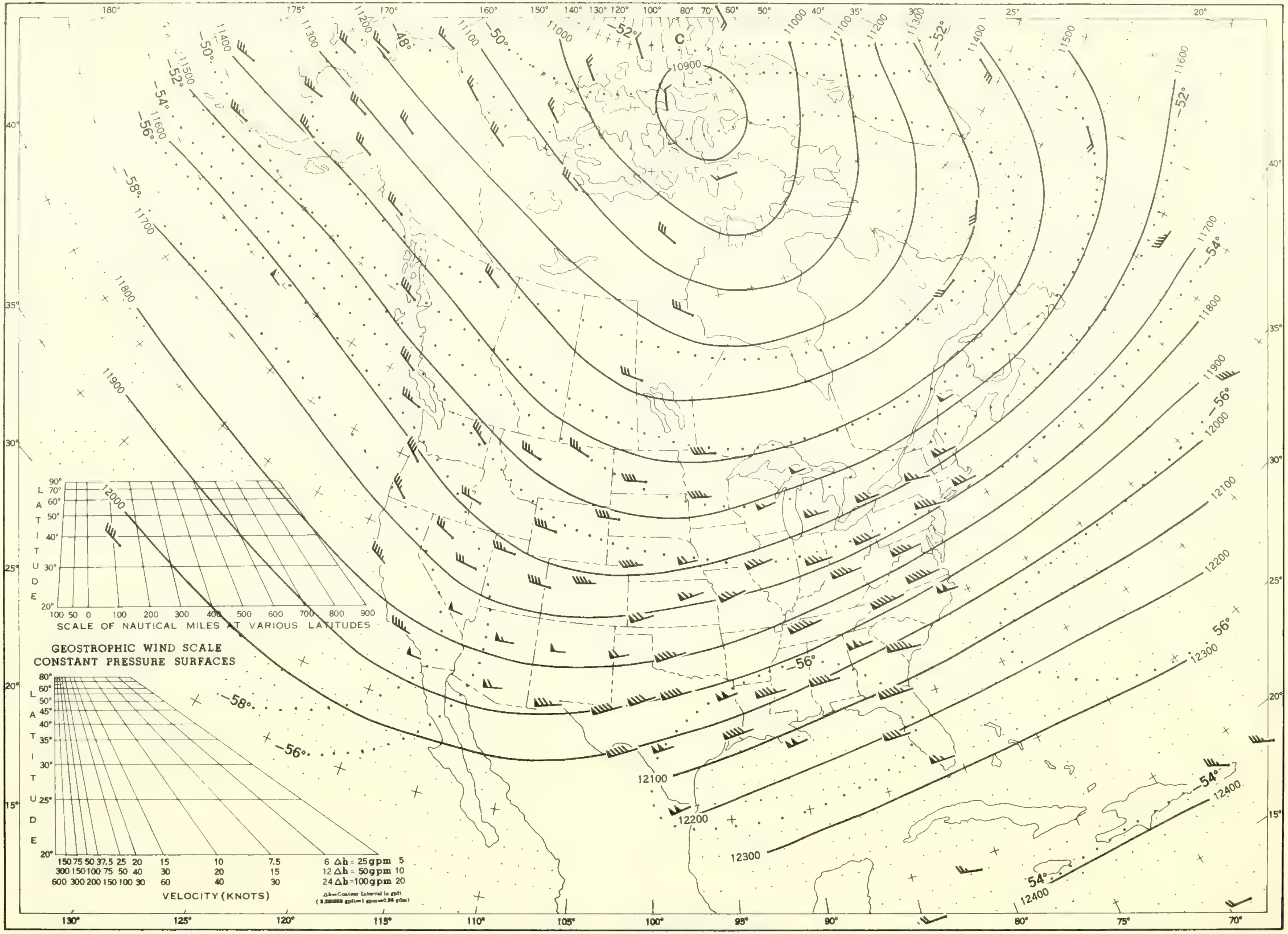
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, March 1964. Average Height and Temperature, and Resultant Winds.



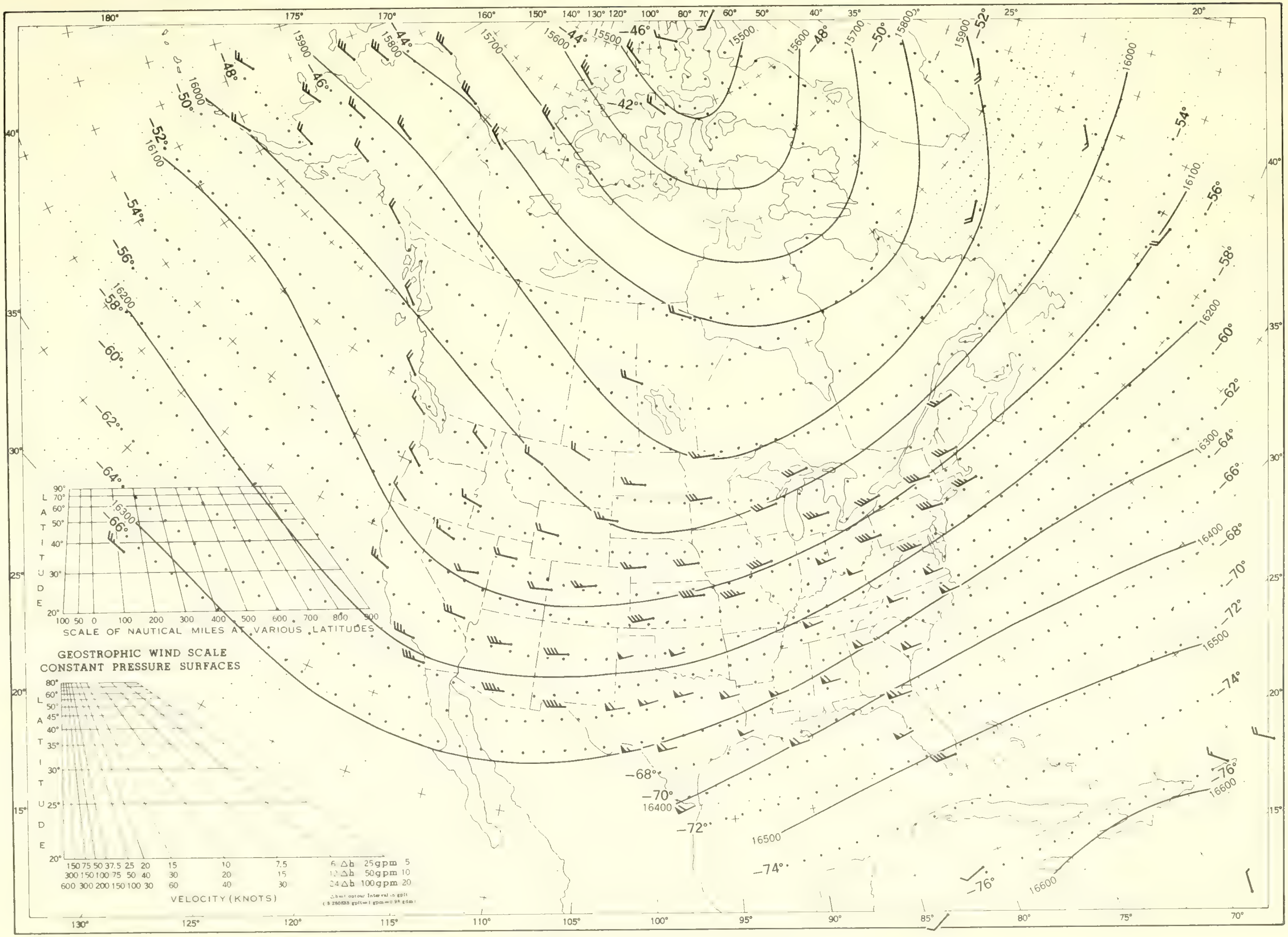
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, March 1964. Average Height and Temperature, and Resultant Winds.



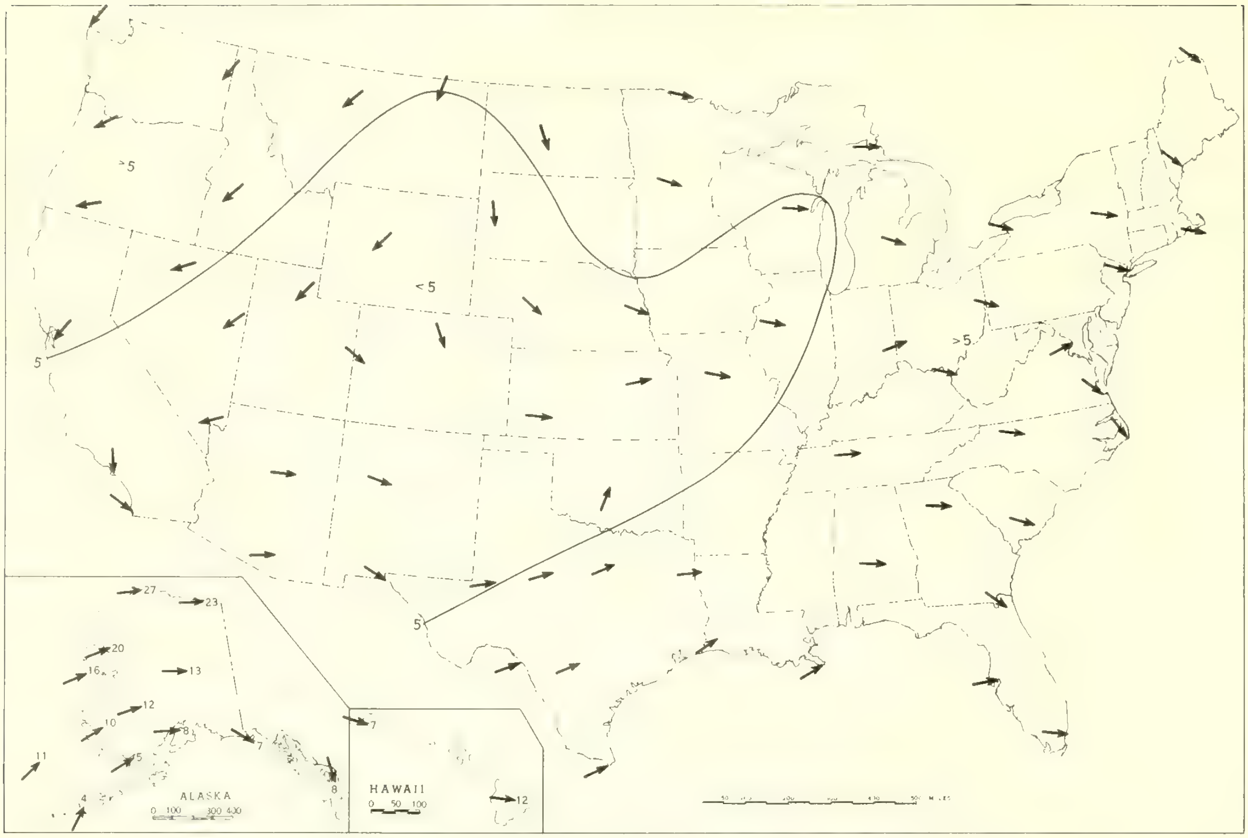
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, March 1964. Average Height and Temperature, and Resultant Winds.

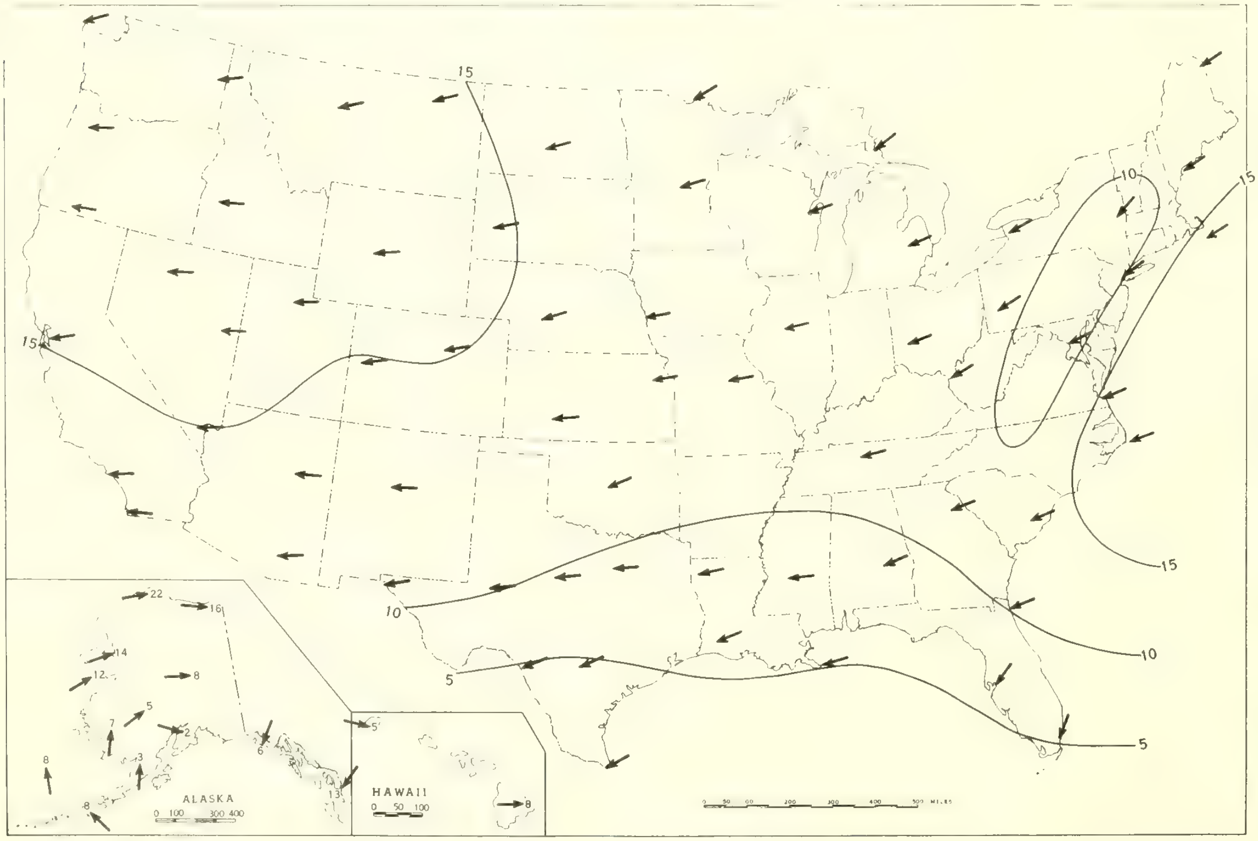


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, March 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, March 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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APRIL 1964
Volume 15 No. 4

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 4

APRIL 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

Temperatures averaged slightly below normal from the Pacific Coast to the Rocky Mountain States and from the eastern portions of New York, Pennsylvania, and Virginia to the Atlantic Ocean. Over the rest of the Nation, the month averaged warmer than normal. Portions of Washington, Oregon, Idaho, and Arizona averaged 4° or more cooler than normal. Parts of Oklahoma, Missouri, and Illinois averaged 4° warmer than normal. Precipitation exceeded 8 inches over a small area in Illinois and Indiana. Most of Arkansas, Mississippi, and Alabama, and the northwestern half of Georgia received more than 8 inches of rain in April. A small area in Mississippi and Alabama received more than twice that amount.

April began with a large high pressure area over the Gulf of Mexico and another north of the Great Lakes. A stationary front extended from North Dakota to Missouri to the Carolinas. A cold front was pushing into the Far Northwest. Early morning temperatures ranged from the low 60's in southern Texas to near zero in northern New England. Afternoon temperatures ranged from the upper 70's over the Deep South to the 30's near the Great Lakes and along the St. Lawrence River.

On April 2, a storm intensified over Nebraska and Kansas. Hail fell in several States. The following day, a tornado in Wichita Falls, Texas, killed several persons, injured many, and destroyed about 200 dwellings. Hail as large as baseballs fell in Oklahoma. Stormy weather continued through the weekend, April 4 and 5. Snow fell from the Rocky Mountains to New England. Heavy snow fell over the southern Rockies and snow mixed with freezing rain or drizzle spread across the central Great Plains. A foot of snow accumulated at some locations in northeastern Nebraska. Thunderstorms developed and cold rain fell south of the snow belt.

The rain area extended eastward to the Atlantic Ocean but the heaviest rains fell from Kansas and Oklahoma to Indiana, Kentucky, Tennessee, and Alabama. Some parts of Mississippi and Alabama received more than 5 inches and one station, Enterprise, Miss., received 10.27 inches in 24 hours.

A cold air mass moved into the northern Plains and by April 9, the skies had cleared and cool dry weather prevailed over most of the Nation.

The fair weather did not continue long. By April 11, a disturbance was forming in the Texas and Oklahoma Panhandles and on the 12th a storm formed along the eastern slope of the central Rockies. A few tornadoes occurred in northeastern Kansas, northwestern Missouri, and southwestern Iowa. Winds with speeds of 50 m.p.h. and gusts to 70 to 80 m.p.h. buffeted the northern Plains. Visibilities were reduced by blowing snow and blowing dust. The storm moved northeastward to Canada and sunny weather prevailed over most of the Nation at midmonth.

By Thursday, April 16, another cold front from Canada was pushing into northern Montana. Temperatures dropped far below freezing in Montana and slightly below freezing in neighboring States. Record high temperatures occurred ahead of the front. Huron, S. Dak., registered 92° on the 16th. The highest temperature at Miles City, Mont., the same afternoon was 50°. On the 17th, Huron's maximum was 56°.

About the end of the third week of April, the front had become stationary and stretched from Nevada to Virginia. Cool air lay north of the front. To the south, the air was warm and humid.

North of the front, showers and vigorous thunderstorms occurred over a belt about 200 miles wide. The stormy weather affected parts of 21 States from Utah to New Jersey. Tornadoes struck Kansas, Oklahoma, Texas, Iowa, and Missouri, and severe thunderstorms, some with hail, occurred at widely separated localities from Colorado to Ohio.

By the time the stormy weather over the central and eastern portions had run its course, a new storm was moving into the Northwest.

On Wednesday afternoon, April 22, severe weather activity began again in the central portion. About a score of tornadoes occurred over central and eastern Kansas and nearby parts of western Missouri. Other tornadoes struck in Oklahoma and Texas. The violent weather lasted several days and spread from Nebraska to Florida. By the end of the month, the storm center had moved into the Atlantic. Another Low center lay over Wisconsin. This caused dismal rainy weather in that area.

The storms over the Far West were less frequent than over the central and eastern portions of the United States. However, one of the storms left 10 inches of snow at Austin, Nev.

The following paragraphs summarize the April weather at specific locations:

Spokane, Wash., set a new snowfall record with 66 inches of snow. Yakima orchardists found it necessary to keep frost-preventive fires going on several dates. Eureka, Calif., received the least rain of any April since 1956 while at Winnemucca, Nev., April 1964 was the rainiest April since 1938. A funnel cloud was seen at Fresno, Calif., on the 23d.

Temperatures averaged cool at Los Angeles, Calif., although a new heat record was set on 2 days at midmonth. At Sacramento, April was the 5th consecutive month with less-than-normal rainfall and the long drought continued at Red Bluff. Yuma, Ariz., experienced the coldest April in 20 years and the rainiest since 1933. Montana was colder and rainier than normal. In the Glasgow vicinity strong winds, low visibilities, and icy roads caused especial hardships on the 5th, 6th, and 23d to 25th. Some schools were closed due to the weather and road conditions.

Heavy, wet snow (13.1 inches) on April 2 brought transportation to a standstill at Casper, Wyo. The winds at Cheyenne averaged 17.3 m.p.h., more than 3 m.p.h. above normal. Heavy snow fell in the Bighorn Mountains. Burgess Junction, Wyo., measured 42 inches on the ground on the last day of the month.

Pueblo, Colo., received only 0.03 inch of rain -- the driest April of record. The schools at Fargo, N. Dak., closed on the 13th when snow and blowing snow reduced the visibility to 1/4 mile. Streams in northeast Nebraska ran bankfull due to 1 to 3 inches of rain on the 26th and 27th.

Severe storms were frequent in Oklahoma and parts of Texas. Amarillo received only a sprinkle of rain during the entire month, the driest April since 1939 when only a sprinkle occurred. Duststorms occurred on several days at Amarillo. St. Cloud, Minn., registered the lowest barometric pressure in 15 years. Iowa was windy and showery in April. At some Iowa stations, April 1964 was the rainiest of record.

Heavy rains at Texarkana, Ark., caused flash floods along some streams. Local flooding also resulted on the 26th at Baton Rouge, La., following 2 days of heavy rains.

Rockford, Ill., set a new April rainfall record with a total of 8.17 inches. Memphis, Tenn., received 11.03 inches, the most rain since 1955. Jackson, Miss., received 9.90 inches, setting a new record. Apalachicola, Fla., set a new 24-hour record, with 7.76 inches on the 27th and 28th.

Numerous stations in the Northeast recorded many cool, rainy days. In parts of the Southeast, April 1964 was among the rainiest Aprils of record. At Augusta, Ga., it was the 6th consecutive wet month.

CONDENSED CLIMATOLOGICAL SUMMARY

APRIL 1964

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	4 Stations	91	28+	Waterloo	25	9	Prattville	18.70	Newton	5.78
Alaska	Tree Point Light Sta.	63	5	Canyon Village	-43	13	Little Port Walter	15.13	Wainwright	.03
Arizona	2 Stations	103	16	Maverick	0	7	Junipine	4.13	12 Stations	.00
Arkansas	West Memphis	94	20	Gilbert	23	9	Stuttgart	17.88	Beaver Dam	2.56
California	Palm Springs	103	15	White Mountain 2	-15	3	Hoegees FC 60A	5.63	13 Stations	.00
Colorado	Eversoll Ranch	92	19+	Taylor Park	-6	9	Berthoud Pass	4.03	2 Stations	.00
Connecticut	2 Stations	87	18	Coventry	8	1	Groton	8.60	Whigville Reservoir	2.66
Delaware	4 Stations	85	18	Newark University Farm	21	2	Wilmington Porter Resvr.	6.74	Milford 3WNW	3.85
Florida	3 Stations	96	26+	De Funiak Springs	34	10	Crestview Radio WJSB	16.61	Everglades	.23
Georgia	6 Stations	92	24+	Blairsville Exp Sta.	22	10	Goat Rock	17.33	Newington 4NW	1.63
Hawaii	Upolu Point USCG	89	27	Mauna Loa Slope Obs.	26	11	Piihonua 89	29.80	2 Stations	.00
Idaho	Grand View 3WNW	83	15	Warren	-1	17	Pierce	5.36	Reynolds	.37
Illinois	12 Stations	86	18+	Marengo	15	1	Farmer City	10.63	Shawneetown New Town	2.59
Indiana	Wabash	88	18	Oaklandon Geist Resvr.	12	1	Winchester Airport	11.10	Elkhart	2.92
Iowa	Hawarden	92	16	Vinton	14	1	Keosaugua No. 2	9.48	Dorchester 4S	2.78
Kansas	3 Stations	95	17+	8 Stations	17	8	Lyndon	9.06	Ashland	T
Kentucky	Pikeville	90	21+	Blaine 1W	12	1	Scottsville 3SSW	6.98	Glendale 1E	2.41
Louisiana	New Roads	95	27	2 Stations	33	9	Ville Platte 2SW	18.65	Old Town Bay	.56
Maine	2 Stations	79	27+	do	-14	2+	Machias	4.37	Presque Isle	1.82
Maryland	Charlotte Hall 1ESE	94	18	Bittinger 2NW	12	4	Frostburg	9.28	Crisfield Somers Cove	3.26
Massachusetts	Sandwich	87	18	3 Stations	6	1	Fall River	7.00	East Pepperell	1.75
Michigan	Harrisville	86	17	Vanderbilt Trout Sta.	-10	1	Big Rapids Waterworks	5.92	Hastings Fisheries	1.52
Minnesota	Pipestone	90	17	Bigfork	-1	8	Fairmont	5.77	2 Stations	1.61
Mississippi	Merrill	91	25+	3 Stations	29	10+	Quitman 1N	22.26	Beaumont	4.53
Missouri	3 Stations	89	24+	Berryman 6NW	18	9	Kahoka	9.64	Doniphan	2.32
Montana	Miles City	84	23	Lincoln 14NE	-12	7	Edgar 9SE	8.32	Harlowton	.03
Nebraska	Grand Island WBAP	94	16	2 Stations	10	8	Wahoo	7.33	Harlan County Dam	.79
Nevada	Overton	94	16	do	3	24	Lehman Caves Nat Mon.	3.02	Indian Springs	.00
New Hampshire	Windham	83	18	First Conn Lake	-16	1	Woodstock	4.37	Dixville Notch	1.79
New Jersey	Belleplain St Forest	87	18	2 Stations	12	2+	Toms River	7.68	High Point Park	3.57
New Mexico	Gowdy Ranch	98	18	Eagle Nest 1S	-7	9	Cowles	D 3.23	14 Stations	.00
New York	Alfred	88	17	Paul Smiths	-10	5	Patchogue	7.56	Indian Lake 2SW	.82
North Carolina	Bath 2WSW	94	23	Fletcher 2NE	16	1	Lake Toxaway 2SW	14.44	Southport	.84
North Dakota	5 Stations	83	17+	Wishek	0	8	Linton	4.54	Bowman Court House	.23
Ohio	Ironton	88	21+	Mansfield 6W	-1	1	Miamisburg	9.32	Ironton	3.41
Oklahoma	3 Stations	96	23+	Kenton	19	5	Broken Bow 1N	13.14	2 Stations	T
Oregon	Grants Pass	83	28	2 Stations	6	23+	Government Camp	9.82	Chemult 20SE	T
Pennsylvania	Newport	89	18	Coudersport 3NW	0	1	Everett 1SW	8.70	Covington 2WSW	2.18
Puerto Rico	Utuado	94	28	Guineo Reservoir	53	3	Maricao Fish Hatchery	15.68	Caonillas Villalaba	.00
Rhode Island	Providence WBAP	84	18	Kingston	12	1	Kingston	7.95	Woonsocket	4.98
South Carolina	Lake City	93	25	Kershaw	19	1	Greenville	14.66	Georgetown Marine Dks	1.74
South Dakota	Wagner	98	16	Pukwana 3W	-2	7	Winner	6.79	Ludlow 2NW	.08
Tennessee	Savannah	90	29	Unicoi 2ESE	15	1	Savannah	13.44	Greenville Exp Sta.	2.99
Texas	Zapata	107	28	Stratford	18	8	Maud	10.41	36 Stations	.00
Utah	Saint George Pwr House	88	15	Scofield Dam	0	7	Silver Lake Brighton	6.55	Mexican Hat Mill	.16
Vermont	Bellows Falls	80	28	West Burke	-11	2	Readsboro 1SSE	4.44	Chelsea	1.74
Virginia	2 Stations	91	20+	Big Meadows	13	1	Rocky Knob	8.16	Altavista	1.82
Washington	4 Stations	75	28+	Bumping Lake	10	17	Neah Bay 1E	10.67	Winthrop 1WSW	.02
West Virginia	Williamson	90	18	Middlebourne 2ESE	10	1	Hopemont	8.63	Hico	1.70
Wisconsin	Dodge	88	16	3 Stations	2	4+	Platteville	5.76	Galesville 4SE	1.87
Wyoming	2 Stations	83	16	Big Piney	-10	7	Lookout 14NE	5.56	Fontenelle Dam	.31

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations)

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow, Sleet		Wind		Fastest mile			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	992.6	1017.9	76	54	65.3	2.2	86	23	35	10+	0	0	55	72	9.90	5.43	3.68	15	11	0.0	0	8.7	21	37	NW	23	8	5	17	6.6	66
HUNTSVILLE	605	994.1	1017.4	76	54	65.1	3.5	89	20	36	9	0	0	50	63	12.55	8.56	2.43	17	8	0.0	0	8.7	14	37*	13	5	6	9	15	6.5	
MOBILE	211	1014.9	1017.2	79	60	69.6	2.0	87	25	42	10	0	0	60	76	13.45	7.09	7.31	11	7	0.0	0	12.8	16	44*	1	26	5	8	17	7.0	
MONTGOMERY	195	1009.4	1018.0	78	56	67.0	2.9	86	23	41	10	0	0	57	73	15.64	10.75	4.54	12	11	0.0	0	8.9	18	25	SE	27+	6	8	16	6.6	47
ALASKA												B																				
ANCHORAGE	90	1004.3	1009.3	40	27	33.7	- 2.0	47	11+	10	4	0	28	23	68	0.89	0.47	0.28	8	0	6.8	6	9.3	18	35*	15	22	2	10	18	7.6	50
ANNETTE	110	1011.0	1015.0	47	35	40.9	- 2.5	60	5	31	17+	0	4	34	78	8.11	- 1.01	1.59	22	0	3.2	1	9.2	36	33*	17	3	2	3	25	8.5	
BARROW	22	1017.8	1018.6	- 3	-18	-10.6	-10.8	13	19	-33	3+	0	30	-22	56	0.07	- 0.04	0.04	4	0	1.6	10	10.2	6	23*	12	17+	15	6	9	4.2	
BARTER ISLAND	39	1016.7	1018.8	- 2	-18	-10.0	-10.9	15	19	-34	13	0	30	-15	76	0.23	0.06	0.11	7	0	2.5	11	9.1	7	23*	27	21+	14	9	7	4.4	
BETHEL	125	1008.2	1009.4	28	11	19.5	- 6.4	41	7	-22	3	0	29	16	84	0.88	0.30	0.23	15	0	11.8	10	14.6	19	37*	19	20	5	2	23	7.9	
COLD BAY	94	1007.5	1011.3	38	28	32.7	- 0.6	49	22	11	3	0	24	27	81	0.21	- 1.25	0.05	10	0	1.1	1	19.1	15	55*	18	21	0	4	26	9.0	
CORDOVA	40	1007.1	1008.8	42	28	35.2	- 1.0	51	6	18	4	0	24	31	84	4.97	0.65	0.86	19	0	21.8	18	7.2	12	21*	13	28+	2	3	25	8.5	
FAIRBANKS	436	994.8	1010.7	35	17	25.8	- 3.6	46	30+	-21	4	0	30	19	74	0.68	0.43	0.20	13	0	8.8	13	6.8	35	19*	24	22	1	4	25	8.7	
JUNEAU	17	1011.3	1012.3	45	32	38.6	0.6	55	6	24	5	0	13	33	82	4.04	1.17	0.72	22	0	4.4	T	10.9	12	37*	12	3	0	3	27	9.0	40
KING SALMON	43	1008.9	1010.2	34	22	28.2	- 4.6	45	16	0	3+	0	27	21	74	0.75	0.11	0.14	13	0	3.9	1	12.6	9	44*	8	8	3	6	21	8.1	
KOTZEBUF	10	1011.5	1012.1	16	- 4	5.9	- 7.3	33	16	-31	3	0	30	0	75	0.10	- 0.21	0.03	6	0	3.8	21	12.8	11	44*	12	16	10	3	17	6.3	
MC GRATH	334	996.8	1009.8	35	13	23.7	- 3.9	47	29+	-22	3	0	30	14	66	2.78	2.31	1.06	15	0	32.8	35	6.5	36	28*	24	22	5	4	21	7.7	
NOME	13	1008.7	1009.4	23	4	13.4	- 7.8	37	8	-27	3	0	30	9	79	1.09	0.29	0.47	14	0	10.9	28	13.8	9	45*	5	9	10	3	17	6.5	40
ST. PAUL ISLAND	22	1006.5	1007.4	34	25	29.3	0.9	39	14	9	2	0	26	27	88	1.78	0.82	0.50	22	0	11.1	27	21.0	18	48*	22	19	0	8	22	8.6	
SHEMYA	122	1003.7	1007.2	37	31	33.7	- 1.8	41	27	27	30	0	22	29	82	1.91	- 0.15	0.31	18	0	13.1	2	24.1	22	60*	19	3	0	6	24	9.0	
YAKUTAT	28	1010.2	1011.3	41	31	36.1	- 0.9	46	6	23	30	0	17	31	83	12.93	5.70	2.61	21	0	25.4	17	6.3	9	32*	13	24	3	4	23	8.5	
ARIZONA																																
FLAGSTAFF	6993	786.9	1013.0	54	26	39.7	- 3.6	71	15	16	25+	0	26	20	53	2.17	0.99	0.76	11	1	19.9	6	9.0	18	31*	18	23	14	7	9	4.4	
PHOENIX	1117	972.6	1011.5	81	50	65.2	- 2.0	97	15	41	25+	5	0	31	30	0.10	- 0.22	0.10	1	1	0.0	0	7.2	24	39Y	SSE	28	22	7	1	2.3	94
PRESCOTT	5014	844.7	1012.9	63	35	49.1	- 4.1	80	15	22	4	0	11	23	42	0.91	0.22	0.44	4	0	3.0	4	11.1	21	47	SW	17	18	5	7	3.5	83
TUCSON	2584	923.7	1011.4	77	49	63.2	- 2.7	94	15	38	4	2	0	20	24	0.67	0.40	0.66	2	1	0.0	0	9.9	16	38	SW	28	21	7	2	2.3	88
WINSLOW	4880	848.4	1013.1	67	34	50.8	- 4.8	83	15	24	25+	0	11	20	36	0.27	- 0.18	0.16	6	1	T	0	11.8	22	37*	21	19	17	9	4	3.2	
YUMA	199	1006.8	1012.1	83	53	68.1	- 4.3	100	15	44	7	8	0	31	29	0.78	0.69	0.78	1	1	0.0	0	8.7	29	38	SW	2	25	4	1	1.7	96
ARKANSAS																																
FORT SMITH	449	996.2	1013.2	79	50	64.4	2.7	91	23	28	9	1	1	49	62	9.17	4.93	5.12	10	8	0.0	0	9.0	20	34	W	12	10	5	15	6.0	52
LITTLE ROCK	257	1001.4	1014.6	76	54	64.7	2.3	84	20+	36	9	0	0	53	69	11.06	6.13	2.48	14	12	0.0	0	9.4	18	40	NE	4	10	3	17	6.0	56
TEXARKANA	361	1000.3	1014.1	78	56	67.0	3.1	86	23+	36	9	0	0	56	73	10.06	4.76	4.20	12	10	0.0	0	7.5	18								
CALIFORNIA																																
BAKERSFIELD	494	997.8	1015.6	75	49	62.0	- 1.0	96	15	40	3	2	0	38	45	0.56	- 0.25	0.22	6	0	0.0	0	7.3	31	26*	34	23	17	9	4	3.4	
BISHOP	4108	871.7		70	35	52.7	- 2.4	85	15+	26	7	0	12			0.49	0.03	0.49	2	1	T	0						15	11	4	3.8	
BLUE CANYON	5280	837.0		52	34	42.9	- 2.7	68	14	21	24	0	11			1.95	- 2.87	1.63	5	0	9.8	25	6.5		32*	20	22	13	11	6	4.1	
BURBANK	699	989.4	1015.2	70	47	58.3	- 2.9	95	14	38	6	3	0	41	58	0.46	- 0.75	0.11	4	1	0.0	0	7.9	18	29*	34	2	17	5	8	4.1	
EUREKA U	43	1019.4		52	43	47.1	- 3.3	58	9	37	17	0	0			0.67	- 2.00	0.46	5	0	0.0	0	9.1	N	36	N	16	9	11	10	5.5	64
FRESNO	326	1003.6	1015.4	74	44	58.8	- 2.5	93	15	33	3	2	0	39	53	0.50	- 0.63	0.19	4	0	0.0	0	7.3	32	30	NW	29	19	6	5	3.3	86
LONG BEACH	34	1014.6	1016.0	69	49	59.1	- 0.9	97	14	40	3	3	0	46	67	0.25	- 0.52	0.32	3	0	0.0	0	7.1	28	29*	32	2	14	7	9	4.5	
LOS ANGELES	97	1012.7	1016.4	66	50	58.2	- 1.2	93	14	44	6	1	0	45	67	0.20	- 0.85	0.17	4	0	0.0	0	10.6	27	28*	27	1	17	5	8	4.0	
LOS ANGELES U	312			69	52	60.5	- 1.3	95	15+	47	6+	2	0			0.33	- 0.84	0.08	4	0	0.0	0	7.1	W	31	NW	2	14	7	9	4.2	74
MT SHASTA R	3544	892.9		59	32	45.3	- 2.2	79	28	20	24	0	18			0.13	- 2.64	0.06	3	1	1.2	T						18	9	3	3.3	
OAKLAND	3	1017.4	1017.7	61	49	55.0	- 1.6	78	14	39	24	0	0	44	69	0.03	- 1.35	T	1	0	0.0	0	10.7	29	30*	30	22+	13	15	2	3.7	
POINT ARGUELLO R	367	1003.3		58	44	50.9	- 2.8	85	14	36	7+	0	0			0.46	- 0.48	0.09	6	0	0.0	0	9.2		28*	32	2+	11	8	11	5.3	
RED BLUFF	341	1003.2	1016.0	74	45	59.5	- 0.9	91	14	35	24	1	0	31	40	0.05	- 1.78	0.01	2	0	0.0	0	9.6	34	33	NW	16	17	10	3	3.2	92
SACRAMENTO	17	1014.9	1016.4	74	43	58.9	0.5	91	15	36	24+	2	0	42	60	0.17	- 1.23	T	1	0	0.0	0	9.6	21	37	SW	22	18	9	3	3.1	94
SACRAMENTO U	23			72	46	59.2	- 0.1	89	14	38	24	0	0			0.16	- 1.46	0.31	1	0	0.0	0										
SANDBERG R	4517	861.5		55	37	46.1	- 4.7	75	15+	25	24+	0	11			0.51	- 0.46	0.11	3	1	0.6	T	14.2		54*	34	11	14	8	8	4.3	
SAN DIEGO	13	1013.0	1016.1	67	53	60.2	- 1.3	91	14	47	7	1	0	46	64	0.20	- 0.59	0.08	4	0	0.0	0	8.0	29	23	NW	2	12	8	10	5.0	63
SAN FRANCISCO	8	1017.4	1018.1	63	45	54.2	- 1.5	85	14	40	24+	0	0	42	69	0.01	- 1.29	T	1	0	0.0	0	14.2	26	46	W	1	15	11	4	3.7	
SAN FRANCISCO U	52			60	48	53.8	- 1.9	82	14	44	23	0	0			0.01	- 1.43	T	1	0	0.0	0	9.5	W#	36	SW	22					80
SANTA CATALINA	1568	959.9		62	49	55.6	0.0	88	15+	43	25+	0	0			0.40	- 0.82	0.54	4	0	0.0	0						15	6	9	4.3	
SANTA MARIA	238	1009.0	1017.8	65	40	52.4	- 3.2	91	14	32	6	1	1	42	74	0.34	- 0.85	0.07	6	0	0.0	0	9.2	30	37*	29	2	17	5	8	3.9	
STOCKTON	28	1015.0	1016.7	75	43	59.1	- 0.6	92	15	32	24	2	1	39	55	0.14	- 1.00	0.01	2	0	0.0	0	9.4	27	35*	24	22+	15	11	4	3.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
ALAMOSA	7536	766.7		56	21	38.2	- 3.6	68	15	12	8	0	27			0.22	- 0.47	0.14	5	0	1.5	1						15	9	6	4.4	
COLORADO SPRINGS	6173	805.1	1009.4	60	32	46.2	0.6	79	16	20	8	0	11	18	38	0.01	- 1.30	0.01	1	0	0.1	T	12.7	36	41*	27	20	11	11	8	5.2	
DENVER	5283	832.2	1009.1	60	33	46.6	0.2	81	16	21	5	0	12	24	49	1.25	- 0.86	1.02	7	1	12.1	10	9.5	18	37	W	12	7	11	12	5.8	72
GRAND JUNCTION	4849	854.4	1010.6	62	38	50.3	- 2.0	80	16	30	4	0	5	26	46	1.37	0.62	0.55	13	5	0.8	T	8.2	13	45	NW	12	5	9	16	6.7	57
PUEBLO	4639	850.9	1009.1	66	33	49.5	- 1.2	85	16	21	8	0	12	19	36	0.03	- 1.15	0.03	1	0	0.3	T	13.9	29	61	NW	26	13	9	8	4.7	81
CONNECTICUT																																
BRIDGEPORT	7	1020.5	1021.5	54	39	46.4	- 1.6	83	18	24	2+	0	5	37	75	4.79	0.99	1.74	13	0	T	0	13.4	25	46*	31	3	8	5	17	6.8	
HARTFORD	169	1013.9	1020.0	60	37	48.8	0.3	85	18	19	1	0	7	34	63	3.76	0.03	0.89	12	2	T	T	9.4	17	35	S	3	7	7	16	6.9	60
NEW HAVEN	6	1019.7		54	38	46.0	- 0.9	82	18	21	2	0	6			5.61	1.72	1.78	14	2	0.0	0	8.1		27	W	9	7	6	17	6.8	49
DELAWARE																																
WILMINGTON	78	1017.2	1020.5	59	40	49.4	- 2.7	83	18	25	2	0	5	39	72	5.97	2.64	0.97	15	5	T	T	11.0	18	33*	24	3	7	6	17	7.0	
DIST.OF COLUMBIA																																
WASHINGTON U	72			63	45	53.6		88	18	29	4	0	2			4.28	1.08	1.14	14		0.0	0										
WASH NATL AP	14	1014.7	1019.4	64	44	54.1	- 1.6	89	18+	30	4	0	4	41	65	4.37	1.22	1.15	14	5	0.4	1	9.4	18	37	NNW	15	4	8	18	7.3	47
FLORIDA																																
APALACHICOLA U	13	1016.8		75	63	69.1	1.6	83	25	50	10+	0	0			7.95	3.65	7.76	5	2	0.0	0	8.4					8	10	12	5.7	60
DAYTONA BEACH	31	1018.8	1020.4	81	61	71.1	2.2	88	30+	44	1	0	0	60	71	3.61	0.64	3.33	3	4	0.0	0	9.8	12	24*	13	13	7	8	15	6.4	
FORT MYERS	13	1017.8		88	64	75.9	3.1	92	27+	46	1	9	0			0.80	- 1.84	0.59	2	2	0.0	0	10.6		25*	18	28	9	16	5	4.9	
JACKSONVILLE	24	1018.2	1019.6	81	59	70.1	1.4	91	23	45	10	1	0	60	74	4.65	1.10	3.58	7	5	0.0	0	9.7	14	41	SW	27	9	8	13	5.8	68
KEY WEST	5	1016.9	1018.1	83	74	78.7	2.9	88	30+	65	1	0	0	68	73	0.85	- 1.63	0.32	8	2	0.0	0	13.6	13	29	SE	7	10	16	4	4.7	83
LAKELAND U	214			83	64	73.4	1.9	88	30+	49	1	0	0			1.22	- 2.29	0.80	5	4	0.0	0	8.2					6	19	5	5.5	76
MIAMI BEACH	9			79	73	76.3	1.4	87	30	61	1	0	0			6.97	4.05				0.0	0	16.2									
MIAMI	7	1017.5	1018.8	83	71	77.1	2.9	89	30	55	1	0	0	67	73	3.31	- 0.57	1.78	8	6	0.0	0	11.0	9	24*	9	17	1	19	10	6.5	
ORLANDO	106	1015.1	1019.9	85	63	74.1	2.9	91	30	48	1	5	0	61	70	2.14	- 1.28	2.01	5	3	0.0	0	9.9	12	25*	22	27	7	13	10	6.0	
PENSACOLA	13			75	60	67.8	- 0.1	83	29+	43	10+	0	0			15.52	10.27	7.51	11	7	0.0	0	9.1	18	45	SE	27					47
TALLAHASSEE	58	1016.6	1019.4	80	57	68.4	0.9	88	23	39	10+	0	0	58	74	5.61	0.97	4.73	10	5	0.0	0	9.9	18	29*	23	8+	7	9	14	6.2	
TAMPA	19	1017.1	1018.8	86	62	74.0	2.6	92	26	45	1	2	0	62	69	0.53	- 2.31	0.50	2	1	0.0	0	12.0	9	28*	20	27	6	13	11	6.1	74
WEST PALM BEACH	15	1018.1	1019.3	84	69	76.2	2.3	92	30+	47	1	3	0	65	73	7.45	3.11	3.17	8	-7	0.0	0	12.3	12	40*	23	26+	2	15	13	6.7	
GEORGIA																																
ATHENS	803	990.0	1019.1	73	50	61.2	0.1	86	20	34	9	0	0	50	71	9.54	5.15	3.27	14	7	0.0	0	8.5	24	23*	30	23	8	4	18	6.8	
ATLANTA	1005	976.8	1019.0	71	50	60.6	- 0.4	82	23+	34	10+	0	0	51	74	8.68	4.21	3.26	13	6	0.0	0	9.0	18	38	NW	23	7	6	17	6.7	59
AUGUSTA	143	1012.4	1019.4	77	52	64.7	1.5	90	24	38	9	1	0	52	68	5.33	1.77	2.10	8	4	0.0	0	7.8	18	28*	30	6	7	4	19	6.8	
COLUMBUS	385	1004.1		77	54	65.2	1.5	86	24	36	10	0	0			11.38	6.79	3.34	11	8	0.0	0	9.3		27*	13	27	6	9	15	6.6	
MACON	356	1005.5	1019.2	78	55	66.2	0.6	91	24	39	10	1	0	53	67	8.42	4.67	3.54	10	6	0.0	0	7.6	12	31	SE	27	8	8	14	6.4	57
ROME	637	995.0		74	48	60.7	0.9	87	20	29	10	0	1			10.37	5.78	2.72	15	8	0.0	0						7	6	17	6.5	
SAVANNAH	48	1017.4	1020.1	79	55	66.8	1.1	92	24	40	10	1	0	56	73	2.64	- 1.06	1.15	7	6	0.0	0	10.6	18	25	S	6	8	6	16	6.5	65
THOMASVILLE U	283			79	59	68.8	1.0	87	25	44	9	0	0			5.88	1.24	3.56	9	4	0.0	0										
HAWAII																																
HILO	31	1016.6	1018.4	79	65	71.7	0.1	84	14	60	11	0	0	64	80	11.03	- 0.89	2.58	28	0	0.0	0	9.2	25	24*	11	3	0	8	22	8.6	31
HONOLULU	7	1017.3	1017.5	82	69	75.7	1.5	86	17	66	19+	0	0	61	64	0.88	- 0.43	0.17	17	0	0.0	0	10.1	6	29	NE	24	1	15	14	7.4	50
KAHULUI	44	1014.2	1017.0	83	66	74.6	1.2	86	16+	60	11+	0	0	62	66	0.34	- 1.10	0.19	7	0	0.0	0	11.7	5	34	NE	30	9	10	11	6.0	77
LIHUE	115	1013.2	1018.7	81	69	74.6	2.1	86	15	63	29+	0	0	65	72	2.88	- 0.46	0.99	19	0	0.0	0	13.4	6	31	NE	29	1	10	19	8.0	
IDAHO																																
BOISE	2838	918.2	1014.9	58	32	45.3	- 5.1	73	28+	21	17	0	16	30	60	1.35	0.19	0.28	12	0	0.4	T	8.3	32	30	SW	29+	7	6	17	6.4	73
IDAHO FALLS 42NW R	4790			53	25	39.2	- 3.9	73	29	11	17	0	28			1.10	0.61	0.83	7				9.0		38A	SSW	16					
IDAHO FALLS 46W R	4933	844.3		52	27	39.5	- 3.8	72	29	16	17	0	27			1.17	0.66	0.66	9	0	8.3	5	9.9		38A	WSW	16					
LEWISTON	1413	963.9		59	37	47.7	- 3.1	72	14	25	17	0	8			0.93	- 0.21	0.28	11	0	T	0						6	1	23	7.5	
POCATELLO	4444	859.8	1013.6	54	31	42.7	- 3.8	74	29	19	17	0	19	28	61	1.46	0.40	0.67	9	1	10.2	6	12.7	24	42	SW	26	7	7	16	6.9	59
ILLINOIS																																
CAIRO U	314	1001.4		72	55	63.1	3.7	81	20+	34	9	0	0			3.86	- 0.21	1.75	11	4	0.0	0	11.5	S#	38	SW	2	2	12	16	7.1	49
CHICAGO O HARE	658	988.7	1013.7	58	40	49.1	1.9	84	16	19	1	0	6	38	69	5.22	2.28	1.37	14	7	T	3	14.0	17	37*	23	13+	5	4	21	7.6	
CHICAGO MIDWAY	610	990.8	1014.2	60	43	51.1	2.1	84	17+	26	4+	0	5	38	65	4.96	1.92	1.11	12	3	T	1	13.3	18	39	SW	13	5	8	17	7.2	50

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In.			In.	In.	M.p.h.		M p h							%
ILLINOIS																																
MOLINE	582	990.3	1012.8	62	41	51.5	1.5	86	16	25	1	0	6	39	66	6.37	3.20	1.95	13	8	T	T	13.7	9	43	SW	13	3	7	20	7.6	45
PEORIA	652	991.6	1014.2	62	42	52.2	1.4	85	16	26	1	0	5	41	70	6.92	2.95	2.29	14	9	T	T	11.9	6	43	SW	13	3	6	21	7.7	53
ROCKFORD	728	985.1	1012.7	59	39	48.5	0.7	83	16	22	1	0	7	37	69	8.17	5.12	2.50	13	7	T	2	13.8	7	37*	22	13	4	7	19	7.5	
SPRINGFIELD	588	989.5	1013.0	65	45	55.1	1.7	85	16	29	9+	0	5	43	67	9.91	6.32	2.82	12	13	T	T	15.1	17	39	SW	21	6	5	19	7.1	54
INDIANA																																
EVANSVILLE	381	999.2	1015.3	71	49	59.8	2.1	83	17	30	9+	0	3	48	68	4.85	0.87	1.53	14	7	0.0	0	10.5	18	29	SW	17	5	11	14	6.9	54
FORT WAYNE	791	984.0	1015.6	61	41	51.0	1.7	83	17	18	1	0	7	40	70	5.02	1.88	1.59	13	7	T	T	12.2	23	34	SW	13	5	9	16	7.1	47
INDIANAPOLIS	793	984.8	1015.1	64	45	54.7	3.9	81	17	23	1	0	3	44	71	8.09	4.35	2.32	17	9	0.2	T	12.1	23	40	W	2	4	9	17	7.4	56
SOUTH BEND	768	985.9	1014.4	61	40	50.4	2.9	83	17	21	1	0	6	37	63	5.37	1.79	1.29	17	7	0.3	T	13.5	22	32*	24	17	6	5	19	7.2	
IOWA																																
BURLINGTON	694	987.3	1013.1	63	42	52.3	1.5	86	16	26	9+	0	5	40	67	7.00	3.56	2.62	16	8	T	0	14.4	9	52	SW	13	4	9	17	7.4	45
DES MOINES	948	980.2	1011.7	59	37	48.0	- 2.4	85	16	22	9	0	8	38	74	3.29	0.76	1.06	12	6	T	T	16.1	9	46	W	13	5	8	17	7.1	42
DUBUQUE	1065	986.8		58	37	47.5	0.7	82	16	21	1	0	8			7.69	4.61	2.65	12	5	T	1			51*	25	13	3	9	18	7.4	
SIOUX CITY	1095	968.8	1010.4	62	40	51.2	2.3	89	16	26	8	0	4	37	64	3.53	1.28	1.31	13	6	T	T	15.3	33	52	W	13	5	8	17	7.0	44
WATERLOO	868	978.8	1011.1	58	36	47.2	- 0.1	87	16	23	9	0	9	37	72	8.11	5.41	1.99	14	7	T	1	13.9	12	41*	26	13	5	6	19	7.3	
KANSAS																																
CONCORDIA	1470	959.4	1009.3	66	42	54.1	1.3	91	16	22	8	1	5	40	64	3.73	1.61	1.71	12	10	0.0	0	15.2	16	49	W	13	9	8	13	5.8	60
DODGE CITY	2594	921.5	1009.4	71	42	56.8	3.2	91	16	19	8	1	4	36	54	0.69	- 1.15	0.41	6	3	0.0	0	15.9	16	58	NW	27	9	15	6	5.2	77
GOODLAND	3645	882.4	1009.6	61	34	47.5	- 0.6	87	16	20	8	0	13	30	60	1.36	- 0.23	0.60	9	3	6.6	4	17.0	32	56*	32	27	12	7	11	5.4	
TOPEKA	877	974.6	1010.3	68	45	56.4	2.0	87	16	28	9	0	2	43	65	4.70	1.41	1.80	12	12	0.0	0	16.7	18	57	SW	20	9	5	16	6.5	47
WICHITA	1321	961.2	1009.7	71	47	59.2	2.5	85	12	27	8	0	3	45	63	2.97	0.67	1.93	6	6	0.0	0	15.8	20	63	W	27	10	4	16	5.9	54
KENTUCKY																																
COVINGTON	869	983.6	1015.7	68	45	56.1	3.9	83	17	17	1	0	5	43	65	6.73	3.51	1.39	15	7	T	0	10.9	21	35*	31	3	5	8	17	7.2	
LEXINGTON	979	980.7	1016.6	70	47	58.3	3.9	82	17	22	1	0	3	42	57	2.86	- 1.18	0.64	17	7	0.0	0	11.4	24	35*	18	13	9	1	20	7.1	
LOUISVILLE	474	996.5	1015.6	70	46	58.4	3.6	83	17	25	1	0	4	43	59	3.06	- 0.76	0.84	13	3	0.0	0	10.5	18	44	W	14	5	7	18	7.1	47
LOUISIANA																																
ALEXANDRIA	92	1011.3	1016.0	78	57	67.5	1.7	86	27+	37	10	0	0	59	77	6.48	0.78	2.55	9	8	0.0	0	7.2	18	27*	21	26	6	3	21	7.3	
BATON ROUGE	64	1013.1	1016.2	80	62	70.8	2.6	88	24	44	10	0	0	61	75	4.76	- 0.01	1.91	8	6	0.0	0	9.8	18	35*	25	25	3	8	19	7.6	
LAKE CHARLES	14	1013.8	1015.4	77	61	69.1	1.2	85	28+	45	10+	0	0	62	80	1.84	- 2.53	0.90	5	3	0.0	0	11.9	18	30*	19	3	1	9	20	8.2	
NEW ORLEANS	3	1014.5	1016.6	80	62	70.6	2.7	89	27	40	1	0	0	65	85	5.66	1.11	2.35	10	7	0.0	0	9.8	15	29*	16	6	4	9	17	7.3	
NEW ORLEANS AUDUBON	6	1009.8		80	62	71.1	2.2	89	25	45	10	0	0			9.66	4.12	3.65	11	8	0.0	0	5.4		17	SW	26+	5	9	16	7.1	52
SHREVEPORT	252	1005.5	1014.8	78	59	68.7	3.4	87	23+	38	9	0	0	56	68	7.27	2.70	2.41	10	8	0.0	0	12.0	18	32*	13	25	8	4	18	6.6	51
MAINE																																
CARIBOU	624	995.3		47	27	37.1	0.7	70	30	- 2	2	0	18			2.07	- 0.56	0.63	9	0	11.5	8						10	8	12	5.9	
PORTLAND	61	1016.1	1020.3	51	31	40.9	- 1.6	79	27	9	1	0	15	30	69	3.27	- 0.46	1.16	12	0	1.7	1	8.9	18	29	NW	4	10	7	13	6.1	53
MARYLAND																																
BALTIMORE	146	1014.9	1019.8	61	41	50.9	- 3.3	86	18	26	5+	0	5	40	70	4.37	0.77	0.79	17	2	0.4	T	8.8	14	36	NW	9	5	10	15	6.8	42
BALTIMORE U	14			62	45	53.3	- 2.4	88	18+	30	4+	0	3			4.86	1.15	0.94	16													
MASSACHUSETTS																																
BLUE HILL OBS R	629	995.3		54	35	44.4	- 1.3	81	18	17	1	0	7			4.73	0.73	2.43	12	0	T	0	14.2	NW	41	SW	3					52
BOSTON	15	1012.1	1020.3	54	39	46.1	- 1.8	82	18	24	1	0	5	35	71	3.69	- 0.08	1.86	12	0	T	0	12.2	31	35	NW	4	7	9	14	6.6	53
NANTUCKET	43	1019.9	1020.6	49	36	42.7	- 1.6	67	18	22	1	0	7	34	75	5.34	1.58	2.16	11	0	T	0	13.7	24	40	NW	4	8	8	14	6.3	57
PITTSFIELD	1170			54	31	42.8	- 0.2	79	18	10	1	0	15			3.28	- 0.59	0.81	15	0	1.8	1										
WORCESTER	986	981.8	1019.8	54	34	43.7	- 0.9	80	18	15	1	0	11	30	63	4.01	0.08	1.29	12	0	1.2	T	10.3	29	30*	29	9+	8	6	16	6.5	
MICHIGAN																																
ALPENA	689	993.3		52	31	41.2	2.1	84	17	1	4+	0	15			3.34	0.71	0.64	11	3	3.5	4	10.1	13	37	SW	14	4	9	17	7.1	59
DETROIT	619	989.2	1016.3	59	40	49.3	1.7	84	17	20	4+	0	7	37	67	4.65	1.65	1.17	16	5	1.2	1	12.1	9	42	SW	14	5	11	14	6.7	47
DETROIT M WAYNE CO	633	991.9	1016.5	58	37	47.6	0.4	84	17	17	1	0	10	37	72	4.13	1.08	0.88	16	4	0.8	1	9.6	22				4	11	15	6.9	
DETROIT WILLOW RUN	711	987.1	1016.0	59	37	48.3	0.6	84	17	18	1	0	9	38	71	3.80	0.75	1.07	14	4	1.0	T	11.8	9	37*	21	13	5	10	15	6.9	
FLINT	766	988.2	1016.5	59	37	48.2	4.5	84	17	17	4+	0	9	35	63	2.96	0.30	0.75	11	5	2.0	2	12.3	12	37*	18	13	5	11	14	6.9	
GRAND RAPIDS	689	988.8	1014.9	59	38	48.2	2.5	81	17	15	1	0	9	38	70	5.28	2.34	1.36	13	6	1.2	1	12.3	9	46	SW	14	7	5	18	7.1	58

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CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Sleet				Fastest mile							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	852	982.7	1015.2	60	37	48.8	3.1	85	17	15	4+	0	10	35	62	3.24	0.37	1.18	12	5	2.1	2	9.1	14	40	SW	14+	5	9	16	6.6	65
MARQUETTE U	677	986.4		49	32	40.9	1.6	75	17	14	4	0	16			2.91	0.21	0.87	14	1	3.6	17	9.7	NW#	50	SW	13	5	6	19	7.2	55
MUSKEGON	627	991.5	1015.0	56	38	47.2	2.0	75	16	15	1	0	9	36	68	3.89	1.31	0.82	15	7	1.7	2	15.2	10	43*	20	13	7	7	16	7.2	
SAULT STE MARIE	721	992.5	1015.7	46	30	38.0	0.0	67	17	5	1	0	19	29	73	2.48	0.32	0.48	14	4	2.8	16	12.7	11	52*	21	14	5	4	21	7.6	49
MINNESOTA																																
DULUTH	1426	970.6	1012.8	48	29	38.7	1.7	70	16	14	8	0	20	25	63	4.10	1.74	1.54	11	1	5.6	7	12.9	7	49	N	2	5	7	18	7.2	53
INTERNATIONAL FALLS	1179	970.1	1012.0	51	27	39.1	1.7	73	16	6	8	0	21	29	70	2.92	1.36	1.00	12	1	5.3	8	11.9	6	29*	28	17	7	9	14	6.5	
MINNEAPOLIS	822	977.2	1011.1	58	36	46.8	2.5	88	16	19	4	0	12	32	62	2.98	1.13	1.08	12	3	5.6	2	14.8	12	52	WSW	13	6	6	18	7.1	62
ROCHESTER	1297	974.2	1011.9	56	35	45.2	1.2	82	16	21	4	0	11	35	70	2.61	0.42	0.75	11	6	1.1	T	16.6	11	52*	24	13	6	6	18	6.9	
ST CLOUD	1034	972.6		56	34	45.0	2.2	83	16	20	4	0	17			3.31	1.29	0.92	11	2	6.8	4						5	7	18	7.3	
MISSISSIPPI																																
JACKSON	305	1004.0	1016.2	80	57	68.1		88	23	35	10	0	0	57	71	11.88		3.57	13	10	0.0	0	10.6	18	32*	31	24	5	8	17	6.6	
MERIDIAN	292	1003.3	1017.3	79	55	67.3	2.9	89	23	34	10	0	0	57	74	16.82	11.49	6.36	12	10	0.0	0	8.3	18	23*	30	28+	7	5	18	6.8	
VICKSBURG U	234	1006.3		77	59	68.2	2.5	85	23	42	9	0	0			10.74	5.82	3.46	11	8	0.0	0	9.4		41	W	5	6	9	15	6.7	58
MISSOURI																																
COLUMBIA	778	982.9	1011.3	69	47	58.0	3.4	86	16	28	9	0	2	41	60	7.01	3.71	2.51	15	14	0.0	0	14.1	16	45	SW	12	7	7	16	6.5	53
KANSAS CITY	742	975.6	1010.4	68	47	57.4	1.7	84	16	34	9	0	0	42	61	5.40	1.84	1.52	15	15	0.0	0	12.4	6	33	S	12+	7	9	14	6.4	57
ST JOSEPH	809	975.7		67	43	55.1	1.5	88	16	26	9	0	3			4.80	1.65	1.22	12	9	0.0	0	14.0		35*	18	16+	9	7	14	6.4	
ST LOUIS	535	992.3	1013.2	69	49	58.7	3.8	86	16	30	9	0	2	42	58	4.99	1.28	1.28	15	8	T	0	13.5	18	45	W	21	7	8	15	6.7	49
ST LOUIS RFC	465			69	50	59.7	3.2	86	16	33	1	0	0			3.79	0.21	1.13	13	0	T	T										
SPRINGFIELD	1265	964.7	1012.1	72	48	59.7	4.1	83	19+	26	9	0	2	45	61	4.43	0.34	2.85	12	11	T	0	13.3	16	34	S	2	8	11	11	5.8	63
MONTANA																																
BILLINGS	3567	886.5	1011.2	56	34	45.2	-0.8	77	15	17	17	0	12	28	58	4.11	2.80	1.87	9	1	16.3	3	12.2	30	38	NW	26	6	12	12	6.3	62
GLASGOW	2277	936.3		57	33	44.7	1.3	70	30+	14	7	0	13			0.41	-0.60	0.23	8	1	2.3	2						7	7	16	6.6	
GREAT FALLS	3662	884.7	1013.8	54	31	42.3	-1.3	78	29	5	7	0	17	26	57	1.91	0.93	0.43	13	1	13.2	4	14.5	24	38	NW	5	5	7	18	7.3	59
HAVRE	2582	922.3		55	30	42.8	-0.3	79	29	1	7	0	16			1.18	0.21	0.43	9	0	5.3	4	10.6		42	NW	11+	8	4	18	6.9	52
HELENA	3893	870.3	1014.1	54	29	41.8	-1.5	76	29	12	17	0	17	24	53	1.56	0.73	0.88	7	2	6.6	1	10.3	27	38	W	12	4	7	19	7.2	60
KALISPELL	2965	909.5		52	30	40.7	-3.0	62	29	19	18	0	22			0.60	-0.44	0.24	9	0	1.1	4	8.0					4	2	24	8.0	
MILES CITY	2629		1011.1	53	34	46.5	0.8	82	23	21	8	0	11	30	59	1.25	0.19	0.38	9	4	4.8	2	11.8	30	45*	31	11					
MISSOULA	3190	900.2	1015.7	53	32	42.1	-2.2	65	29+	22	18	0	18	29	63	1.49	0.52	0.98	12	0	0.5	T	8.2	32	29	NW	26	5	4	21	7.8	40
NEBRASKA																																
GRAND ISLAND	1841	943.3	1009.7	64	40	52.0	2.4	94	16	23	8	1	6	36	61	4.97	2.69	3.30	9	8	0.9	1	15.0	34	44*	24	20+	7	10	13	6.4	
LINCOLN U	1150			64	42	53.2	1.4	91	16	29	8+	1	3			2.54	0.09	0.61	9	7	T	0	13.4	SE#	42	NW	13	4	8	18	7.0	48
NORFOLK	1544	952.0		60	39	49.6	1.2	90	16	25	8	1	7			3.30	1.12	1.26	11	6	3.2	3						5	9	16	6.9	
NORTH PLATTE	2779	909.7	1009.0	60	34	47.0	-0.7	88	16	19	8	0	13	32	63	3.76	1.75	1.32	11	5	5.6	4	14.1	34	58	NW	27	9	7	14	6.3	51
OMAHA	978	970.0	1010.1	64	41	52.8	1.1	90	16	28	9	1	4	37	60	4.40	1.84	1.44	11	6	T	T	12.9	13	43	W	13	5	10	15	6.9	45
OMAHA N OMAHA AP	1323	961.6		62	40	51.1	1.6	89	16	28	8+	0	4			5.42	2.94	2.12	12	7	T	T						4	11	15	6.9	
SCOTTSBLUFF	3950	873.8	1010.5	58	32	44.9	-1.7	83	16	19	8	0	16	29	60	2.40	0.59	0.93	7	1	7.8	5	16.4	30	54*	32	27	8	5	17	6.5	
VALENTINE	2587	918.3		59	34	46.3	0.6	90	16	15	8	1	10			2.30	0.32	0.89	9	3	3.0	3	14.1	N#	47	N	27	5	10	15	6.9	42
NEVADA																																
ELKO	5075	842.4	1014.2	55	26	40.8	-3.5	74	15	16	24	0	26	26	58	1.14	0.32	0.46	12	2	4.9	1	8.1	24	31*	24	22	4	12	14	6.8	
ELY	6257	805.4	1012.9	53	26	39.6	-3.0	71	15	4	24	0	28	25	65	2.77	1.82	0.79	10	3	21.8	4	9.1	19	36	S	22	6	8	16	6.8	66
LAS VEGAS	2162	946.1	1012.0	75	49	61.8	-2.7	92	15	39	25+	1	0	22	25	0.03	-0.20	0.03	1	1	T	T	12.5	23	40*	18	23+	18	4	8	3.7	79
RENO	4404	861.4	1015.9	63	28	45.3	-2.7	79	15	20	24+	0	22	22	43	0.53	-0.01	0.32	5	1	6.6	3	7.7	29	42	S	22	9	10	11	5.7	95
WINNEMUCCA	4299	866.4		59	28	43.2	-2.7	76	15	16	23	0	25			1.50	0.68	0.52	8	1	12.0	4	9.5	24	40	W	22	7	8	15	6.7	69
NEW HAMPSHIRE																																
CONCORD	339	1008.9	1020.0	55	32	43.6	-0.2	80	18	8	1	0	10	31	66	2.05	-1.26	0.51	9	0	T	T	7.6	32	32*	32	4	8	7	15	6.3	54
MT WASHINGTON OBS	6262	804.2		29	16	22.4	-0.6	43	27	-11	4	0	30			5.14	-0.75	1.16	17	3	23.6	11	30.0	W#	92Y	W	4	9	4	17	6.8	43
NEW JERSEY																																
ATLANTIC CITY	58	1018.5	1020.8	59	41	49.7	-1.3	86	18	23	2	0	4	40	73	7.59	4.18	2.18	15	3	T	T	10.9	7	36*	24	3	7	7	16	6.8	41
ATLANTIC CITY U	10			54	43	48.9	-1.0	85	18	30	4	0	4			6.62	3.24	1.42	15	0			13.5		38*	WNW	9					
NEWARK	11	1019.2	1020.7	57	41	49.1	-3.2	85	18	28	2+	0	4	36	67	5.56	2.05	1.26	16	1	T	T	10.8	11	33*	23	3	7	6	17	6.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	F.	F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
TRENTON U	56	1012.0		58	41	49.3	- 2.4	84	18	26	1	0	4			5.04	1.83	1.14	15	1	0.0	0	9.5	S#	38	SW	3	7	8	15	6.6	45
NEW MEXICO																																
ALBUQUERQUE	5310	844.9	1010.7	66	38	51.7	- 4.0	79	16	29	8+	0	4	19	34	0.61	0.14	0.41	4	1	T	T	9.5	18	43	NW	27	19	6	5	3.1	78
CLAYTON	4969	840.5		66	35	50.2	- 0.5	83	19+	22	8+	0	11			0.34	- 0.85	0.24	5	1	1.7	2						17	8	5	3.6	
RATON	6379	800.8		61	30	45.6	- 1.3	77	19+	14	5	0	18			1.50	0.44	1.04	5	1	14.2	8						15	10	5	4.1	
ROSWELL	3619	889.2		79	37	58.2	- 0.8	92	19	18	8	3	10			0.02	- 0.71	0.02	1	1	0.0	0	11.2		40	SW	2	19	8	3	2.9	72
SILVER CITY	5373	833.0		69	38	53.1	- 3.3	82	18	27	26	0	6			0.56	0.27	0.54	2	0	3.2	3						25	3	2	2.0	
NEW YORK																																
ALBANY	277	1016.0	1020.1	56	35	45.7	- 0.5	75	18	16	5+	0	10	33	63	2.17	- 0.60	0.64	14	0	T	0	10.1	17	31	SW	3	7	3	20	7.1	43
BINGHAMTON	1590	958.5	1018.6	52	34	43.0	- 0.5	80	17	16	1	0	11	33	72	5.09	2.15	1.55	16	1	0.6	1	12.0	18	32	S	13	5	5	20	7.6	42
BUFFALO	705	988.9	1017.4	56	38	46.9	3.4	76	28	18	4	0	9	36	69	3.36	0.35	0.81	16	1	3.3	3	11.1	25	35	W	17	3	11	16	7.5	48
NEW YORK U	132	1005.8		58	42	49.7	- 1.7	86	18	28	1	0	3			5.09	1.66	1.16	15	1	T	0	9.5	NE#	31	SW	3	11	6	13	5.7	48
NEW YORK LA GUARDIA	19	1018.1	1020.4	56	43	49.7	- 1.5	84	18	30	1	0	2	39	70	5.12	1.55	1.42	16	2	T	0	11.1	7	43	SW	3	7	8	15	6.6	
ROCHESTER	543	999.0	1018.6	57	37	47.2	2.1	81	17	17	1	0	9	35	65	3.54	0.87	0.85	16	3	3.6	3	10.8	25	36	SW	15	5	9	16	7.1	52
SCHENECTADY	217			56	37	46.3	- 0.6	72	27+	20	2+	0	9			2.02	- 0.82	0.53	10	0	T	0			20	22	16+	14	8	8	4.6	
SYRACUSE	417	996.3	1018.7	58	36	46.5	0.5	82	17	17	1	0	11	34	65	3.66	0.58	0.86	18	3	1.3	1	11.9	27	40	W	9	7	6	17	7.0	49
NORTH CAROLINA																																
ASHEVILLE U	2203	939.4		68	46	57.3	1.3	85	21+	28	1	0	3			5.21	2.02	1.96	15	5	0.0	0	8.8	SE#	27	SE	6	9	4	17	6.7	49
CAPE HATTERAS R	7	1019.3	1020.2	68	51	59.1	- 0.2	81	23	26	2	0	1	52	78	4.32	1.33	1.86	13	6	0.0	0	10.5	24	31	SW	1	5	9	16	6.9	51
CHARLOTTE	735	991.0	1019.3	72	50	60.6	0.3	87	21+	33	1	0	0	48	68	4.52	1.03	2.01	11	4	0.0	0	8.9	22	28	SW	2	7	6	17	6.8	58
GREENSBORO	891	987.5	1019.7	69	48	58.4	1.0	86	19	27	1	0	2	45	66	2.93	- 0.50	1.56	10	1	0.0	0	8.6	22	34	SE	6	8	3	19	6.8	43
RALEIGH	433	1005.3	1019.4	71	48	59.6	0.3	87	20+	29	1	0	2	47	69	3.39	- 0.13	1.39	12	6	0.0	0	9.6	22	25*	25	3	6	6	18	6.8	52
WILMINGTON	30	1017.6	1020.6	73	53	63.0	0.5	88	23	38	10+	0	0	52	72	1.32	- 1.54	0.71	7	3	0.0	0	10.7	21	27	NW	1	9	7	14	6.2	57
WINSTON SALEM	967	983.9	1019.2	70	50	60.4	2.1	87	19	30	1	0	1	47	65	3.32	- 0.30	1.77	9	2	0.0	0	8.7	24	29*	15	6	7	5	18	6.8	
NORTH DAKOTA																																
BISMARCK	1647	950.5	1011.6	58	33	45.1	1.6	74	15	17	8	0	17	31	63	2.90	1.68	1.97	7	3	2.7	2	12.9	7	47	NW	13	5	8	17	7.1	60
FARGO	900	976.6	1011.3	57	36	46.4	4.4	81	16	15	8	0	10	36	71	3.76	2.04	1.53	11	0	9.2	4	13.8	16	68	NW	13	3	9	18	7.5	59
WILLISTON	1899	942.9		59	32	45.4	3.1	75	26	19	3	0	20			1.08	0.14	0.54	5	0	5.4	3	12.2	SE#	40	N	13	9	11	10	5.5	59
OHIO																																
AKRON	1209	978.7	1017.2	62	38	49.9	1.2	81	17	10	1	0	9	39	71	6.06	2.72	1.72	16	5	0.8	2	11.0	18	29*	18	13	7	6	17	6.9	
CINCINNATI OBS	761			68	47	57.3	3.1	84	17	22	1	0	4			6.96	3.33	1.50	16	7	T	0	7.8	S#	30	SW	2					37
CINCINNATI U	553	992.5		69	48	58.4	2.7	84	17	26	1	0	2			6.61	3.12	1.29	16	6	T	0										
CLEVELAND	777	988.3	1016.5	59	39	48.8	2.2	81	17	10	1	0	8	38	70	4.87	1.46	1.08	18	6	0.5	2	12.1	18	33	N	13	7	5	18	7.0	57
COLUMBUS	812	985.1	1017.0	64	43	53.6	2.8	82	17	18	1	0	5	42	68	6.36	2.87	1.61	17	8	T	T	10.5	18	34	W	3	5	8	17	7.2	48
COLUMBUS U	724			64	45	54.4	2.4	82	17	21	1	0	3			6.25	2.92	1.60	15	9	T	0										
DAYTON	997	983.1	1016.0	65	44	54.2	3.5	83	17	23	1	0	5	42	67	5.98	2.66	1.49	17	9	T	0	12.5	15	41	W	3	5	8	17	7.3	50
MANSFIELD	1296			60	38	49.1	2.2	81	17	11	1	0	7			6.58	3.27	1.57	14	8	T	2						6	5	19	7.2	
TOLEDO	676	990.2	1016.0	59	38	48.6	1.7	85	17	11	1	0	10	37	69	3.49	0.72	0.78	17	6	0.1	1	11.1	23	32	SW	17	5	9	16	7.0	50
YOUNGSTOWN	1178	974.3	1017.4	59	38	48.8	1.8	81	17	14	1	0	9	38	71	5.97	2.27	1.38	16	7	1.6	2	11.2	12	23*	18	13	7	5	18	7.1	
OKLAHOMA																																
OKLAHOMA CITY	1280	967.6	1010.8	77	51	64.1	4.2	92	12	31	8	1	1	46	58	2.06	- 1.06	0.74	6	6	0.0	0	16.4	18	56	W	12	11	9	10	4.8	70
TULSA	676	987.0	1011.4	78	54	65.7	6.8	89	12	32	9	0	1	48	58	5.87	1.85	4.58	13	8	0.0	0	14.7	18	42	S	12	11	7	12	5.5	56
OREGON																																
ASTORIA	8	1020.5	1021.0	53	38	45.8	- 3.2	61	19	31	18	0	3	40	81	3.59	- 1.59	0.56	20	0	0.0	0	9.6	30	28*	34	19+	4	8	18	7.6	
BURNS U	4151	871.7		56	27	41.3	- 4.7	73	14	17	23	0	26			0.58	- 0.17	0.39	9	0	2.8	1						8	9	13	6.0	
EUGENE	361	1007.9		58	38	47.9	- 2.9	69	28	29	17	0	5			1.28	- 1.10	0.51	9	0	0.0	0	7.2		20*	19	26+	5	8	17	6.9	
MEACHAM	4050			43	29	36.0	- 4.8	60	28	20	17	0	24			2.65	- 0.15	0.63	18	0	9.8	22						6	3	21	7.6	
MEDFORD	1298	972.0	1020.4	63	33	47.7	- 2.9	79	28	26	3	0	16	34	64	0.37	- 0.69	0.15	8	0	T	T	5.7	30	21*	28	29	13	5	12	4.8	
PENDLETON	1482	963.4	1017.7	60	37	48.5	- 3.5	72	14	25	18+	0	6	31	56	0.34	- 0.75	0.10	10	1	T	T	12.4	26	35*	26	1	6	4	20	6.8	
PORTLAND	21	1015.2	1021.0	56	37	46.7	- 5.1	67	28+	30	18+	0	4	38	73	1.56	- 0.53	0.27	12	0	T	0	7.6	20	33	W	4	3	9	18	7.6	43
PORTLAND U	30			59	41	50.0	- 3.5	71	28	34	17	0	0			1.97	- 0.48	0.39	15	0	0.0	0										
ROSEBURG	505	1002.6		60	37	48.6	- 2.9	75	28	31	19	0	5			0.95	- 0.98	0.18	11	0	0.0	0	5.1	N#	24	N	2	7	7	16	6.1	55
SALEM	195	1014.3	1021.7	59	37	48.1	- 3.0	70	28+	27	17	0	4	40	75	1.28	- 1.05	0.25	12	0	0.0	0	7.9	18	23*	24	26+	6	7	17	6.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb	Mb.	F.	F.	°F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
OREGON																																
SEXTON SUMMIT R	3836	885.5		50	29	39.6	- 5.1	69	28	21	16	0	23			0.75	- 1.10	0.22	9	0	4.9	1	10.3					13	5	12	5.1	
PACIFIC AREA																																
CANTON ISLAND	11	1008.6	1008.8	88	78	83.0	- 0.6	90	14	74	1	1	0	74	74	0.80	- 2.82	0.36	13	0	0.0	0	14.0	7	24*	8	30+	7	15	8	5.7	
ENIWETOK	16	908.9		85	77	81.1	- 1.0	88	20	73	17	0	0			10.17	8.89	3.06	21	0	0.0	0	16.2									
TAGUAC GUAM R	361	997.8		85	74	79.2	- 0.7	86	27+	71	26+	0	0			7.48	4.45	1.80	26	2	0.0	0	8.5		22	NE	17					65
JOHNSTON	7	1013.3	1014.0	80	74	77.3	- 0.6	84	2	70	28	0	0	71	80	8.29	6.01	3.52	15	0	0.0	0	15.1	9	33	E	24	0	11	19	8.2	44
KOROR R	94	1006.6	1009.3	87	76	81.7	0.4	90	30+	74	20+	7	0	77	88	7.46	- 2.93	1.49	20	2	0.0	0	6.3	6	22	NE	3	0	0	30	9.9	58
KWAJALEIN	8	1009.1	1010.0	86	76	80.7	- 0.1	87	30+	71	14	0	0	76	87	14.13	9.11	4.11	21	0	0.0	0	13.9	6	37*	8	14	1	8	21	8.3	
PONAPE R	123	1004.6	1009.0	87	75	80.8	0.3	90	26	71	30	1	0	75	86	16.02	- 4.02	1.94	29	1	0.0	0	6.4	6	19	SE	5	0	2	28	9.5	38
TRUK MOEN ISLAND	5	1008.3	1008.6	86	76	81.4	0.6	89	30+	73	30	0	0	75	81	12.29	- 0.03	3.37	20	0	0.0	0	9.4	4	26	SE	13	0	3	27	9.1	56
WAKE	11	1014.6	1015.0	83	73	77.8	- 0.6	87	28	69	5	0	0	67	70	3.68	1.81	1.35	17	0	0.0	0	14.6	6	28*	4	2	2	13	15	7.2	
YAP R	53	1007.8	1008.7	87	76	81.4	- 0.4	89	30+	74	14	0	0	76	87	7.61	1.23	2.77	23	1	0.0	0	8.1	4	29	22	1	0	0	30	9.9	58
PENNSYLVANIA																																
ALLENTOWN	376	1005.8	1020.4	58	37	47.4	- 1.9	80	18+	18	2	0	8	37	71	7.01	3.25	1.31	16	5	T	0	10.6	9	37*	32	3	8	7	15	6.6	
ERIE	732	990.8	1017.4	56	38	47.2	1.7	80	17	14	1	0	9	36	68	3.67	0.11	0.95	15	6	0.5	T	17.0	15	35*	17	13+	6	9	15	6.8	
HARRISBURG	335	1006.0	1020.2	59	40	49.6	- 2.2	86	17	22	2	0	5	38	67	4.91	1.89	1.01	18	2	0.3	T	9.5	11	35	NW	15	4	6	20	7.5	42
PHILADELPHIA	5	1015.8	1020.4	60	42	50.8	- 1.2	87	18	25	2	0	4	40	70	5.27	1.87	1.06	16	3	T	T	9.6	7	32	SW	3	8	4	18	7.0	44
PITTSBURGH	1137	986.6	1017.4	63	41	51.7	2.7	83	17	15	1	0	10	39	65	7.61	4.53	2.15	17	7	0.3	1	10.8	12	35*	17	28	4	7	19	7.6	49
PITTSBURGH U	749			64	43	53.6	1.4	84	17	21	1	0	6			5.34	1.97	1.20	16		0.2	0										48
READING U	266	1007.7		59	41	49.8	- 2.8	84	17	25	2	0	4			5.64	2.22	1.33	17	4	T	T	12.0	SE#	50	SW	3	8	6	16	6.8	44
SCRANTON	940	984.9	1019.8	56	37	46.6	- 1.8	80	17	15	1	0	7	35	67	3.82	0.55	0.78	16	1	0.6	1	8.1	23	26	E	29	7	5	18	7.2	40
WILLIAMSPORT	527	1000.7	1020.2	57	37	47.0	- 2.4	85	17	18	2	0	8	36	69	5.56	2.01	0.88	17	3	0.1	T	9.9	10	25*	14	13	6	5	19	7.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1015.6		49	37	43.3	- 1.3	70	18	25	2+	0	5			5.82	2.21	2.19	10	0	0.0	0						9	5	16	6.1	
PROVIDENCE	55	1013.9	1020.2	55	37	46.1	- 1.1	84	18	20	2+	0	5	34	66	5.34	1.59	2.67	10	0	T	0	11.6	16	31*	24	3	9	5	16	6.4	54
SOUTH CAROLINA																																
CHARLESTON	41	1018.0	1020.1	77	55	66.0	1.2	89	24+	39	10	0	0	56	74	2.72	- 0.16	0.97	9	1	0.0	0	9.5	20	42Y	N	24	7	8	15	6.4	60
CHARLESTON U	9			73	59	65.8	0.2	89	24	47	9	0	0			2.94	0.40	0.98	7		0.0	0	10.8		36	NE	4					
COLUMBIA	217	1006.3	1019.3	76	52	64.2	0.6	90	21+	35	10	2	0	50	66	3.60	- 0.41	1.78	8	1	0.0	0	7.4	22	21*	14	27+	8	5	17	6.4	53
FLORENCE	146	1013.6	1019.6	76	53	64.0	0.5	89	24	37	2	0	0	51	67	3.38	- 0.23	1.19	7	2	0.0	0	8.7	20	21*	19	2	8	7	15	6.2	
GNVLE SPARTANBURG	957	982.1	1019.3	72	51	61.2	- 0.2	87	23+	37	10+	0	0	49	68	11.30	7.36	2.57	14	5	0.0	0	8.8	23	40	NW	24	9	4	17	6.5	51
SOUTH DAKOTA																																
HURON	1282	962.6	1010.2	63	36	49.5	4.5	92	16	17	8	1	9	34	62	2.78	0.94	1.27	8	3	0.7	T	15.1	33	50	W	13	4	6	20	7.5	50
RAPID CITY	3165	896.3	1010.9	58	35	46.3	1.8	78	16+	16	8	0	8	27	54	1.24	- 0.43	0.74	9	0	4.2	2	15.4	32	56	NW	27	5	11	14	6.8	58
SIOUX FALLS	1420	958.4	1010.3	59	37	48.1	2.2	92	16	23	8	1	9	36	70	4.03	1.72	1.68	12	5	T	T	14.5	12	40*	29	13	6	6	18	7.0	
TENNESSEE																																
BRISTOL	1507	963.3	1018.1	67	46	56.4	- 0.2	81	21+	21	1	0	4	44	68	4.65	1.49	1.38	16	7	0.0	0	5.6	23	18*	28	8+	5	7	18	7.3	
CHATTANOOGA	670	990.4	1018.1	74	52	62.9	2.0	88	20+	33	10	0	0	50	68	11.92	7.63	2.85	15	5	0.0	0	8.5	18	27	S	2	7	6	17	7.0	51
KNOXVILLE	950	982.5	1018.1	71	50	60.5	1.6	84	21	27	1	0	1	48	70	6.98	3.28	1.82	17	5	0.0	0	8.4	24	33	SW	3	10	2	18	6.6	48
MEMPHIS	263	1000.6	1015.4	73	55	64.0	2.6	83	20	35	9	0	0	53	70	11.03	6.40	2.47	14	10	0.0	0	10.3	18	40	W	13	10	2	18	6.5	57
MEMPHIS U	271			72	57	64.9	2.6	81	20	38	9	0	0			10.43	5.81	2.56	14		0.0	0										
NASHVILLE	577	996.0	1016.1	73	52	62.6	3.0	87	20	32	9+	0	2	50	67	5.86	2.12	1.85	14	10	0.0	0	10.2	16	34	SE	5	7	9	14	6.5	49
OAK RIDGE	905	984.7		72	49	60.7	2.9	87	20	27	1	0	2			7.13	2.93	1.84	15	0	0.0	0	5.1		39Y		2	9	3	18	6.8	
TEXAS																																
ABILENE	1759	950.0	1010.5	81	56	68.8	4.5	93	12	36	9	4	0	45	48	2.76	0.49	0.93	6	7	0.0	0	13.2	16	35	N	12	15	8	7	4.2	81
AMARILLO	3607	884.1	1008.7	75	41	57.9	0.4	92	19	25	8	1	5	24	35	T	- 1.32	T	0	1	T	0	16.9	27	43	W	12	21	3	6	3.0	81
AUSTIN	597	991.1	1012.9	80	61	70.8	3.1	88	27	44	9	0	0	57	67	1.47	- 2.08	0.95	8	4	0.0	0	11.6	18	30	NE	25+	5	7	18	7.1	38
BROWNSVILLE	16	1009.1	1011.7	85	70	77.3	3.4	98	26	55	9	8	0	68	79	1.05	- 0.50	1.05	1	2	0.0	0	16.5	16	37	SE	3	0	11	19	7.8	47
CORPUS CHRISTI	43	1011.3	1012.6	84	66	74.6	2.9	97	28	50	9	3	0	66	79	0.08	- 2.06	0.05	3	1	0.0	0	16.5	16	39	S	22	0	8	22	8.4	35
DALLAS	481	998.6	1012.6	79	59	68.7	3.7	89	3	37	9	0	0	55	66	3.23	- 0.77	1.19	9	6	0.0	0	14.2	18	41	NW	12	8	8	14	6.0	55
DEL RIO	1026	976.7	1010.4	87	62	74.4		99	3	43	9	11	0	51	51	1.20		1.10	2	5	0.0	0	10.5	12	30	18	27	4	12	14	6.4	
EL PASO	3918	883.2	1009.6	77	50	63.2	- 0.2	88	16	38	21	0	0	19	20	0.08	- 0.21	0.06	2	1	0.0	0	12.0	27	49	SW	1	19	8	3	2.9	89
FORT WORTH	544	991.9	1012.7	78	56	66.8	2.0	89	3	33	9	0	0	55	69	2.71	- 0.89	0.93	9	8	0.0	0	13.0	18	40*	33	12	9	8	13	5.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

APRIL 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min 32 F or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In.	M.p.h.		M.p.h.							%
TEXAS																																
GALVESTON U	7			73	66	69.4	0.9	83	28	53	9	0	0			0.37	- 2.22	0.21	4		0.0	0	13.5		39	SE	3					41
HOUSTON U	41			78	65	71.8	2.5	89	27	48	9	0	0			1.47	- 1.95	0.65	7		0.0	0										
HOUSTON	50	1011.1	1013.8	78	62	70.2	1.7	88	27	46	9	0	0	62	78	1.63	- 1.61	0.81	7	3	0.0	0	13.0	16	38*	18	3	1	6	23	8.3	50
LAREDO	500	995.2	1010.5	91	67	79.1	3.9	101	27	48	9	18	0	57	55	0.03	- 1.62	0.02	2	2	0.0	0	11.6	14	25*	16	16+	2	13	15	7.1	
LUBBOCK	3243	899.2	1009.9	78	45	61.5	2.0	91	19+	28	8	2	1	31	37	0.11	- 1.04	0.11	1	1	0.0	0	17.1	18	49*	25	2	22	4	4	2.8	
MIDLAND	2854	911.4	1008.9	84	51	67.1	2.2	95	17	35	8	9	0	27	30	0.00	- 0.83	0.00	0	1	0.0	0	11.8	18	32*	27	26	20	4	6	3.3	
PORT ARTHUR	16	1012.8	1014.4	78	61	69.2	1.0	85	28	44	10+	0	0	64	84	2.11	- 1.83	0.94	7	4	0.0	0	14.0	16	49	S	3	1	8	21	8.1	38
SAN ANGELO	1903	943.8	1010.0	84	57	70.3	3.2	94	20+	37	9	6	0	45	47	1.90	- 0.11	1.58	4	4	0.0	0	11.1	16	40*	30	20	15	3	12	4.8	
SAN ANTONIO	792	988.5	1012.7	82	59	70.5	2.3	92	27	39	10	1	0	57	68	1.16	- 1.66	0.70	7	3	0.0	0	11.2	14	41	SW	17	6	7	17	6.9	65
VICTORIA	104	1008.4		81	64	72.5	2.5	96	27	45	9	2	0			0.50	- 2.12	0.30	5	0	0.0	0	13.2		56Y		3	2	7	21	8.2	
WACO	500	991.4	1012.5	78	60	68.7	2.1	88	24	35	9	0	0	57	68	2.85	- 1.03	0.89	8	6	0.0	0	13.6	17	40*	30	5	9	3	18	6.3	
WICHITA FALLS	994	974.2	1010.7	80	54	66.8	2.8	94	12	35	8	4	0	50	63	3.22	0.69	2.15	8	7	0.0	0	14.1	16	42*	34	20+	15	6	9	4.2	
UTAH																																
MILFORD	5028	840.8		59	31	44.9	- 2.8	79	15	15	7	0	20			1.80	1.08	0.51	10	3	16.0	5						12	5	13	5.6	
SALT LAKE CITY	4220	864.7	1013.6	57	34	45.6	- 4.3	75	15	27	17	0	10	30	58	2.69	0.93	0.67	13	0	1.9	1	10.2	16	57	NW	11	5	7	18	7.2	57
WENDOVER	4237	867.4		59	38	48.9	- 2.7	78	15	29	6	0	6			0.46	- 0.05	0.18	7	2	T	T						9	7	14	6.1	
VERMONT																																
BURLINGTON	331	1004.0	1019.1	53	31	42.3	1.1	74	27	3	5	0	15	29	63	2.11	- 0.52	0.84	10	1	6.5	5	9.4	18	25	S	13	6	7	17	7.0	58
VIRGINIA																																
LYNCHBURG	947	993.7		66	46	56.2	0.0	85	18	29	2	0	2			2.14	- 1.00	0.59	11	3	0.0	0	7.7		28	SW	3	7	1	22	7.3	48
NORFOLK	26	1018.9	1020.4	64	46	55.2	- 2.8	86	18	28	2	0	3	47	75	2.38	- 0.78	0.85	12	3	1.2	0	11.2	7	45	SW	3	5	4	21	7.4	
RICHMOND	162	1013.4	1019.9	67	44	55.4	- 2.7	88	18	26	2	0	5	44	70	2.71	- 0.44	0.67	13	1	1.2	1	8.9	21	31	N	20+	5	5	20	7.2	49
ROANOKE	1174	976.7	1019.2	68	46	56.9	0.5	85	19+	28	1	0	3	41	61	3.54	0.44	1.07	16	3	0.0	0	9.7	14	32*	30	9	7	3	20	7.1	
WASHINGTON																																
OLYMPIA	190	1012.4	1019.8	55	34	44.6	- 5.4	66	7	24	18	0	12	38	79	1.58	- 1.38	0.40	14	0	0.0	0	8.7	20	29*	25	15	3	6	21	7.8	
SEATTLE TACOMA	400	1005.3	1019.6	55	39	46.8	- 2.4	63	7	33	17	0	0	36	69	1.56	- 0.84	0.40	12	0	T	0	10.9	22	29*	23	21+	5	5	20	7.5	
SEATTLE U	14			56	43	49.6	- 2.2	67	7	38	30+	0	0			1.29	- 0.68	0.60	13	0	0.0	0			44	SW	21					46
SPOKANE	2356	946.0	1015.1	55	34	44.5	- 2.8	63	29+	24	18+	0	10	28	56	0.98	0.07	0.51	8	0	6.6	1	12.3	22	37	SW	15	5	6	19	7.3	59
STAMPEDE PASS R	3958	878.9		36	27	31.5	- 5.0	48	28	21	30+	0	27			9.12	3.52	1.76	19	0	62.0	193						3	3	24	8.4	
TATOOSH ISLAND R	101	1016.3	1019.2	50	41	45.1	- 2.4	57	23	37	17+	0	0	39	81	4.37	- 0.86	1.13	17	0	T	0	13.5	27	50	NW	22	8	3	19	6.9	53
WALLA WALLA U	949			59	41	50.0	- 3.8	70	28+	32	18	0	1			0.90	- 0.50		8	1	0.1	T										
YAKIMA	1061	977.9	1017.2	60	31	45.5	- 5.0	69	14	21	17	0	17	26	47	0.25	- 0.22	0.25	1	0	T	T	9.1	27	35*	28	12	8	11	11	5.9	
WEST INDIES																																
SAN JUAN P.R.	5	1013.9	1016.7	85	72	78.5	1.9	88	26	69	25+	0	0	71	77	6.38	2.66	2.16	20	1	0.0	0	10.3	7	29	33	3	4	17	9	6.1	64
SWAN ISLAND	28	1012.3		86	78	82.2	0.7	88	22+	74	14+	0	0			0.17	- 0.67	0.09	3	0	0.0	0						18	12	0	3.7	
WEST VIRGINIA																																
BECKLEY	2504	930.0	1018.6	65	43	53.7		81	21	17	1	0	6	39	64	3.46		0.99	13	6	0.3	5	11.8	16	35*	26	15	6	5	19	7.5	
CHARLESTON	939	981.7	1017.3	71	46	58.5	3.2	86	21+	24	1	0	4	42	58	3.20	- 0.48	0.91	16	5	T	0	7.5	23	30*	22	2	4	9	17	7.1	
ELKINS	1970	948.5	1018.2	65	38	51.2	1.0	82	21	17	2+	0	12	40	69	5.61	2.13	1.09	19	6	0.7	3	8.1	16	35*	32	20	2	8	20	7.6	
HUNTINGTON	827	987.2	1017.5	70	46	58.0	2.3	86	21	22	1	0	4	44	64	3.09	- 0.58	0.52	16	5	0.0	0	7.8	18	25*	19	28+	5	7	18	7.2	
PARKERSBURG U	615			68	45	56.3	2.2	85	17	21	1	0	6			6.40	3.15	1.17	16	4	T	T	8.0		32	NW	20					50
WISCONSIN																																
GREEN BAY	682	990.5	1013.5	54	34	44.1	0.9	79	17	14	1	0	13	34	69	2.55	0.09	1.00	10	3	0.5	4	12.3	5	59	SW	13	7	6	17	6.9	53
LA CROSSE	652	985.9	1012.3	59	38	48.5	1.5	87	16	22	4	0	9	34	62	2.37	- 0.38	0.73	8	3	T	2	14.2	12	53*	25	13	8	5	17	6.8	
MADISON	858	977.0	1012.8	59	36	47.5	3.1	84	16	19	4+	0	11	34	61	3.15	0.58	0.85	13	5	0.3	1	12.2	10	48	SW	13	6	7	17	7.3	43
MILWAUKEE	672	988.7	1014.2	54	36	44.8	1.2	84	16	17	1	0	10	35	70	3.81	1.28	0.84	14	5	T	1	13.6	3	51	SW	14+	5	11	14	6.7	57
WYOMING																																
CASPER	5319	831.8	1010.9	51	29	39.7	- 3.4	71	16	12	4	0	20	26	65	3.09	1.40	1.57	12	1	22.8	11	13.6	24	40*	1	3	7	9	14	6.6	
CHEYENNE	6126	807.6	1010.2	52	30	40.8	- 1.8	73	16	19	8+	0	17	23	54	1.30	- 0.58	0.57	8	3	7.1	5	17.3	29	61	NW	27	6	10	14	6.4	59
LANDER	5563	830.2	1010.4	53	30	41.1	- 2.1	71	15	16	7	0	20	25	58	2.97	0.52	1.20	10	0	28.5	8	8.9	24	47	SW	16	7	8	15	6.6	59
SHERIDAN	3942	879.7	1011.7	55	31	43.4	- 0.2	77	15	19	17	0	17	30	64	2.74	0.58	1.17	10	0	7.1	1	12.9	30	48	NW	11	5	11	14	6.7	63

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

\ Maximum hourly average.

B Number of days maximum 70 F. or above for Alaskan Stations.

Y Peak Gust.

# Wind direction to 8 compass points only.

+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm	M.p s.		M.p s.							%
ALABAMA																																
BIRMINGHAM	186	992.6	1017.9	24.4	12.2	18.5	1.2	30.0	23	1.7	10+	0	0	12.8	72	251	138	93	15	11	0	0	3.9	21	16.5	NW	23	8	5	17	6.6	66
HUNTSVILLE	184	994.1	1017.4	24.4	12.2	18.4	1.9	31.7	20	2.2	9	0	0	10.0	63	319	217	62	17	8	0	0	3.9	14	16.5*	13	5	6	9	15	6.5	
MOBILE	64	1014.9	1017.2	26.1	15.6	20.9	1.1	30.6	25	5.6	10	0	0	15.6	76	342	180	186	11	7	0	0	5.7	16	19.7*	1	26	5	8	17	7.0	
MONTGOMERY	59	1009.4	1018.0	25.6	13.3	19.4	1.6	30.0	23	5.0	10	0	0	13.9	73	397	273	115	12	11	0	0	4.0	18	11.2	SE	27+	6	8	16	6.6	47
ALASKA												B																				
ANCHORAGE	27	1004.3	1009.3	4.4	-2.8	0.9	-1.1	8.3	11+	-12.2	4	0	28	-5.0	68	23	12	7	8	0	173	152	4.2	18	15.6*	15	22	2	10	18	7.6	50
ANNETTE	34	1011.0	1015.0	8.3	1.7	4.9	-1.4	15.6	5	-0.6	17+	0	4	1.1	78	206	-26	40	22	0	81	25	4.1	36	14.8*	17	3	2	3	25	8.5	
BARROW	7	1017.8	1018.6	-19.4	-27.8	-23.7	-6.0	-10.6	19	-36.1	3+	0	30	-30.0	56	2	-1	1	4	0	41	254	4.6	6	10.3*	12	17+	15	6	9	4.2	
BARTER ISLAND	12	1016.7	1018.8	-18.9	-27.8	-23.3	-6.1	-9.4	19	-36.7	13	0	30	-26.1	76	6	2	3	7	0	64	279	4.1	7	10.3*	27	21+	14	9	7	4.4	
BETHEL	38	1008.2	1009.4	-2.2	-11.7	-6.9	-3.6	5.0	7	-30.0	3	0	29	-8.9	84	22	8	6	15	0	300	254	6.5	19	16.5*	19	20	5	2	23	7.9	
COLD BAY	29	1007.5	1011.3	3.3	-2.2	0.4	-0.3	9.4	22	-11.7	3	0	24	-2.8	81	5	-32	1	10	0	28	25	8.5	15	24.6*	18	21	0	4	26	9.0	
CORDOVA	12	1007.1	1008.8	5.6	-2.2	1.8	-0.6	10.6	6	-7.8	4	0	24	-0.6	84	126	17	22	19	0	554	457	3.2	12	9.4*	13	28+	2	3	25	8.5	
FAIRBANKS	133	994.8	1010.7	1.7	-8.3	-3.4	-2.0	7.8	30+	-29.4	4	0	30	-7.2	74	17	11	5	13	0	224	330	3.0	35	8.5*	24	22	1	4	25	8.7	
JUNEAU	5	1011.3	1012.3	7.2	0.0	3.7	0.3	12.8	6	-4.4	5	0	13	0.6	82	103	30	18	22	0	112	T	4.9	12	16.5*	12	3	0	3	27	9.0	40
KING SALMON	13	1008.9	1010.2	1.1	-5.6	-2.1	-2.6	7.2	16	-17.8	3+	0	27	-6.1	74	19	3	4	13	0	99	25	5.6	9	19.7*	8	8	3	6	21	8.1	
KOTZEBUE	3	1011.5	1012.1	-8.9	-20.0	-14.5	-4.1	0.6	16	-35.0	3	0	30	-17.8	75	3	-5	1	6	0	97	533	5.7	11	19.7*	12	16	10	3	17	6.3	
MC GRATH	102	996.8	1009.8	1.7	-10.6	-4.6	-2.2	8.3	29+	-30.0	3	0	30	-10.0	66	71	59	27	15	0	833	889	2.9	36	12.5*	24	22	5	4	21	7.7	
NOME	4	1008.7	1009.4	-5.0	-15.6	-10.3	-4.3	2.8	8	-32.8	3	0	30	-12.8	79	28	7	12	14	0	277	711	6.2	9	20.1*	5	9	10	3	17	6.5	40
ST. PAUL ISLAND	7	1006.5	1007.4	1.1	-3.9	-1.5	0.5	3.9	14	-12.8	2	0	26	-2.8	88	45	21	13	22	0	282	686	9.4	18	21.5*	22	19	0	8	22	8.6	
SHEMYA	37	1003.7	1007.2	2.8	-0.6	0.9	-1.0	5.0	27	-2.8	30	0	22	-1.7	82	49	-4	8	18	0	333	51	10.8	22	26.8*	19	3	0	6	24	9.0	
YAKUTAT	9	1010.2	1011.3	5.0	-0.6	2.3	-0.5	7.8	6	-5.0	30	0	17	-0.6	83	328	145	66	21	0	645	432	2.8	9	14.3*	13	24	3	4	23	8.5	
ARIZONA																																
FLAGSTAFF	2131	786.9	1013.0	12.2	-3.3	4.3	-2.0	21.7	15	-8.9	25+	0	26	-6.7	53	55	25	19	11	1	505	152	4.0	18	13.9*	18	23	14	7	9	4.4	
PHOENIX	340	972.6	1011.5	27.2	10.0	18.4	-1.1	36.1	15	5.0	25+	5	0	-0.6	30	3	-6	3	1	1	0	0	3.2	24	17.4Y	SSE	28	22	7	1	2.3	94
PRESCOTT	1528	844.7	1012.9	17.2	1.7	9.5	-2.3	26.7	15	-5.6	4	0	11	-5.0	42	23	6	11	4	0	76	102	5.0	21	21.0	SW	17	18	5	7	3.5	83
TUCSON	788	923.7	1011.4	25.0	9.4	17.3	-1.5	34.4	15	3.3	4	2	0	-6.7	24	17	10	17	2	1	0	0	4.4	16	17.0	SW	28	21	7	2	2.3	88
WINSLOW	1487	848.4	1013.1	19.4	1.1	10.4	-2.7	28.3	15	-4.4	25+	0	11	-6.7	36	7	-5	4	6	1	T	0	5.3	22	16.5*	21	19	17	9	4	3.2	
YUMA	61	1006.8	1012.1	28.3	11.7	20.1	-2.4	37.8	15	6.7	7	8	0	-0.6	29	20	18	20	1	1	0	0	3.9	29	17.0	SW	2	25	4	1	1.7	96
ARKANSAS																																
FORT SMITH	137	996.2	1013.2	26.1	10.0	18.0	1.5	32.8	23	-2.2	9	1	1	9.4	62	233	125	130	10	8	0	0	4.0	20	15.2	W	12	10	5	15	6.0	52
LITTLE ROCK	78	1001.4	1014.6	24.4	12.2	18.2	1.3	28.9	20+	2.2	9	0	0	11.7	69	281	156	63	14	12	0	0	4.2	18	17.9	NE	4	10	3	17	6.0	56
TEXARKANA	110	1000.3	1014.1	25.6	13.3	19.4	1.7	30.0	23+	2.2	9	0	0	13.3	73	256	121	107	12	10	0	0	3.4	18								
CALIFORNIA																																
BAKERSFIELD	151	997.8	1015.6	23.9	9.4	16.7	-0.6	35.6	15	4.4	3	2	0	3.3	45	14	-6	6	6	0	0	0	3.3	31	11.6*	34	23	17	9	4	3.4	
BISHOP	1252	871.7		21.1	1.7	11.5	-1.3	29.4	15+	-3.3	7	0	12			12	1	12	2	1	T	0						15	11	4	3.8	
BLUE CANYON	1609	837.0		11.1	1.1	6.1	-1.5	20.0	14	-6.1	24	0	11			50	-73	41	5	0	249	635	2.9		14.3*	20	22	13	11	6	4.1	
BURBANK	213	989.4	1015.2	21.1	8.3	14.6	-1.6	35.0	14	3.3	6	3	0	5.0	58	12	-19	3	4	1	0	0	3.5	18	13.0*	34	2	17	5	8	4.1	
EUREKA U	13	1019.4		11.1	6.1	8.4	-1.8	14.4	9	2.8	17	0	0			17	-51	12	5	0	0	0	4.1	11	16.1	N	16	9	11	10	5.5	64
FRESNO	99	1003.6	1015.4	23.3	6.7	14.9	-1.4	33.9	15	0.6	3	2	0	3.9	53	13	-16	5	4	0	0	0	3.3	32	13.4	NW	29	19	6	5	3.3	86
LONG BEACH	10	1014.6	1016.0	20.6	9.4	15.1	-0.5	36.1	14	4.4	3	3	0	7.8	67	6	-13	8	3	0	0	0	3.2	28	13.0*	32	2	14	7	9	4.5	
LOS ANGELES	30	1012.7	1016.4	18.9	10.0	14.6	-0.7	33.9	14	6.7	6	1	0	7.2	67	5	-22	4	4	0	0	0	4.7	27	12.5*	27	1	17	5	8	4.0	
LOS ANGELES U	95			20.6	11.1	15.8	-0.7	35.0	15+	8.3	6+	2	0			8	-21	2	4	0	0	0	3.2	W	13.9	NW	2	14	7	9	4.2	74
MT SHASTA R	1080	892.9		15.0	0.0	7.4	-1.2	26.1	28	-6.7	24	0	18			3	-67	2	3	1	30	T						18	9	3	3.3	
OAKLAND	1	1017.4	1017.7	16.1	9.4	12.8	-0.9	25.6	14	3.9	24	0	0	6.7	69	1	-34	T	1	0	0	0	4.8	29	13.4*	30	22+	13	15	2	3.7	
POINT ARGUELLO R	112	1003.3		14.4	6.7	10.5	-1.6	29.4	14	2.2	7+	0	0			12	-12	2	6	0	0	0	4.1		12.5*	32	2+	11	8	11	5.3	
RED BLUFF	104	1003.2	1016.0	23.3	7.2	15.3	-0.5	32.8	14	1.7	24	1	0	-0.6	40	1	-45	T	2	0	0	0	4.3	34	14.8	NW	16	17	10	3	3.2	92
SACRAMENTO	5	1014.9	1016.4	23.3	6.1	14.9	0.3	32.8	15	2.2	24+	2	0	5.6	60	4	-31	T	1	0	0	0	4.3	21	16.5	SW	22	18	9	3	3.1	94
SACRAMENTO U	7			22.2	7.8	15.1	-0.1	31.7	14	3.3	24	0	0			4	-37	6	1	0	0	0										
SANDBERG R	1377	861.5		12.8	2.8	7.8	-2.6	23.9	15+	-3.9	24+	0	11			13	-12	3	3	1	15	T	6.3		24.1*	34	11	14	8	8	4.3	
SAN DIEGO	4	1013.0	1016.1	19.4	11.7	15.7	-0.7	32.8	14	8.3	7	1	0	7.8	64	5	-15	2	4	0	0	0	3.6	29	10.3	NW	2	12	8	10	5.0	63
SAN FRANCISCO	2	1017.4	1018.1	17.2	7.2	12.3	-0.8	29.4	14	4.4	24+	0	0	5.6	69	T	-33	T	1	0	0	0	6.3	26	20.6	W	1	15	11	4	3.7	
SAN FRANCISCO U	16			15.6	8.9	12.1	-1.1	27.8	14	6.7	23	0	0			T	-36	T	1	0	0	0	4.2	W#	16.1	SW	22					80
SANTA CATALINA	478	959.9		16.7	9.4	13.1	0.0	31.1	15+	6.1	25+	0	0			10	-21	14	4	0	0	0						15	6	9	4.3	
SANTA MARIA	73	1009.0	1017.8	18.3	4.4	11.3	-1.8	32.8	14	0.0	6	1	1	5.6	74	9	-22	2	6	0	0	0	4.1	30	16.5*	29	2	17	5	8	3.9	
STOCKTON	9	1015.0	1016.7	23.9	6.1	15.1	-0.3	33.3	15	0.0	24	2	1	3.9	55	4	-25	T	2	0	0	0	4.2	27	15.6*	24	22+	15	11	4	3.4	
COLORADO																																
ALAMOSA	2297	766.7		13.3	-6.1	3.4	-2.0	20.0	15	-11.1	8	0	27			6	-12	4	5	0	38	25						15	9	6	4.4	
COLORADO SPRINGS	1882	805.1	1009.4	15.6	0.0	7.9	0.3	26.1	16	-6.7	8	0	11	-7.8	38	T	-33	T	1	0	3	T	5.7	36	18.3*	27	20	11	11	8	5.2	

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower			Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm	Mm.	Mm			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
DENVER	1610	832.2	1009.1	15.6	0.6	8.1	0.1	27.2	16	- 6.1	5	0	12	- 4.4	49	32	- 22	26	7	1	307	254	4.2	18	16.5	W	12	7	11	12	5.8	72
GRAND JUNCTION	1478	854.4	1010.6	16.7	3.3	10.2	-1.1	26.7	16	- 1.1	4	0	5	- 3.3	46	35	16	14	13	5	20	T	3.7	13	20.1	NW	12	5	9	16	6.7	57
PUEBLO	1414	850.9	1009.1	18.9	0.6	9.7	-0.7	29.4	16	- 6.1	8	0	12	- 7.2	36	1	- 29	1	1	0	8	T	6.2	29	27.3	NW	26	13	9	8	4.7	81
CONNECTICUT																																
BRIDGEPORT	2	1020.5	1021.5	12.2	3.9	8.0	-0.9	28.3	18	- 4.4	2+	0	5	2.8	75	122	25	44	13	0	T	0	6.0	25	20.6*	31	3	8	5	17	6.8	
HARTFORD	52	1013.9	1020.0	15.6	2.8	9.3	0.2	29.4	18	- 7.2	1	0	7	1.1	63	96	1	23	12	2	T	T	4.2	17	15.6	S	3	7	7	16	6.9	60
NEW HAVEN	2	1019.7		12.2	3.3	7.8	-0.5	27.8	18	- 6.1	2	0	6			142	44	45	14	2	0	0	3.6		12.1	W	9	7	6	17	6.8	49
DELAWARE																																
WILMINGTON	24	1017.2	1020.5	15.0	4.4	9.7	-1.5	28.3	18	- 3.9	2	0	5	3.9	72	152	67	25	15	5	T	T	4.9	18	14.8*	24	3	7	6	17	7.0	
DIST.OF COLUMBIA																																
WASHINGTON U	22			17.2	7.2	12.0		31.1	18	- 1.7	4	0	2			109	27	29	14		0	0										
WASH NATL AP	4	1014.7	1019.4	17.8	6.7	12.3	-0.9	31.7	18+	- 1.1	4	0	4	5.0	65	111	31	29	14	5	10	25	4.2	18	16.5	NNW	15	4	8	18	7.3	47
FLORIDA																																
APALACHICOLA U	4	1016.8		23.9	17.2	20.6	0.9	28.3	25	10.0	10+	0	0			202	93	197	5	2	0	0	3.8					8	10	12	5.7	60
DAYTONA BEACH	9	1018.8	1020.4	27.2	16.1	21.7	1.2	31.1	30+	6.7	1	0	0	15.6	71	92	16	85	3	4	0	0	4.4	12	10.7*	13	13	7	8	15	6.4	
FORT MYERS	4	1017.8		31.1	17.8	24.4	1.7	33.3	27+	7.8	1	9	0			20	- 47	15	2	2	0	0	4.7		11.2*	18	28	9	16	5	4.9	
JACKSONVILLE	7	1018.2	1019.6	27.2	15.0	21.2	0.8	32.8	23	7.2	10	1	0	15.6	74	118	28	91	7	5	0	0	4.3	14	18.3	SW	27	9	8	13	5.8	68
KEY WEST	2	1016.9	1018.1	28.3	23.3	25.9	1.6	31.1	30+	18.3	1	0	0	20.0	73	22	- 41	8	8	2	0	0	6.1	13	13.0	SE	7	10	16	4	4.7	83
LAKELAND U	65			28.3	17.8	23.0	1.1	31.1	30+	9.4	1	0	0			31	- 58	20	5	4	0	0	3.7					6	19	5	5.5	76
MIAMI BEACH	3			26.1	22.8	24.6	0.8	30.6	30	16.1	1	0	0			177	103	0			0	0	7.2									
MIAMI	2	1017.5	1018.8	28.3	21.7	25.1	1.6	31.7	30	12.8	1	0	0	19.4	73	84	- 14	45	8	6	0	0	4.9	9	10.7*	9	17	1	19	10	6.5	
ORLANDO	32	1015.1	1019.9	29.4	17.2	23.4	1.6	32.8	30	8.9	1	5	0	16.1	70	54	- 33	51	5	3	0	0	4.4	12	11.2*	22	27	7	13	10	6.0	
PENSACOLA	4			23.9	15.6	19.9	-0.1	28.3	29+	6.1	10+	0	0			394	261	191	11	7	0	0	4.1	18	20.1	SE	27					47
TALLAHASSEE	18	1016.6	1019.4	26.7	13.9	20.2	0.5	31.1	23	3.9	10+	0	0	14.4	74	142	25	120	10	5	0	0	4.4	18	13.0*	23	8+	7	9	14	6.2	
TAMPA	6	1017.1	1018.8	30.0	16.7	23.3	1.4	33.3	26	7.2	1	2	0	16.7	69	13	- 59	13	2	1	0	0	5.4	9	12.5*	20	27	6	13	11	6.1	74
WEST PALM BEACH	5	1018.1	1019.3	28.9	20.6	24.6	1.3	33.3	30+	8.3	1	3	0	18.3	73	189	79	81	8	7	0	0	5.5	12	17.9*	23	26+	2	15	13	6.7	
GEORGIA																																
ATHENS	245	990.0	1019.1	22.8	10.0	16.2	0.1	30.0	20	1.1	9	0	0	10.0	71	242	131	83	14	7	0	0	3.8	24	10.3*	30	23	8	4	18	6.8	
ATLANTA	306	976.8	1019.0	21.7	10.0	15.9	-0.2	27.8	23+	1.1	10+	0	0	10.6	74	220	107	83	13	6	0	0	4.0	18	17.0	NW	23	7	6	17	6.7	59
AUGUSTA	44	1012.4	1019.4	25.0	11.1	18.2	0.8	32.2	24	3.3	9	1	0	11.1	68	135	45	53	8	4	0	0	3.5	18	12.5*	30	6	7	4	19	6.8	
COLUMBUS	117	1004.1		25.0	12.2	18.4	0.8	30.0	24	2.2	10	0	0			289	172	85	11	8	0	0	4.2		12.1*	13	27	6	9	15	6.6	
MACON	109	1005.5	1019.2	25.6	12.8	19.0	0.3	32.8	24	3.9	10	1	0	11.7	67	214	119	90	10	6	0	0	3.4	12	13.9	SE	27	8	8	14	6.4	57
ROME	194	995.0		23.3	8.9	15.9	0.5	30.6	20	- 1.7	10	0	1			263	147	69	15	8	0	0						7	6	17	6.5	
SAVANNAH	15	1017.4	1020.1	26.1	12.8	19.3	0.6	33.3	24	4.4	10	1	0	13.3	73	67	- 27	29	7	6	0	0	4.7	18	11.2	S	6	8	6	16	6.5	65
THOMASVILLE U	86			26.1	15.0	20.4	0.6	30.6	25	6.7	9	0	0			149	31	90	9	4	0	0										
HAWAII																																
HILO	9	1016.6	1018.4	26.1	18.3	22.1	0.1	28.9	14	15.6	11	0	0	17.8	80	280	- 23	66	28	0	0	0	4.1	25	10.7*	11	3	0	8	22	8.6	31
HONOLULU	2	1017.3	1017.5	27.8	20.6	24.3	0.8	30.0	17	18.9	19+	0	0	16.1	64	22	- 11	4	17	0	0	0	4.5	6	13.0	NE	24	1	15	14	7.4	50
KAHULUI	13	1014.2	1017.0	28.3	18.9	23.7	0.7	30.0	16+	15.6	11+	0	0	16.7	66	9	- 28	5	7	0	0	0	5.2	5	15.2	NE	30	9	10	11	6.0	77
LIHUE	35	1013.2	1018.7	27.2	20.6	23.7	1.2	30.0	15	17.2	29+	0	0	18.3	72	73	- 12	25	19	0	0	0	6.0	6	13.9	NE	29	1	10	19	8.0	
IDAHO																																
BOISE	865	918.2	1014.9	14.4	0.0	7.4	-2.8	22.8	28+	- 6.1	17	0	16	- 1.1	60	34	5	7	12	0	10	T	3.7	32	13.4	SW	29+	7	6	17	6.4	73
IDAHO FALLS 42NW R	1460			11.7	- 3.9	4.0	-2.2	22.8	29	-11.7	17	0	28			28	15	21	7				4.0		17.0A	SSW	16					
IDAHO FALLS 46W R	1504	844.3		11.1	- 2.8	4.2	-2.1	22.2	29	- 8.9	17	0	27			30	17	17	9	0	211	127	4.4		17.0A	WSW	16					
LEWISTON	431	963.9		15.0	2.8	8.7	-1.7	22.2	14	- 3.9	17	0	8			24	- 5	7	11	0	T	0						6	1	23	7.5	
POCATELLO	1355	859.8	1013.6	12.2	- 0.6	5.9	-2.1	23.3	29	- 7.2	17	0	19	- 2.2	61	37	10	17	9	1	259	152	5.7	24	18.8	SW	26	7	7	16	6.9	59
ILLINOIS																																
CAIRO U	96	1001.4		22.2	12.8	17.3	2.1	27.2	20+	1.1	9	0	0			98	- 5	44	11	4	0	0	5.1	S#	17.0	SW	2	2	12	16	7.1	49
CHICAGO O HARE	201	988.7	1013.7	14.4	4.4	9.5	1.1	28.9	16	- 7.2	1	0	6	3.3	69	133	58	35	14	7	T	76	6.3	17	16.5*	23	13+	5	4	21	7.6	
CHICAGO MIDWAY	186	990.8	1014.2	15.6	6.1	10.6	1.2	28.9	17+	- 3.3	4+	0	5	3.3	65	126	49	28	12	3	T	25	5.9	18	17.4	SW	13	5	8	17	7.2	50
MOLINE	177	990.3	1012.8	16.7	5.0	10.8	0.8	30.0	16	- 3.9	1	0	6	3.9	66	162	81	50	13	8	T	T	6.1	9	19.2	SW	13	3	7	20	7.6	45
PEORIA	199	991.6	1014.2	16.7	5.6	11.2	0.8	29.4	16	- 3.3	1	0	5	5.0	70	176	75	58	14	9	T	T	5.3	6	19.2	SW	13	3	6	21	7.7	53
ROCKFORD	222	985.1	1012.7	15.0	3.9	9.2	0.4	28.3	16	- 5.6	1	0	7	2.8	69	208	130	64	13	7	T	51	6.2	7	16.5*	22	13	4	7	19	7.5	
SPRINGFIELD	179	989.5	1013.0	18.3	7.2	12.8	0.9	29.4	16	- 1.7	9+	0	5	6.1	67	252	161	72	12	13	T	T	6.8	17	17.4	SW	21	6	5	19	7.1	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	116	999.2	1015.3	21.7	9.4	15.4	1.2	28.3	17	- 1.1	9+	0	3	8.9	68	123	22	39	14	7	0	0	4.7	18	13.0	SW	17	5	11	14	6.9	52
FORT WAYNE	241	984.0	1015.6	16.1	5.0	10.6	0.9	28.3	17	- 7.8	1	0	7	4.4	70	128	48	40	13	7	T	T	5.5	23	15.2	SW	13	5	9	16	7.1	47
INDIANAPOLIS	242	984.8	1015.1	17.8	7.2	12.6	2.2	27.2	17	- 5.0	1	0	3	6.7	71	205	110	59	17	9	5	T	5.4	23	17.9	W	2	4	9	17	7.4	56
SOUTH BEND	234	985.9	1014.4	16.1	4.4	10.2	1.6	28.3	17	- 6.1	1	0	6	2.8	63	136	45	33	17	7	8	T	6.0	22	14.3*	24	17	6	5	19	7.2	
IOWA																																
BURLINGTON	212	987.3	1013.1	17.2	5.6	11.3	0.8	30.0	16	- 3.3	9+	0	5	4.4	67	178	90	67	16	8	T	0	6.4	9	23.2	SW	13	4	9	17	7.4	45
DES MOINES	289	980.2	1011.7	15.0	2.8	8.9	-1.3	29.4	16	- 5.6	9	0	8	3.3	74	84	19	27	12	6	T	T	7.2	9	20.6	W	13	5	8	17	7.1	42
DUBUQUE	325	986.8		14.4	2.8	8.6	0.4	27.8	16	- 6.1	1	0	8			195	117	67	12	5	T	25			22.8*	25	13	3	9	18	7.4	
SIOUX CITY	334	968.8	1010.4	16.7	4.4	10.7	1.3	31.7	16	- 3.3	8	0	4	2.8	64	90	33	33	13	6	T	T	6.8	33	23.2	W	13	5	8	17	7.0	44
WATERLOO	265	978.8	1011.1	14.4	2.2	8.4	-0.1	30.6	16	- 5.0	9	0	9	2.8	72	206	137	51	14	7	T	25	6.2	12	18.3*	26	13	5	6	19	7.3	
KANSAS																																
CONCORDIA	448	959.4	1009.3	18.9	5.6	12.3	0.7	32.8	16	- 5.6	8	1	5	4.4	64	95	41	43	12	10	0	0	6.8	16	21.9	W	13	9	8	13	5.8	60
DODGE CITY	791	921.5	1009.4	21.7	5.6	13.8	1.8	32.8	16	- 7.2	8	1	4	2.2	54	18	- 29	10	6	3	0	0	7.1	16	25.9	NW	27	9	15	6	5.2	77
GOODLAND	1111	882.4	1009.6	16.1	1.1	8.6	-0.3	30.6	16	- 6.7	8	0	13	- 1.1	60	35	- 6	15	9	3	168	102	7.6	32	25.0*	32	27	12	7	11	5.4	
TOPEKA	267	974.6	1010.3	20.0	7.2	13.6	1.1	30.6	16	- 2.2	9	0	2	6.1	65	119	36	46	12	12	0	0	7.5	18	25.5	SW	20	9	5	16	6.5	47
WICHITA	403	961.2	1009.7	21.7	8.3	15.1	1.4	29.4	12	- 2.8	8	0	3	7.2	63	75	17	49	6	6	0	0	7.1	20	28.2	W	27	10	4	16	5.9	54
KENTUCKY																																
COVINGTON	265	983.6	1015.7	20.0	7.2	13.4	2.2	28.3	17	- 8.3	1	0	5	6.1	65	171	89	35	15	7	T	0	4.9	21	15.6*	31	3	5	8	17	7.2	
LEXINGTON	298	980.7	1016.6	21.1	8.3	14.6	2.2	27.8	17	- 5.6	1	0	3	5.6	57	73	- 30	16	17	7	0	0	5.1	24	15.6*	18	13	9	1	20	7.1	
LOUISVILLE	144	996.5	1015.6	21.1	7.8	14.7	2.0	28.3	17	- 3.9	1	0	4	6.1	59	78	- 19	21	13	3	0	0	4.7	18	19.7	W	14	5	7	18	7.1	47
LOUISIANA																																
ALEXANDRIA	28	1011.3	1016.0	25.6	13.9	19.7	0.9	30.0	27+	2.8	10	0	0	15.0	77	165	20	65	9	8	0	0	3.2	18	12.1*	21	26	6	3	21	7.3	
BATON ROUGE	20	1013.1	1016.2	26.7	16.7	21.6	1.4	31.1	24	6.7	10	0	0	16.1	75	121		49	8	6	0	0	4.4	18	15.6*	25	25	3	8	19	7.6	
LAKE CHARLES	4	1013.8	1015.4	25.0	16.1	20.6	0.7	29.4	28+	7.2	10+	0	0	16.7	80	47	- 64	23	5	3	0	0	5.3	18	13.4*	19	3	1	9	20	8.2	
NEW ORLEANS	1	1014.5	1016.6	26.7	16.7	21.4	1.5	31.7	27	4.4	1	0	0	18.3	85	144	28	60	10	7	0	0	4.4	15	13.0*	16	6	4	9	17	7.3	
NEW ORLEANS AUDUBON	2	1009.8		26.7	16.7	21.7	1.2	31.7	25	7.2	10	0	0			245	105	93	11	8	0	0	2.4		7.6	SW	26+	5	9	16	7.1	52
SHREVEPORT	77	1005.5	1014.8	25.6	15.0	20.4	1.9	30.6	23+	3.3	9	0	0	13.3	68	185	69	61	10	8	0	0	5.4	18	14.3*	13	25	8	4	18	6.6	51
MAINE																																
CARIBOU	190	995.3		8.3	- 2.8	2.8	0.4	21.1	30	-18.9	2	0	18			53	- 14	16	9	0	292	203						10	8	12	5.9	
PORTLAND	19	1016.1	1020.3	10.6	- 0.6	4.9	-0.9	26.1	27	-12.8	1	0	15	- 1.1	69	83	- 12	29	12	0	43	25	4.0	18	13.0	NW	4	10	7	13	6.1	53
MARYLAND																																
BALTIMORE	45	1014.9	1019.8	16.1	5.0	10.5	-1.8	30.0	18	- 3.3	5+	0	5	4.4	70	111	20	20	17	2	10	T	3.9	14	16.1	NW	9	5	10	15	6.8	42
BALTIMORE U	4			16.7	7.2	11.8	-1.3	31.1	18+	- 1.1	4+	0	3			123	29	24	16													
MASSACHUSETTS																																
BLUE HILL OBS R	192	995.3		12.2	1.7	6.9	-0.7	27.2	18	- 8.3	1	0	7			120	19	62	12	0	T	0	6.3	NW	18.3	SW	3					52
BOSTON	5	1012.1	1020.3	12.2	3.9	7.8	-1.0	27.8	18	- 4.4	1	0	5	1.7	71	94	- 2	47	12	0	T	0	5.5	31	15.6	NW	4	7	9	14	6.6	53
NANTUCKET	13	1019.9	1020.6	9.4	2.2	5.9	-0.9	19.4	18	- 5.6	1	0	7	1.1	75	136	40	55	11	0	T	0	6.1	24	17.9	NW	4	8	8	14	6.3	57
PITTSFIELD	357			12.2	- 0.6	6.0	-0.1	26.1	18	-12.2	1	0	15			83	- 15	21	15	0	46	25										
WORCESTER	301	981.8	1019.8	12.2	1.1	6.5	-0.5	26.7	18	- 9.4	1	0	11	- 1.1	63	102	2	33	12	0	30	T	4.6	29	13.4*	29	9+	8	6	16	6.5	
MICHIGAN																																
ALPENA	210	993.3		11.1	- 0.6	5.1	1.2	28.9	17	-17.2	4+	0	15			85	18	16	11	3	89	102	4.5	13	16.5	SW	14	4	9	17	7.1	59
DETROIT	189	989.2	1016.3	15.0	4.4	9.6	0.9	28.9	17	- 6.7	4+	0	7	2.8	67	118	42	30	16	5	30	25	5.4	9	18.8	SW	14	5	11	14	6.7	47
DETROIT M WAYNE CO	193	991.9	1016.5	14.4	2.8	8.7	0.2	28.9	17	- 8.3	1	0	10	2.8	72	105	27	22	16	4	20	25	4.3	22				4	11	15	6.9	
DETROIT WILLOW RUN	217	987.1	1016.0	15.0	2.8	9.1	0.3	28.9	17	- 7.8	1	0	9	3.3	71	97	19	27	14	4	25	T	5.3	9	16.5*	21	13	5	10	15	6.9	
FLINT	233	988.2	1016.5	15.0	2.8	9.0	2.5	28.9	17	- 8.3	4+	0	9	1.7	63	75	8	19	11	5	51	51	5.5	12	16.5*	18	13	5	11	14	6.9	
GRAND RAPIDS	210	988.8	1014.9	15.0	3.3	9.0	1.4	27.2	17	- 9.4	1	0	9	3.3	70	134	59	35	13	6	30	25	5.5	9	20.6	SW	14	7	5	18	7.1	58
LANSING	260	982.7	1015.2	15.6	2.8	9.3	1.7	29.4	17	- 9.4	4+	0	10	1.7	62	82	9	30	12	5	53	51	4.1	14	17.9	SW	14+	5	9	16	6.6	65
MARQUETTE U	206	986.4		9.4	0.0	4.9	0.9	23.9	17	-10.0	4	0	16			74	5	22	14	1	91	432	4.3	NW#	22.4	SW	13	5	6	19	7.2	55
MUSKEGON	191	991.5	1015.0	13.3	3.3	8.4	1.1	23.9	16	- 9.4	1	0	9	2.2	68	99	33	21	15	7	43	51	6.8	10	19.2*	20	13	7	7	16	7.2	
SAULT STE MARIE	220	992.5	1015.7	7.8	- 1.1	3.3	0.0	19.4	17	-15.0	1	0	19	- 1.7	73	63	8	12	14	4	71	406	5.7	11	23.2*	21	14	5	4	21	7.6	49
MINNESOTA																																
DULUTH	435	970.6	1012.8	8.9	- 1.7	3.7	0.9	21.1	16	-10.0	8	0	20	- 3.9	63	104	44	39	11	1	142	178	5.8	7	21.9	N	2	5	7	18	7.2	53
INTERNATIONAL FALLS	359	970.1	1012.0	10.6	- 2.8	3.9	0.9	22.8	16	-14.4	8	0	21	- 1.7	70	74	35	25	12	1	135	203	5.3	6	13.0*	28	17	7	9	14	6.5	
MINNEAPOLIS	251	977.2	1011.1	14.4	2.2	8.2	1.4	31.1	16	- 7.2	4	0	12	0.0	62	76	29	27	12	3	142	51	6.6	12	23.2	WSW	13	6	6	18	7.1	62

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M p.s.		M p.s.							%
MINNESOTA																																
ROCHESTER	395	974.2	1011.9	13.3	1.7	7.3	0.7	27.8	16	- 6.1	4	0	11	1.7	70	66	11	19	11	6	28	T	7.4	11	23.2*	24	13	6	6	18	6.9	
ST CLOUD	315	972.6		13.3	1.1	7.2	1.2	28.3	16	- 6.7	4	0	17			84	33	23	11	2	173	102						5	7	18	7.3	
MISSISSIPPI																																
JACKSON	93	1004.0	1016.2	26.7	13.9	20.1		31.1	23	1.7	10	0	0	13.9	71	302		91	13	10	0	0	4.7	18	14.3*	31	24	5	8	17	6.6	
MERIDIAN	89	1003.3	1017.3	26.1	12.8	19.6	1.6	31.7	23	1.1	10	0	0	13.9	74	427	292	162	12	11	0	0	3.7	18	10.3*	30	28+	7	5	18	6.8	
VICKSBURG U	71	1006.3		25.0	15.0	20.1	1.4	29.4	23	5.6	9	0	0			273	148	88	11	8	0	0	4.2		18.3	W	5	6	9	15	6.7	58
MISSOURI																																
COLUMBIA	237	982.9	1011.3	20.6	8.3	14.4	1.9	30.0	16	- 2.2	9	0	2	5.0	60	178	94	64	15	14	0	0	6.3	16	20.1	SW	12	7	7	16	6.5	53
KANSAS CITY	226	975.6	1010.4	20.0	8.3	14.1	0.9	28.9	16	1.1	9	0	0	5.6	61	137	47	39	15	15	0	0	5.5	6	14.8	S	12+	7	9	14	6.4	57
ST JOSEPH	247	975.7		19.4	6.1	12.8	0.8	31.1	16	- 3.3	9	0	3			122	42	31	12	9	0	0	6.3		15.6*	18	16+	9	7	14	6.4	
ST LOUIS	163	992.3	1013.2	20.6	9.4	14.8	2.1	30.0	16	- 1.1	9	0	2	5.6	58	127	33	33	15	8	T	0	6.0	18	20.1	W	21	7	8	15	6.7	49
ST LOUIS RFC	142			20.6	10.0	15.4	1.8	30.0	16	0.6	1	0	0			96	5	29	13	0	T	T										
SPRINGFIELD	386	964.7	1012.1	22.2	8.9	15.4	2.3	28.3	19+	- 3.3	9	0	2	7.2	61	113	9	72	12	11	T	0	5.9	16	15.2	S	2	8	11	11	5.8	63
MONTANA																																
BILLINGS	1087	886.5	1011.2	13.3	1.1	7.3	-0.4	25.0	15	- 8.3	17	0	12	- 2.2	58	104	71	47	9	1	414	76	5.5	30	17.0	NW	26	6	12	12	6.3	62
GLASGOW	694	936.3		13.9	0.6	7.1	0.7	21.1	30+	-10.0	7	0	13			10	- 15	6	8	1	58	51						7	7	16	6.6	
GREAT FALLS	1116	884.7	1013.8	12.2	- 0.6	5.7	-0.7	25.6	29	-15.0	7	0	17	- 3.3	57	49	24	11	13	1	335	102	6.5	24	17.0	NW	5	5	7	18	7.3	59
HAVRE	787	922.3		12.8	- 1.1	6.0	-0.2	26.1	29	-17.2	7	0	16			30	5	11	9	0	135	102	4.7		18.8	NW	11+	8	4	18	6.9	52
HELENA	1187	870.3	1014.1	12.2	- 1.7	5.4	-0.8	24.4	29	-11.1	17	0	17	- 4.4	53	40	19	22	7	2	168	25	4.6	27	17.0	W	12	4	7	19	7.2	60
KALISPELL	904	909.5		11.1	- 1.1	4.8	-1.7	16.7	29	- 7.2	18	0	22			15	- 11	6	9	0	28	102	3.6					4	2	24	8.0	
MILES CITY	801		1011.1	15.0	1.1	8.1	0.4	27.8	23	- 6.1	8	0	11	- 1.1	59	32	5	10	9	4	122	51	5.3	30	20.1*	31	11					
MISSOULA	972	900.2	1015.7	11.7	0.0	5.6	-1.2	18.3	29+	- 5.6	18	0	18	- 1.7	63	38	13	25	12	0	13	T	3.7	32	13.0	NW	26	5	4	21	7.8	40
NEBRASKA																																
GRAND ISLAND	561	943.3	1009.7	17.8	4.4	11.1	1.3	34.4	16	- 5.0	8	1	6	2.2	61	126	68	84	9	8	23	25	6.7	34	19.7*	24	20+	7	10	13	6.4	
LINCOLN U	351			17.8	5.6	11.8	0.8	32.8	16	- 1.7	8+	1	3			65	2	15	9	7	T	0	6.0	SE#	18.8	NW	13	4	8	18	7.0	48
NORFOLK	471	952.0		15.6	3.9	9.8	0.7	32.2	16	- 3.9	8	1	7			84	28	32	11	6	81	76						5	9	16	6.9	
NORTH PLATTE	847	909.7	1009.0	15.6	1.1	8.3	-0.4	31.1	16	- 7.2	8	0	13	0.0	63	96	44	34	11	5	142	102	6.3	34	25.9	NW	27	9	7	14	6.3	51
OMAHA	298	970.0	1010.1	17.8	5.0	11.6	0.6	32.2	16	- 2.2	9	1	4	2.8	60	112	47	37	11	6	T	T	5.8	13	19.2	W	13	5	10	15	6.9	45
OMAHA N OMAHA AP	403	961.6		16.7	4.4	10.6	0.9	31.7	16	- 2.2	8+	0	4			138	75	54	12	7	T	T						4	11	15	6.9	
SCOTTSBLUFF	1204	873.8	1010.5	14.4	0.0	7.2	-0.9	28.3	16	- 7.2	8	0	16	- 1.7	60	61	15	24	7	1	198	127	7.3	30	24.1*	32	27	8	5	17	6.5	
VALENTINE	789	918.3		15.0	1.1	7.9	0.3	32.2	16	- 9.4	8	1	10			58	8	23	9	3	76	76	6.3	N#	21.0	N	27	5	10	15	6.9	42
NEVADA																																
ELKO	1547	842.4	1014.2	12.8	- 3.3	4.9	-1.9	23.3	15	- 8.9	24	0	26	- 3.3	58	29	8	12	12	2	124	25	3.6	24	13.9*	24	22	4	12	14	6.8	
ELY	1907	805.4	1012.9	11.7	- 3.3	4.2	-1.7	21.7	15	-15.6	24	0	28	- 3.9	65	70	46	20	10	3	554	102	4.1	19	16.1	S	22	6	8	16	6.8	66
LAS VEGAS	659	946.1	1012.0	23.9	9.4	16.6	-1.5	33.3	15	3.9	25+	1	0	- 5.6	25	1	- 5	1	1	1	T	T	5.6	23	17.9*	18	23+	18	4	8	3.7	79
RENO	1342	861.4	1015.9	17.2	- 2.2	7.4	-1.5	26.1	15	- 6.7	24+	0	22	- 5.6	43	13		8	5	1	168	76	3.4	29	18.8	S	22	9	10	11	5.7	95
WINNEMUCCA	1310	866.4		15.0	- 2.2	6.2	-1.5	24.4	15	- 8.9	23	0	25			38	17	13	8	1	305	102	4.2	24	17.9	W	22	7	8	15	6.7	69
NEW HAMPSHIRE																																
CONCORD	103	1008.9	1020.0	12.8	0.0	6.4	-0.1	26.7	18	-13.3	1	0	10	- 0.6	66	52	- 32	13	9	0	T	T	3.4	32	14.3*	32	4	8	7	15	6.3	54
MT WASHINGTON OBS	1909	804.2		- 1.7	- 8.9	- 5.3	-0.3	6.1	27	-23.9	4	0	30			131	- 19	29	17	3	599	279	13.4	W#	41.1Y	W	4	9	4	17	6.8	43
NEW JERSEY																																
ATLANTIC CITY	18	1018.5	1020.8	15.0	5.0	9.8	-0.7	30.0	18	- 5.0	2	0	4	4.4	73	193	106	55	15	3	T	T	4.9	7	16.1*	24	3	7	7	16	6.8	41
ATLANTIC CITY U	3			12.2	6.1	9.4	-0.6	29.4	18	- 1.1	4	0	4			168	82	36	15	0			6.0		17.0*	WNW	9					
NEWARK	3	1019.2	1020.7	13.9	5.0	9.5	-1.8	29.4	18	- 2.2	2+	0	4	2.2	67	141	52	32	16	1	T	T	4.8	11	14.8*	23	3	7	6	17	6.6	
TRENTON U	17	1012.0		14.4	5.0	9.6	-1.3	28.9	18	- 3.3	1	0	4			128	46	29	15	1	0	0	4.2	S#	17.0	SW	3	7	8	15	6.6	45
NEW MEXICO																																
ALBUQUERQUE	1618	844.9	1010.7	18.9	3.3	10.9	-2.2	26.1	16	- 1.7	8+	0	4	- 7.2	34	15	4	10	4	1	T	T	4.2	18	19.2	NW	27	19	6	5	3.1	78
CLAYTON	1515	840.5		18.9	1.7	10.1	-0.3	28.3	19+	- 5.6	8+	0	11			9	- 22	6	5	1	43	51						17	8	5	3.6	
RATON	1944	800.8		16.1	- 1.1	7.6	-0.7	25.0	19+	-10.0	5	0	18			38	11	26	5	1	361	203						15	10	5	4.1	
ROSWELL	1103	889.2		26.1	2.8	14.6	-0.4	33.3	19	- 7.8	8	3	10			1	- 18	1	1	1	0	0	5.0		17.9	SW	2	19	8	3	2.9	72
SILVER CITY	1638	833.0		20.6	3.3	11.7	-1.8	27.8	18	- 2.8	26	0	6			14	7	14	2	0	81	76						25	3	2	2.0	
NEW YORK																																
ALBANY	84	1016.0	1020.1	13.3	1.7	7.6	-0.3	23.9	18	- 8.9	5+	0	10	0.6	63	55	- 15	16	14	0	T	0	4.5	17	13.9	SW	3	7	3	20	7.1	43
BINGHAMTON	485	958.5	1018.6	11.1	1.1	6.1	-0.3	26.7	17	- 8.9	1	0	11	0.6	72	129	55	39	16	1	15	25	5.4	18	14.3	S	13	5	5	20	7.6	42

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M	Mb	Mb	C	C.	C	C	C.		C.				C.	%	Mm.	Mm	Mm.			Mm	Mm.	M p.s.		M p.s.							%
NEW YORK																																
BUFFALO	215	988.9	1017.4	13.3	3.3	8.3	1.9	24.4	28	- 7.8	4	0	9	2.2	69	85	9	21	16	1	84	76	5.0	25	15.6	W	17	3	11	16	7.5	48
NEW YORK J	40	1005.8		14.4	5.6	9.8	-0.9	30.0	18	- 2.2	1	0	3			129	42	29	15	1	T	0	4.2	NE#	13.9	SW	3	11	6	13	5.7	48
NEW YORK LA GUARDIA	6	1018.1	1020.4	13.3	6.1	9.8	-0.8	28.9	18	- 1.1	1	0	2	3.9	70	130	39	36	16	2	T	0	5.0	7	19.2	SW	3	7	8	15	6.6	
ROCHESTER	166	999.0	1018.6	13.9	2.8	8.4	1.2	27.2	17	- 8.3	1	0	9	1.7	65	90	22	22	16	3	91	76	4.8	25	16.1	SW	15	5	9	16	7.1	52
SCHENECTADY	66			13.3	2.8	7.9	-0.3	22.2	27+	- 6.7	2+	0	9			51	- 21	13	10	0	T	0			8.9	22	16+	14	8	8	4.6	
SYRACUSE	127	996.3	1018.7	14.4	2.2	8.1	0.3	27.8	17	- 8.3	1	0	11	1.1	65	93	15	22	18	3	33	25	5.3	27	17.9	W	9	7	6	17	7.0	49
NORTH CAROLINA																																
ASHEVILLE U	671	939.4		20.0	7.8	14.1	0.7	29.4	21+	- 2.2	1	0	3			132	51	50	15	5	0	0	3.9	SE#	12.1	SE	6	9	4	17	6.7	49
CAPE HATTERAS R	2	1019.3	1020.2	20.0	10.6	15.1	-0.1	27.2	23	- 3.3	2	0	1	11.1	78	110	34	47	13	6	0	0	4.7	24	13.9	SW	1	5	9	16	6.9	51
CHARLOTTE	224	991.0	1019.3	22.2	10.0	15.9	0.2	30.6	21+	0.6	1	0	0	8.9	68	115	26	51	11	4	0	0	4.0	22	12.5	SW	2	7	6	17	6.8	58
GREENSBORO	272	987.5	1019.7	20.6	8.9	14.7	0.6	30.0	19	- 2.8	1	0	2	7.2	66	74	- 13	40	10	1	0	0	3.8	22	15.2	SE	6	8	3	19	6.8	43
RALEIGH	132	1005.3	1019.4	21.7	8.9	15.3	0.2	30.6	20+	- 1.7	1	0	2	8.3	69	86	- 3	35	12	6	0	0	4.3	22	11.2*	25	3	6	6	18	6.8	52
WILMINGTON	9	1017.6	1020.6	22.8	11.7	17.2	0.3	31.1	23	3.3	10+	0	0	11.1	72	34	- 39	18	7	3	0	0	4.8	21	12.1	NW	1	9	7	14	6.2	57
WINSTON SALEM	295	983.9	1019.2	21.1	10.0	15.8	1.2	30.6	19	- 1.1	1	0	1	8.3	65	84	- 8	45	9	2	0	0	3.9	24	13.0*	15	6	7	5	18	6.8	
NORTH DAKOTA																																
BISMARCK	502	950.5	1011.6	14.4	0.6	7.3	0.9	23.3	15	- 8.3	8	0	17	- 0.6	63	74	43	50	7	3	69	51	5.8	7	21.0	NW	13	5	8	17	7.1	60
FARGO	274	976.6	1011.3	13.9	2.2	8.0	2.4	27.2	16	- 9.4	8	0	10	2.2	71	96	52	39	11	0	234	102	6.2	16	30.4	NW	13	3	9	18	7.5	59
WILLISTON	579	942.9		15.0	0.0	7.4	1.7	23.9	26	- 7.2	3	0	20			27	4	14	5	0	137	76	5.5	SE#	17.9	N	13	9	11	10	5.5	59
OHIO																																
AKRON	369	978.7	1017.2	16.7	3.3	9.9	0.7	27.2	17	-12.2	1	0	9	3.9	71	154	69	44	16	5	20	51	4.9	18	13.0*	18	13	7	6	17	6.9	
CINCINNATI OBS	232			20.0	8.3	14.1	1.7	28.9	17	- 5.6	1	0	4			177	85	38	16	7	T	0	3.5	S#	13.4	SW	2					37
CINCINNATI U	169	992.5		20.6	8.9	14.7	1.5	28.9	17	- 3.3	1	0	2			168	79	33	16	6	T	0										
CLEVELAND	237	988.3	1016.5	15.0	3.9	9.3	1.2	27.2	17	-12.2	1	0	8	3.3	70	124	37	27	18	6	13	51	5.4	18	14.8	N	13	7	5	18	7.0	57
COLUMBUS	247	985.1	1017.0	17.8	6.1	12.0	1.6	27.8	17	- 7.8	1	0	5	5.6	68	162	73	41	17	8	T	T	4.7	18	15.2	W	3	5	8	17	7.2	48
COLUMBUS U	221			17.8	7.2	12.4	1.3	27.8	17	- 6.1	1	0	3			159	74	41	15	9	T	0										
DAYTON	304	983.1	1016.0	18.3	6.7	12.3	1.9	28.3	17	- 5.0	1	0	5	5.6	67	152	68	38	17	9	T	0	5.6	15	18.3	W	3	5	8	17	7.3	50
MANSFIELD	395			15.6	3.3	9.5	1.2	27.2	17	-11.7	1	0	7			167	83	40	14	8	T	51						6	5	19	7.2	
TOLEDO	206	990.2	1016.0	15.0	3.3	9.2	0.9	29.4	17	-11.7	1	0	10	2.8	69	89	18	20	17	6	3	25	5.0	23	14.3	SW	17	5	9	16	7.0	50
YOUNGSTOWN	359	974.3	1017.4	15.0	3.3	9.3	1.0	27.2	17	-10.0	1	0	9	3.3	71	152	58	35	16	7	41	51	5.0	12	10.3*	18	13	7	5	18	7.1	
OKLAHOMA																																
OKLAHOMA CITY	390	967.6	1010.8	25.0	10.6	17.8	2.3	33.3	12	- 0.6	8	1	1	7.8	58	52	- 27	19	6	6	0	0	7.3	18	25.0	W	12	11	9	10	4.8	70
TULSA	206	987.0	1011.4	25.6	12.2	18.7	3.8	31.7	12	0.0	9	0	1	8.9	58	149	47	116	13	8	0	0	6.6	18	18.8	S	12	11	7	12	5.5	56
OREGON																																
ASTORIA	2	1020.5	1021.0	11.7	3.3	7.7	-1.8	16.1	19	- 0.6	18	0	3	4.4	81	91	- 40	14	20	0	0	0	4.3	30	12.5*	34	19+	4	8	18	7.6	
BURNS U	1265	871.7		13.3	- 2.8	5.2	-2.6	22.8	14	- 8.3	23	0	26			15	- 4	10	9	0	71	25						8	9	13	6.0	
EUGENE	110	1007.9		14.4	3.3	8.8	-1.6	20.6	28	- 1.7	17	0	5			33	- 28	13	9	0	0	0	3.2		8.9*	19	26+	5	8	17	6.9	
MEACHAM	1234			6.1	- 1.7	2.2	-2.7	15.6	28	- 6.7	17	0	24			67	- 4	16	18	0	249	559						6	3	21	7.6	
MEDFORD	396	972.0	1020.4	17.2	0.6	8.7	-1.6	26.1	28	- 3.3	3	0	16	1.1	64	9	- 18	4	8	0	T	T	2.5	30	9.4*	28	29	13	5	12	4.8	
PENDLETON	452	963.4	1017.7	15.6	2.8	9.2	-1.9	22.2	14	- 3.9	18+	0	6	- 0.6	56	9	- 19	3	10	1	T	T	5.5	26	15.6*	26	1	6	4	20	6.8	
PORTLAND	6	1015.2	1021.0	13.3	2.8	8.2	-2.8	19.4	28+	- 1.1	18+	0	4	3.3	73	40	- 13	7	12	0	T	0	3.4	20	14.8	W	4	3	9	18	7.6	43
PORTLAND U	9			15.0	5.0	10.0	-1.9	21.7	28	1.1	17	0	0			50	- 12	10	15	0	0	0										
ROSEBURG	154	1002.6		15.6	2.8	9.2	-1.6	23.9	28	- 0.6	19	0	5			24	- 25	5	11	0	0	0	2.3	N#	10.7	N	2	7	7	16	6.1	55
SALEM	59	1014.3	1021.7	15.0	2.8	8.9	-1.7	21.1	28+	- 2.8	17	0	4	4.4	75	33	- 27	6	12	0	0	0	3.5	18	10.3*	24	26+	6	7	17	6.9	
SEXTON SUMMIT R	1169	885.5		10.0	- 1.7	4.2	-2.8	20.6	28	- 6.1	16	0	23			19	- 28	6	9	0	124	25	4.6					13	5	12	5.1	
PACIFIC AREA																																
CANTON ISLAND	3	1008.6	1008.8	31.1	25.6	28.3	-0.3	32.2	14	23.3	1	1	0	23.3	74	20	- 72	9	13	0	0	0	6.3	7	10.7*	8	30+	7	15	8	5.7	
ENIWETOK	5	908.9		29.4	25.0	27.3	-0.6	31.1	20	22.8	17	0	0			258	226	78	21	0	0	0	7.2									
TAGUAC GUAM R	110	997.8		29.4	23.3	26.2	-0.4	30.0	27+	21.7	26+	0	0			190	113	46	26	2	0	0	3.8		9.8	NE	17					65
JOHNSTON	2	1013.3	1014.0	26.7	23.3	25.2	-0.3	28.9	2	21.1	28	0	0	21.7	80	211	153	89	15	0	0	0	6.8	9	14.8	E	24	0	11	19	8.2	44
KOROR R	29	1006.6	1009.3	30.6	24.4	27.6	0.2	32.2	30+	23.3	20+	7	0	25.0	88	189	- 74	38	20	2	0	0	2.8	6	9.8	NE	3	0	0	30	9.9	58
KWAJALEIN	2	1009.1	1010.0	30.0	24.4	27.1	-0.1	30.6	30+	21.7	14	0	0	24.4	87	359	231	104	21	0	0	0	6.2	6	16.5*	8	14	1	8	21	8.3	
PONAPE R	37	1004.6	1009.0	30.6	23.9	27.1	0.2	32.2	26	21.7	30	1	0	23.9	86	407	-102	49	29	1	0	0	2.9	6	8.5	SE	5	0	2	28	9.5	38
TRUK MOEN ISLAND	2	1008.3	1008.6	30.0	24.4	27.4	0.3	31.7	30+	22.8	30	0	0	23.9	81	312	- 1	86	20	0	0	0	4.2	4	11.6	SE	13	0	3	27	9.1	56
WAKE	3	1014.6	1015.0	28.3	22.8	25.4	-0.3	30.6	28	20.6	5	0	0	19.4	70	93	46	34	17	0	0	0	6.5	6	12.5*	4	2	2	13	15	7.2	
YAP R	16	1007.8	1008.7	30.6	24.4	27.4	-0.2	31.7	30+	23.3	14	0	0	24.4	87	193	31	70	23	1	0	0	3.6	4	13.0	22	1	0	0	30	9.9	58

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CLIMATOLOGICAL DATA

METRIC UNITS

APRIL 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1 6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M.p.s.		M p s							%
PENNSYLVANIA																																
ALLENTOWN	115	1005.8	1020.4	14.4	2.8	8.6	-1.1	26.7	18+	- 7.8	2	0	8	2.8	71	178	83	33	16	5	T	0	4.7	9	16.5*	32	3	8	7	15	6.6	
ERIE	223	990.8	1017.4	13.3	3.3	8.4	0.9	26.7	17	-10.0	1	0	9	2.2	68	93	3	24	15	6	13	T	7.6	15	15.6*	17	13+	6	9	15	6.8	
HARRISBURG	102	1006.0	1020.2	15.0	4.4	9.8	-1.2	30.0	17	- 5.6	2	0	5	3.3	67	125	48	26	18	2	8	T	4.2	11	15.6	NW	15	4	6	20	7.5	42
PHILADELPHIA	2	1015.8	1020.4	15.6	5.6	10.4	-0.7	30.6	18	- 3.9	2	0	4	4.4	70	134	47	27	16	3	T	T	4.3	7	14.3	SW	3	8	4	18	7.0	44
PITTSBURGH	347	986.6	1017.4	17.2	5.0	10.9	1.5	28.3	17	- 9.4	1	0	10	3.9	65	193	115	55	17	7	8	25	4.8	12	15.6*	17	28	4	7	19	7.6	49
PITTSBURGH U	228			17.8	6.1	12.0	0.8	28.9	17	- 6.1	1	0	6			136	50	30	16		5	0										48
READING U	81	1007.7		15.0	5.0	9.9	-1.6	28.9	17	- 3.9	2	0	4			143	56	34	17	4	T	T	5.4	SE #	22.4	SW	3	8	6	16	6.8	44
SCRANTON	287	984.9	1019.8	13.3	2.8	8.1	-1.0	26.7	17	- 9.4	1	0	7	1.7	67	97	14	20	16	1	15	25	3.6	23	11.6	E	29	7	5	18	7.2	40
WILLIAMSPORT	161	1000.7	1020.2	13.9	2.8	8.3	-1.3	29.4	17	- 7.8	2	0	8	2.2	69	141	51	22	17	3	3	T	4.4	10	11.2*	14	13	6	5	19	7.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1015.6		9.4	2.8	6.3	-0.7	21.1	18	- 3.9	2+	0	5			148	56	56	10	0	0	0						9	5	16	6.1	
PROVIDENCE	17	1013.9	1020.2	12.8	2.8	7.8	-0.6	28.9	18	- 6.7	2+	0	5	1.1	66	136	40	68	10	0	T	0	5.2	16	13.9*	24	3	9	5	16	6.4	54
SOUTH CAROLINA																																
CHARLESTON	12	1018.0	1020.1	25.0	12.8	18.9	0.7	31.7	24+	3.9	10	0	0	13.3	74	69	- 4	25	9	1	0	0	4.2	20	18.8Y	N	24	7	8	15	6.4	60
CHARLESTON U	3			22.8	15.0	18.8	0.1	31.7	24	8.3	9	0	0			75	10	25	7		0	0	4.8		16.1	NE	4					
COLUMBIA	66	1006.3	1019.3	24.4	11.1	17.9	0.3	32.2	21+	1.7	10	2	0	10.0	66	91	- 10	45	8	1	0	0	3.3	22	9.4*	14	27+	8	5	17	6.4	53
FLORENCE	45	1013.6	1019.6	24.4	11.7	17.8	0.3	31.7	24	2.8	2	0	0	10.6	67	86	- 6	30	7	2	0	0	3.9	20	9.4*	19	2	8	7	15	6.2	
GNVLE SPARTANBURG	292	982.1	1019.3	22.2	10.6	16.2	-0.1	30.6	23+	2.8	10+	0	0	9.4	68	287	187	65	14	5	0	0	3.9	23	17.9	NW	24	9	4	17	6.5	51
SOUTH DAKOTA																																
HURON	391	962.6	1010.2	17.2	2.2	9.7	2.5	33.3	16	- 8.3	8	1	9	1.1	62	71	24	32	8	3	18	T	6.8	33	22.4	W	13	4	6	20	7.5	[illegible]
RAPID CITY	965	896.3	1010.9	14.4	1.7	7.9	1.0	25.6	16+	- 8.9	8	0	8	- 2.8	54	31	- 11	19	9	0	107	51	6.9	32	25.0	NW	27	5	11	14	6.8	58
SIOUX FALLS	433	958.4	1010.3	15.0	2.8	8.9	1.2	33.3	16	- 5.0	8	1	9	2.2	70	102	44	43	12	5	T	T	6.5	12	17.9*	29	13	6	6	18	7.0	
TENNESSEE																																
BRISTOL	459	963.3	1018.1	19.4	7.8	13.6	-0.1	27.2	21+	- 6.1	1	0	4	6.7	68	118	38	35	16	7	0	0	2.5	23	8.0*	28	8+	5	7	18	7.3	
CHATTANOOGA	204	990.4	1018.1	23.3	11.1	17.2	1.1	31.1	20+	0.6	10	0	0	10.0	68	303	194	72	15	5	0	0	3.8	18	12.1	S	2	7	6	17	7.0	51
KNOXVILLE	290	982.5	1018.1	21.7	10.0	15.8	0.9	28.9	21	- 2.8	1	0	1	8.9	70	177	83	46	17	5	0	0	3.8	24	14.8	SW	3	10	2	18	6.6	48
MEMPHIS	80	1000.6	1015.4	22.8	12.8	17.8	1.4	28.3	20	1.7	9	0	0	11.7	70	280	163	63	14	10	0	0	4.6	18	17.9	W	13	10	2	18	6.5	57
MEMPHIS U	83			22.2	13.9	18.3	1.4	27.2	20	3.3	9	0	0			265	148	65	14		0	0										
NASHVILLE	176	996.0	1016.1	22.8	11.1	17.0	1.7	30.6	20	0.0	9+	0	2	10.0	67	149	54	47	14	10	0	0	4.6	16	15.2	SE	5	7	9	14	6.5	49
OAK RIDGE	276	984.7		22.2	9.4	15.9	1.6	30.6	20	- 2.8	1	0	2			181	74	47	15	0	0	0	2.3		17.4Y		2	9	3	18	6.8	
TEXAS																																
ABILENE	536	950.0	1010.5	27.2	13.3	20.4	2.5	33.9	12	2.2	9	4	0	7.2	48	70	12	24	6	7	0	0	5.9	16	15.6	N	12	15	8	7	[illegible]	81
AMARILLO	1099	884.1	1008.7	23.9	5.0	14.4	0.2	33.3	19	- 3.9	8	1	5	- 4.4	35	T	- 34	T	0	1	T	0	7.6	27	19.2	W	12	21	3	6	3.0	81
AUSTIN	182	991.1	1012.9	26.7	16.1	21.6	1.7	31.1	27	6.7	9	0	0	13.9	67	37	- 53	24	8	4	0	0	5.2	18	13.4	NE	25+	5	7	18	7.1	38
BROWNSVILLE	5	1009.1	1011.7	29.4	21.1	25.2	1.9	36.7	26	12.8	9	8	0	20.0	79	27	- 13	27	1	2	0	0	7.4	16	16.5	SE	3	[illegible]	11	19	7.8	47
CORPUS CHRISTI	13	1011.3	1012.6	28.9	18.9	23.7	1.6	36.1	28	10.0	9	3	0	18.9	79	2	- 52	1	3	1	0	0	7.4	16	17.4	S	22	0	8	22	8.4	35
DALLAS	147	998.6	1012.6	26.1	15.0	20.4	2.1	31.7	3	2.8	9	0	0	12.8	66	82	- 20	30	9	6	0	0	6.3	18	18.3	NW	12	8	8	14	6.0	55
DEL RIO	313	976.7	1010.4	30.6	16.7	23.6		37.2	3	6.1	9	11	0	10.6	51	30		28	2	5	0	0	4.7	12	13.4	18	27	4	12	14	6.4	
EL PASO	1194	883.2	1009.6	25.0	10.0	17.3	-0.1	31.1	16	3.3	21	0	0	- 7.2	20	2	- 5	2	2	1	0	0	5.4	27	21.9	SW	1	19	8	3	2.9	89
FORT WORTH	166	991.9	1012.7	25.6	13.3	19.3	1.1	31.7	3	0.6	9	0	0	12.8	69	69	- 23	24	9	8	0	0	5.8	18	17.9*	33	12	9	8	13	5.7	
GALVESTON U	2			22.8	18.9	20.8	0.5	28.3	28	11.7	9	0	0			9	- 56	5	4		0	0	6.0		17.4	SE	3					41
HOUSTON U	12			25.6	18.3	22.1	1.4	31.7	27	8.9	9	0	0			37	- 50	17	7		0	0										
HOUSTON	15	1011.1	1013.8	25.6	16.7	21.2	0.9	31.1	27	7.8	9	0	0	16.7	78	41	- 41	21	7	3	0	0	5.8	16	17.0*	18	3	1	6	23	8.3	50
LAREDO	152	995.2	1010.5	32.8	19.4	26.2	2.2	38.3	27	8.9	9	18	0	13.9	55	1	- 41	1	[illegible]	2	0	0	5.2	14	11.2*	16	16+	2	13	15	7.1	
LUBBOCK	988	899.2	1009.9	25.6	7.2	16.4	1.1	32.8	19+	- 2.2	8	2	1	- 0.6	37	3	- 26	3	1	1	0	0	7.6	18	21.9*	25	2	22	4	4	2.8	
MIDLAND	870	911.4	1008.9	28.9	10.6	19.5	1.2	35.0	17	1.7	8	9	0	- 2.8	30	0	- 21	0	0	1	0	0	5.3	18	14.3*	27	26	20	4	6	3.3	
PORT ARTHUR	5	1012.8	1014.4	25.6	16.1	20.7	0.6	29.4	28	6.7	10+	0	0	17.8	84	54	- 46	24	7	4	0	0	6.3	16	21.9	S	3	1	8	21	8.1	38
SAN ANGELO	580	943.8	1010.0	28.9	13.9	21.3	1.8	34.4	20+	2.8	9	6	0	7.2	47	48	- 3	40	4	4	0	0	5.0	16	17.9*	30	20	15	3	12	4.8	
SAN ANTONIO	241	988.5	1012.7	27.8	15.0	21.4	1.3	33.3	27	3.9	10	1	0	13.9	68	29	- 42	18	7	3	0	0	5.0	14	18.3	SW	17	6	7	17	6.9	65
VICTORIA	32	1008.4		27.2	17.8	22.5	1.4	35.6	27	7.2	9	2	0			13	- 54	8	5	0	0	0	5.9		25.0Y		3	2	7	21	8.2	
WACO	152	991.4	1012.5	25.6	15.6	20.4	1.2	31.1	24	1.7	9	0	0	13.9	68	72	- 26	23	8	6	0	0	6.1	17	17.9*	30	5	9	3	18	6.3	
WICHITA FALLS	303	974.2	1010.7	26.7	12.2	19.3	1.6	34.4	12	1.7	8	4	0	10.0	63	82	18	55	8	7	0	0	6.3	16	18.8*	34	20+	15	6	9	4.2	
UTAH																																
MILFORD	1533	840.8		15.0	- 0.6	7.2	-1.6	26.1	15	- 9.4	7	0	20			46	27	13	10	3	406	127						12	5	13	5.6	
SALT LAKE CITY	1286	864.7	1013.6	13.9	1.1	7.6	-2.4	23.9	15	- 2.8	17	0	10	- 1.1	58	68	24	17	13	0	48	25	4.6	16	25.5	NW	11	5	7	18	7.2	57
WENDOVER	1291	867.4		15.0	3.3	9.4	-1.5	25.6	15	- 1.7	6	0	6			12	- 1	5	7	2	T	T						9	7	14	6.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	1004.0	1019.1	11.7	- 0.6	5.7	0.6	23.3	27	-16.1	5	0	15	- 1.7	63	54	- 13	21	10	1	165	127	4.2	18	11.2	S	13	6	7	17	7.0	58
VIRGINIA																																
LYNCHBURG	289	993.7		18.9	7.8	13.4	0.0	29.4	18	- 1.7	2	0	2			54	- 25	15	11	3	0	0	3.4		12.5	SW	3	7	1	22	7.3	48
NORFOLK	8	1018.9	1020.4	17.8	7.8	12.9	-1.6	30.0	18	- 2.2	2	0	3	8.3	75	60	- 20	22	12	3	30	0	5.0	7	20.1	SW	3	5	4	21	7.4	
RICHMOND	49	1013.4	1019.9	19.4	6.7	13.0	-1.5	31.1	18	- 3.3	2	0	5	6.7	70	69	- 11	17	13	1	30	25	4.0	21	13.9	N	20+	5	5	20	7.2	49
ROANOKE	358	976.7	1019.2	20.0	7.8	13.8	0.3	29.4	19+	- 2.2	1	0	3	5.0	61	90	11	27	16	3	0	0	4.3	14	14.3*	30	9	7	3	20	7.1	
WASHINGTON																																
OLYMPIA	58	1012.4	1019.8	12.8	1.1	7.0	-3.0	18.9	7	- 4.4	18	0	12	3.3	79	40	- 35	10	14	0	0	0	3.9	20	13.0*	25	15	3	6	21	7.8	
SEATTLE TACOMA	122	1005.3	1019.6	12.8	3.9	8.2	-1.3	17.2	7	0.6	17	0	0	2.2	69	40	- 21	10	12	0	T	0	4.9	22	13.0*	23	21+	5	5	20	7.5	
SEATTLE U	4			13.3	6.1	9.8	-1.2	19.4	7	3.3	30+	0	0			33	- 17	15	13	0	0	0			19.7	SW	21					46
SPOKANE	718	946.0	1015.1	12.8	1.1	6.9	-1.6	17.2	29+	- 4.4	18+	0	10	- 2.2	56	25	2	13	8	0	168	25	5.5	22	16.5	SW	15	5	6	19	7.3	59
STAMPEDE PASS R	1206	878.9		2.2	- 2.8	- 0.3	-2.8	8.9	28	- 6.1	30+	0	27			232	89	45	19	0	1575	4902						3	3	24	8.4	
TATOOSH ISLAND R	31	1016.3	1019.2	10.0	5.0	7.3	-1.3	13.9	23	2.8	17+	0	0	3.9	81	111	- 22	29	17	0	T	0	6.0	27	22.4	NW	22	8	3	19	6.9	53
WALLA WALLA U	289			15.0	5.0	10.0	-2.1	21.1	28+	0.0	18	0	1			23	- 13		8	1	3	T										
YAKIMA	323	977.9	1017.2	15.6	- 0.6	7.5	-2.8	20.6	14	- 6.1	17	0	17	- 3.3	47	6	- 6	6	1	0	T	T	4.1	27	15.6*	28	12	8	11	11	5.9	
WEST INDIES																																
SAN JUAN P.R.	2	1013.9	1016.7	29.4	22.2	25.8	1.1	31.1	26	20.6	25+	0	0	21.7	77	162	68	55	20	1	0	0	4.6	7	13.0	33	3	4	17	9	6.1	64
SWAN ISLAND	9	1012.3		30.0	25.6	27.9	0.4	31.1	22+	23.3	14+	0	0			4	- 17	2	3	0	0	0						18	12	0	3.7	
WEST VIRGINIA																																
BECKLEY	763	930.0	1018.6	18.3	6.1	12.1		27.2	21	- 8.3	1	0	6	3.9	64	88		25	13	6	8	127	5.3	16	15.6*	26	15	6	5	19	7.5	
CHARLESTON	286	981.7	1017.3	21.7	7.8	14.7	1.8	30.0	21+	- 4.4	1	0	4	5.6	58	81	- 12	23	16	5	T	0	3.4	23	13.4*	22	2	4	9	17	7.1	
ELKINS	600	948.5	1018.2	18.3	3.3	10.7	0.6	27.8	21	- 8.3	2+	0	12	4.4	69	142	54	28	19	6	18	76	3.6	16	15.6*	32	20	2	8	20	7.6	
HUNTINGTON	252	987.2	1017.5	21.1	7.8	14.4	1.3	30.0	21	- 5.6	1	0	4	6.7	64	78	- 15	13	16	5	0	0	3.5	18	11.2*	19	28+	5	7	18	7.2	
PARKERSBURG U	187			20.0	7.2	13.5	1.2	29.4	17	- 6.1	1	0	6			163	80	30	16	4	T	T	3.6		14.3	NW	20					50
WISCONSIN																																
GREEN BAY	208	990.5	1013.5	12.2	1.1	6.7	0.5	26.1	17	-10.0	1	0	13	1.1	69	65	2	25	10	3	13	102	5.5	5	26.4	SW	13	7	6	17	6.9	53
LA CROSSE	199	985.9	1012.3	15.0	3.3	9.2	0.8	30.6	16	- 5.6	4	0	9	1.1	62	60	- 10	19	8	3	T	51	6.3	12	23.7*	25	13	8	5	17	6.8	
MADISON	262	977.0	1012.8	15.0	2.2	8.6	1.7	28.9	16	- 7.2	4+	0	11	1.1	61	80	15	22	13	5	8	25	5.5	10	21.5	SW	13	6	7	17	7.3	43
MILWAUKEE	205	988.7	1014.2	12.2	2.2	7.1	0.7	28.9	16	- 8.3	1	0	10	1.7	70	97	33	21	14	5	T	25	6.1	3	22.8	SW	14+	5	11	14	6.7	57
WYOMING																																
CASPER	1621	831.8	1010.9	10.6	- 1.7	4.3	-1.9	21.7	16	-11.1	4	0	20	- 3.3	65	78	36	40	12	1	579	279	6.1	24	17.9*	1	3	7	9	14	6.6	
CHEYENNE	1867	807.6	1010.2	11.1	- 1.1	4.9	-1.0	22.8	16	- 7.2	8+	0	17	- 5.0	54	33	- 15	14	8	3	180	127	7.7	29	27.3	NW	27	6	10	14	6.4	59
LANDER	1696	830.2	1010.4	11.7	- 1.1	5.1	-1.2	21.7	15	- 8.9	7	0	20	- 3.9	58	75	13	30	10	0	724	203	4.0	24	21.0	SW	16	7	8	15	6.6	59
SHERIDAN	1202	879.7	1011.7	12.8	- 0.6	6.3	-0.1	25.0	15	- 7.2	17	0	17	- 1.1	64	70	15	30	10	0	180	25	5.8	30	21.5	NW	11	5	11	14	6.7	63

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

APRIL 1964

State and station	Current season		Normals July through this month
	This month	Period July through this month	
ALABAMA			
Birmingham	71	2996	2757
Huntsville	80	3301	3051
Mobile	25	2006	1659
Montgomery	39	2522	2291
ALASKA			
Anchorage	936	9785	9957
Annette	717	5862	6318
Barrow	2277	19092	17772
Barter Island	2256	18452	17565
Bethel	1361	12993	11988
Cold Bay	961	8559	8501
Cordova	889	8393	8660
Fairbanks	1166	13954	13502
Juneau	785	7454	8093
King Salmon	1099	10628	10262
Kotzebue	1772	15798	14412
McGrath	1234	15272	13377
Nome	1544	13927	12668
St. Paul Is.	1063	9803	9531
Shemya	932	8233	8138
Yakutat	861	7784	8025
ARIZONA			
Flagstaff	752	6702	6412
Phoenix (U)	59	1520	
Phoenix	69	1890	1598
Prescott	472	4395	4189
Tucson	107	2018	1873
Winslow	418	4875	4578
Yuma	38	1061	878
ARKANSAS			
Ft. Smith	102	3374	3270
Little Rock	71	3215	3210
Texarkana	49	2584	2533
CALIFORNIA			
Bakersfield	138	2494	2103
Bishop	361	4027	4096
Blue Canyon	657	5058	4989
Burbank	219	1662	1547
Eureka (U)	529	3898	3986
Fresno	201	2978	2543
Long Beach	199	1415	1686
Los Angeles (U)	169	1048	1263
Los Angeles	214	1378	1822
Mt. Shasta (R)	582	5377	5216
Oakland	297	2676	2600
Point Arguello (R)	416	3062	3054
Red Bluff	181	2762	2468
Sacramento (U)	184	2613	2343
Sacramento	194	2840	2430
Sandberg (R)	560	4266	3888
San Diego	154	1229	1326
San Francisco (U)	338	2599	2582
San Francisco	318	2778	2675
San Jose (U)	249		
Santa Catalina	319	1692	
Santa Maria	378	2817	2569
Stockton	186	3022	
COLORADO			
Alamosa	800	8265	7921
Colorado Springs	555	5887	6089
Denver	545	5754	5643
Grand Junction	437	5481	5474
Pueblo	458	5433	5273
CONNECTICUT			
Bridgeport	552	5382	5382
Hartford	481	5961	5997
Middletown	575	6147	
New Haven	565	5550	5607
DELAWARE			
Wilmington	467	5016	4812
DIST. OF COLUMBIA			
Washington (U)	350	4113	
Washington	339	4257	4150
FLORIDA			
Apalachicola (U)	13	1672	1308
Daytona Beach	13	1076	879
Fort Myers	3	467	442
Jacksonville	25	1560	1239
Key West	0	92	108
Lakeland (U)	3	849	661
Miami	0	248	214
Miami Beach	0	185	141
Orlando	4	824	782
Pensacola	30	2040	1451
Tallahassee	32	2020	1485
Tampa	4	890	683
West Palm Beach	4	348	253
GEORGIA			
Athens	147	3263	2907
Atlanta	160	3418	2936
Augusta	81	2789	2397
Columbus	68	2720	2383
Macon	65	2570	2136
Rome	160	3743	3292
Savannah	50	2206	1819
Thomasville (U)	23	1940	1529
IDAHO			
Boise	583	5787	5485
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	758	8663	7892
Idaho Falls 42NW(R)	765	8943	8180
Lewiston	515	4838	5213
Pocatello	661	7126	6581
ILLINOIS			
Cairo (U)	122	3737	3774
Chicago (Midway)	419	5635	5863
Chicago (O'Hare)	479	6282	
Moline	405	6018	6150
Peoria	384	5826	5809
Rockford	489	6304	6534
Springfield	307	5372	5365
INDIANA			
Evansville	193	4547	4490
Ft. Wayne	420	5781	6012
Indianapolis	308	5386	5483
South Bend	437	5789	6143
IOWA			
Burlington	381	5701	5904
Des Moines	504	6192	6317
Dubuque	523	6625	7038
Sioux City	414	6187	6742
Waterloo	530	6770	6938
KANSAS			
Concordia	333	5092	5207
Dodge City	272	4698	4853
Goodland	520	5702	5863
Topeka	264	4745	5046
Wichita	200	4366	4527
KENTUCKY			
Lexington	222	4601	4580
Louisville	215	4452	4610
LOUISIANA			
Alexandria	52	2529	
Baton Rouge	22	1897	1620
Lake Charles	23	1931	1491
New Orleans (Audubon Park)	22	1596	
New Orleans	29	1862	1475
Shreveport	35	2431	2211
MAINE			
Caribou	830	8930	9116
Greenville (U)	837	8714	
Portland	718	7210	7028
MARYLAND			
Baltimore (U)	368	4183	4046
Baltimore	425	4865	4564
MASSACHUSETTS			
Blue Hill Obs. (R)	613	6110	6032
Boston	559	5490	5390
Nantucket	662	5496	5476
Pittsfield	657	7145	7147
Worcester	632	6552	6587
MICHIGAN			
Alpena	706	7477	7578
Detroit (City AP)	469	5534	5991
Detroit (M. Wayne Co.)	519	6188	6164
Detroit (Willow Run)	497	5935	5984
Escanaba (U)	747	7250	7866
Flint	506	6239	6659
Grand Rapids	501	6099	6540
Lansing	487	6164	6567
Marquette (U)	717	7170	7748
Muskegon	529	5989	6581
S. Ste. Marie	799	8027	8549
MINNESOTA			
Duluth	783	8315	9267
Internat. Falls	770	9159	9989
Minneapolis	543	7202	8029
Rochester	588	7259	7782
St. Cloud	593	7771	8448
MISSISSIPPI			
Jackson	44	2623	2239
Meridian	47	2848	2289
Vicksburg (U)	30	2424	2041
MISSOURI			
Columbia	230	4728	4913
Kansas City	239	4359	4741
St. Joseph	302	5080	5336
St. Louis (RFC)	189	4316	4397
St. Louis	216	4738	4701
Springfield	201	4359	4450
MONTANA			
Billings	587	6222	6647
Butte	853	8314	
Glasgow	602	7216	8511
Great Falls	674	6439	7007
Havre	658	7127	8170
Helena	690	7190	7553
Kalispell	726	7511	8026
Miles City	547	6550	7353
Missoula	680	7546	7515
NEBRASKA			
Grand Island	391	5791	5967
Lincoln (U)	354	5317	5663
Norfolk	460	6341	6698
North Platte	534	6231	6379
Omaha	364	5656	6024
Omaha N. Omaha AP	416	5897	6490
Scottsbluff	594	6182	6403
Valentine	558	6419	7053
NEVADA			
Elko	720	7286	6839
Ely	755	7246	7052
Las Vegas	141	2733	2634
Reno	585	5544	5600
Tonopah	539	5515	
Winnemucca	648	5885	6245
NEW HAMPSHIRE			
Concord	636	6959	7214
Mt. Washington Obs. (R)	1271	12548	
NEW JERSEY			
Atlantic City	461	4734	4664
Atlantic City (U)	482	4695	
Newark	473	4862	4931
Trenton (U)	472	4877	4847
NEW MEXICO			
Albuquerque	391	4853	4222
Clayton	439	4968	4957
Raton	576	6001	5864
Roswell	209	3991	4025
Silver City	352	4112	
NEW YORK			
Albany	571	6649	6591
Binghamton	654	7161	6967
Buffalo	535	6277	6791
New York (U)	454	4682	4735
New York (LaGuardia)	452	4717	4681
Rochester	526	6304	6421
Schenectady	557	6451	
Syracuse	546	6398	6463
NORTH CAROLINA			
Asheville (U)	251	4292	3955
Cape Hatteras (R)	194	2811	2587
Charlotte	178	3423	3103
Greensboro	234	4040	3758
Raleigh	205	3668	3359
Wilmington	142	2652	2347
Winston-Salem	190	3801	3558
NORTH DAKOTA			
Bismarck	588	7760	8550
Devils Lake (U)	675	8645	9382
Fargo	553	7833	8840
Grand Forks FAA	666	8307	
Pembina	662	8914	
Williston	581	7658	
OHIO			
Akron	447	5975	6043
Cincinnati (U)	216	4307	
Cincinnati	273	5043	4888
Cincinnati Obs.	242	4643	4679
Cleveland	481	5921	6106
Columbus	340	5452	5259
Columbus (U)	325	5012	
Dayton	326	5227	5409
Mansfield	474	5972	6098
Toledo	493	6068	6192
Youngstown	482	6241	5919
OKLAHOMA			
Oklahoma City	116	3585	3794
Tulsa	87	3552	3641
OREGON			
Astoria	567	4330	4635
Burns (U)	709	6639	6414
Eugene	505	4135	4312
Meacham	864	7062	7008
Medford	513	4757	4409
Pendleton	487	4583	4974
Portland (U)	441	3630	3833
Portland	539	4502	4285
Roseburg	487	4070	4101
Salem	501	4433	4279
Sexton Summit (R)	757	5863	5573
PENNSYLVANIA			
Allentown	523	5684	5619
Erie	530	5897	6103
Harrisburg	460	5468	5069
Philadelphia (U)	405	4276	
Philadelphia	424	5062	4986
Pittsburgh (U)	342	4937	4917
Pittsburgh	395	5621	5753
Reading (U)	456	4939	4840
Scranton	544	6049	6191
Williamsport	532	5859	5733
RHODE ISLAND			
Block Island	644	5514	5286
Providence	560	5744	5667
SOUTH CAROLINA			
Charleston (U)	65	2106	1794
Charleston	61	2223	2026
Columbia	112	2863	2484
Florence	110	2836	2387
Greenville-Spartanburg	165	3315	
SOUTH DAKOTA			
Huron	465	6936	7626
Pierre	527	6512	
Rapid City	555	6161	6893
Sioux Falls	509	6798	7491
TENNESSEE			
Bristol	269	4521	4150
Chattanooga	120	3488	3345
Knoxville	160	4126	3511
Memphis (U)	69	3142	2999
Memphis	91	3378	3100
Nashville	139	3832	3538
Oak Ridge	161	4119	3716
TEXAS			
Abilene	54	2444	2624
Amarillo	235	4168	4117
Austin	20	1847	1711
Brownsville	0	823	600
Corpus Christi	7	1190	914
Dallas	43	2493	2357
Del Rio	15	1708	
El Paso	99	2978	2578
Fort Worth	65	2600	2405
Galveston (U)	11	1502	1235
Houston (U)	15	1403	1278
Houston	19	1695	1278
Laredo	3	1101	797
Lubbock	139	3586	3547
Midland	63	2688	2591
Port Arthur	22	1817	1526
San Angelo	30	2393	2218
San Antonio	23	1761	1549
Victoria	16	1430	1173
Waco	42	2334	2030
Wichita Falls	82	2849	2945
UTAH			
Milford	596	6263	6131
Salt Lake City	576	6344	5555
Wendover	480	5788	5550
VERMONT			
Burlington	677	7676	7378
VIRGINIA			
Lynchburg	282	4292	4088
Norfolk	303	3705	3384
Richmond	306	4181	3858
Roanoke	265	4296	4085
WASHINGTON			
Olympia	604	4769	4752
Seattle (U)	455	3823	4065
Seattle	475	3936	4497
Seattle-Tacoma	535	4489	4767
Spokane	609	6188	6317
Stampede Pass (R)	997	8172	8146
Tatoosh Island (R)	593	4650	4955
Walla Walla	451	4336	
Walla Walla (U)	442	4242	4583
Yakima	578	5491	5652
WEST VIRGINIA			
Beckley	340	5532	
Charleston	226	4637	4327
Elkins	411	5977	
Huntington	237	4705	4095
Parkersburg (U)	272	4818	4633
WISCONSIN			
Green Bay	618	7380	7805
La Crosse	493	6565	7326
Madison	519	6844	7063
Milwaukee	598	6667	6745
WYOMING			
Casper	751	6966	7111
Cheyenne	720	6640	6927
Lander	713	7222	7744
Sheridan	643	6559	7355

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

APRIL 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS
Alabama	12	3	0	7	5	0	0	4	5	0	3	4	5	2	0	0	0									0	0	6	6
Alaska *																													
Arizona						0	0	0	2																				
Arkansas	8	3	0	0	5	0	0	5	0	0	0	5	0	0	3	4	0									0	1	6	4
California										0	4	5	0													0	0	0	6
Colorado	2	2	0	0	0					0	0	°6	C																
Connecticut																										0	0	0	0
Delaware *																													
Florida	3	3	0	2	5	0	0	0	?	0	0	?	0													R 0	0	°6	C
Georgia	6	4	0	2	5	0	0	3	4	0	0	4	0													3	0	6	5
Hawaii *																													
Idaho																		1	14										
Illinois	4	2	0	1	4	0	0	°5	C	0	5	6	0	0	0	4	0									L 0	0	°5	C
Indiana	4	3	0	2	5	0	0	3	0	0	0	3	0	0	1	0	0												
Iowa	10	3	1	30	6	0	0	5	0	0	42	6	0	1	0	4	0									0	0	4	0
Kansas	46	11	4	34	6		3	5	6		18	4																	
Kentucky						0	?	?	?																				
Louisiana	2	2	0	2	6	0	0	6	2	0	1	5	3	0	1	3	0									0	0	6	5
Maine *																													
Maryland						0	0	?	?					0	0	?	0									H 0	0	°5	C
Massachusetts																										D 0 R 0	0 0	3 5	0 0
Michigan	1	1	0	0	4					0	3	5	0	0	0	4	0												
Minnesota	1	1	0	0	5					0	3	5	0																
Mississippi						0	0	4	4	0	5	5	0	0	0	3	0									0	0	6	5
Missouri	8	2	2	16	5	0	0	4	0	1	5	5	0	0	0	4	0												
Montana	1	1	0	1	5													0	0	2	0								
Nebraska	8	4	0	0	5	0	0	4	0	0	0	5	?	0	1	4	0												
Nevada	1	1	0	0	0					0	0	5	0																
New Hampshire *																													
New Jersey *																													
New Mexico														0	1	0	0												
New York											1																		
North Carolina						0	0	4	5	0	0	5	0	0	6	4	0									1	0	5	4
North Dakota *																													
Ohio										0	0	5	0	1	0	0	0												
Oklahoma	17	7	0	2	5	0	1	6	5	6	33	5	5	0	1	4	0									0	1	3	0
Oregon *																													
Pacific Area *																													
Pennsylvania *																													
Puerto Rico *																													
Rhode Island *																													
South Carolina	6	3	0	0	3	0	0	3	4																	0	0	6	6
South Dakota										0	?	4	0					0	?	4	0								
Tennessee						0	0	5	4					1	0	5	0									0	0	5	3
Texas	23	9	8	119	7	0	0	5	0	0	2	5	3	0	1	0	0												
Utah										0	7	4	0																
Vermont *																													
U. S. Virgin Is.*																													
Virginia										0	1	0	0																
Washington *																													
West Virginia								3	2			2				3													
Wisconsin										1	M	6	0																
Wyoming	1	1	0	0	5					0	0	°5	C																

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop damage.
° Includes crop damage.
R Rain and flood.
L Local flooding.
H Heavy rain.
D Dust devil.
M Many.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

APRIL 1964

Moderate to major flooding occurred in the East Gulf of Mexico Drainage during April. In the headwaters of the Chickasawhay River in Mississippi the flooding was the worst of record, much worse than the last severe flooding of 1961. Thousands of residents were evacuated. Major flooding occurred in Indiana with the highest crests in more than 50 years at some points along the White River.

HUDSON BAY DRAINAGE

Red River of the North Basin. --The Red River of the North approached within 0.8 foot of flood stage at Moorhead, Minn., during April. Unusually dry subsoil made it possible for the soil to absorb much of the precipitation from melting snow and rain. No flooding was reported.

ST. LAWRENCE DRAINAGE

Lake Erie. --Flooding occurred along the entire St. Marys River in Indiana from the headwaters to Fort Wayne during April. The first freshet produced a crest of 18.2 feet at Decatur on the 7th, 5.2 feet over flood stage. The second freshet produced a slightly higher crest on the 23d. No property damage resulted from either rise. Considerable local flooding occurred in the Auglaize drainage. At Van Wert, Ohio, basements were flooded several times during the month. Many county roads in the vicinity were closed due to high water resulting from the heavy precipitation on the 19th-20th. Minor flooding occurred along the Blanchard River in the vicinity of Findlay and Ottawa, Ohio, on the 22d and 23d. The Maumee River overflowed its banks at Fort Wayne, Ind., during the same period. Only low ground and park areas in the city were affected.

Light flooding occurred on the Sandusky River at Upper Sandusky, Ohio, on the 4th. Additional heavy rain on the 18th to the 21st caused flooding along the entire length of the Sandusky River. A few families were evacuated near Tiffin, Ohio, on the 23d. The average rainfall over the Sandusky drainage during April was 7 inches and approached the greatest of record for April.

Lake Champlain. --Heavy thundershowers during the night of the 14th and 15th caused flooding along Otter Creek in Vermont. Snowmelt in the mountains contributed to the flooding.

ATLANTIC SLOPE DRAINAGE

Snowmelt during the second week of April plus 1/2 to 1 inch of rain over New England, except the extreme north, caused moderate base flows on most rivers and streams. A general rain on the 14th and 15th ranging from less than 1/2 inch over the extreme north to over 3 inches along the coast plus snowmelt caused minor overflow along small streams and brooks. The Connecticut River reached slightly above flood stage in Vermont and New Hampshire and near flood stage in Massachusetts on the 15th. In Connecticut, the river rose to 2 1/2 feet above flood stage on the 16th and 17th. Only minor local lowland flooding occurred along the Connecticut River from central New England to the Long Island Sound. Minor flooding occurred on the Pemigewasset River at Plymouth, N. H., on the 14th and 15th.

A period of moderate to heavy rains over the Potomac Basin from the 28th to the 29th caused light flooding along the North Branch at Cumberland, Md. At points below, the Potomac reached about two-thirds bankfull. At the Leiter gage above Washington, D. C., the Potomac approached within 0.4 foot of flood stage. No damage was reported from the minor flooding.

A cold front and associated low pressure trough that moved through eastern North Carolina during the first part of the month, set off widespread and substantial rainfall. These rains caused the highest river stages in about 2 years along most of the Cape Fear, central portions of the Neuse, and the upper reaches of the Tar Rivers. On the lower Tar, the stages were the highest since February 1961. The precipitation began generally during the early morning hours of the 6th and continued through most of the 8th. Heaviest amounts were measured over the upper portions of the Cape Fear, Neuse, and Tar Rivers, where total accumulations ranged from 2 to 3 inches. Measurements tapered off to 1 to 2 inches over the lower reaches of these rivers. Along the Cape Fear, stages ranged from 1 foot in flood in the upper reaches to 12 feet above bankfull in the lower portions. Crests were 2 to 6 feet above bankfull on the Neuse. On the Tar River, crests ranged from about bankfull to 2 feet above. No damage was reported.

Heavy rain on the 6th and 7th caused the Rocky River at Norwood, N. C., to rise nearly 10 feet above flood stage on the 8th. A big flood followed on the Pee Dee River rising from a stage of 8 feet at Cheraw, S. C., on the 7th to a crest near 39 feet on the 10th, nearly 9 feet above flood stage. The stream returned to its banks on the 11th. At Peedee, S. C., the river exceeded flood stage by 5 feet on the 15th and was in flood from the 9th to the 20th. Minor flooding occurred on the Lynches River at Effingham, S. C., on the 14th and 15th. The North Fork of the Edisto at Orangeburg, S. C., was in and out of shallow flood all month, changing very little. The main stem of the Edisto at Givhans State Park continued in shallow flood from March, cresting twice, the first on the 3d and 4th and the second on the 18th. Commercial and sport fishing on the Edisto was adversely affected by the high water and strong current. Inconvenience continued on this stream where the lowest camp sites and approach roads were inundated.

Moderate to heavy rains over the middle and upper reaches of the Santee System in South Carolina from the 5th to the 9th caused flooding along the principal tributaries and the main stem between the 7th and 13th. Most streams reported the highest crests in recent years. At Columbia, S. C., on the Congaree, the crest was the highest since 1936. There was extensive losses along the Congaree, Wateree, upper Santee, and lower Santee to pastures and croplands. Many roads were flooded with some damage. A few homes were flooded in the Columbia area.

Light to moderate flooding occurred on streams in Georgia during April. Extensive and damaging flooding occurred on the Savannah River from Augusta, Ga., southward. Damages extended into the areas of marinas, boat docks, boats, homes, livestock, agriculture, forestry, construction, and other related fields. Although most other streams in Georgia were well above flood, most damage was confined to low-lying areas. Only minor flooding occurred on the Ogeechee River with no reports of damage.

EAST GULF OF MEXICO DRAINAGE

Precipitation during April over the Chattahoochee, Flint, and Apalachicola River Basins was quite substantial. Largest monthly totals of 10 to 18 inches occurred across middle portions of the Chattahoochee and Flint Rivers between Newnan and Columbus, Ga. Totals above this area were generally in excess of 8 inches with concentrations of more than 11 inches between Canton and Gainesville, Ga. Lesser totals of 6 to 8 inches occurred over the southern portion. Since the preceding months were also abnormally wet, it is noteworthy that the 4-month totals since the beginning of 1964 were generally in excess of 30 inches and as much as 40 inches in some uppermost areas of the Chattahoochee -- these totals ranged from about 10 to 15 inches above normal. The main flooding resulted from the heavy rains from the 5th to the 9th. The heaviest of these rains with totals of 6 to 12 inches occurred over a comparatively narrow area between Newnan and Columbus and eastward across the Flint River. The resultant crests were 5 to 10 feet or more above flood stage from Columbus downstream on the Chattahoochee River and from Montezuma downstream on the Flint River. Upstream areas above exceeded flood stage by 1 to 2 feet. Crests along portions of the Chattahoochee were the highest since November 1948. Damages were mostly light above West Point and Montezuma and moderate to moderately heavy in lower stream areas. The principal urban areas affected were Columbus, Albany, and Chattahoochee, Fla. Many people had to vacate their homes. Business interests near the lower banks suffered moderate to heavy damages.

Moderate to major flooding occurred in streams in Alabama due to heavy rains during the night of the 5-6th. The rainfall averaged 4 to 5 inches over the middle sections of the Warrior and Tombigbee Rivers. Additional rainfall of 2 inches occurred on the 12th and 13th while the rivers were still high causing a secondary rise. Another period of moderate rains near the end of the month prolonged the high water, leaving several stations above flood stage at the beginning of May. The Coosa River at Gadsden, Ala., continued above flood stage from March 26 and did not drop below flood stage until April 23. Considerable farmland was inundated, causing heavy agricultural losses.

The initial flooding in the Pascagoula and Pearl River Basins in Mississippi during April was due to heavy precipitation on the 5th to 8th. In the Chickasawhay Basin the precipitation exceeded 11 inches at Enterprise, Miss., during that period. In the headwaters of the Tallahala and Souinlovey Creeks, the precipitation probably exceeded 10 inches over much of the area. This excessive precipitation resulted in high water at Shubuta, Miss., with flood stage exceeded by 11.5 ft., on the 9th. Flash flood conditions resulted at Laurel where considerable damage occurred. More than 2,000 residents in low-lying areas in Laurel and between Meridian and Laurel, Miss., throughway, were evacuated due to the worst flooding of record. It was much worse than the last severe flooding of 1961. Additional precipitation on the 13-14th and 25-27th kept the streams at high levels. The Pearl River continued in flood at the end of April.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Precipitation over the Upper Mississippi Basin in Minnesota and Wisconsin during April was above normal, the first time for most locations since September 1963. Most of this precipitation fell on or after April 13. The spring snowmelt began over the Upper Mississippi River and Northern Wisconsin Rivers on April 5 with a more rapid rise on the 10th. The only stream to rise to near flood stage was the Upper Iowa River at Dorchester, Iowa, on the 3d, which recorded a crest of 13.75 feet. Flood stage at this point is 14 feet.

Heavy rains on the 4th caused the Salt River at New London, Mo., and the Meramec River to rise above flood stage, beginning on the latter at Eureka, Mo., on the 5th. Minor flooding occurred on the Salt on the 6th and 7th. The Meramec River continued in flood from the 5th to the 9th. Minor flooding occurred on the Bourbeuse River at Union, Mo., on the 8th. Flooding also occurred through central Illinois, the Kaskaskia River reaching flood stage at Vandalia, Ill., on the 7th and continuing at flood stage at Carlyle, Ill., through the 16th. The Sangamon River reached flood stage at Riverton, Ill., on the 9th and continued in flood through the 13th. Heavy rains occurred again through central Illinois on the 19th, 20th, and 26th, resulting in flooding on Illinois streams. Most damage was limited to farmlands.

Missouri Basin.--Heavy rains on the 24th to the 26th in south-central Montana caused severe flooding on Pryor Creek from Pryor downstream to Huntley, Mont. One long-time resident stated that Pryor Creek was higher than it had been in the last 50 years. Billings, Mont., during this period measured 2.18 inches. Unofficial measurements, 20 to 30 miles to the south and east of Billings, where most of the flooding occurred, indicated the rainfall ranged from 3 to 5 inches during the 30-hour period. The Northern Pacific Railroad sustained the greatest single loss with the washout of a bridge and a portion of their main line track just west of Huntley, Mont. There was some loss to residential and agricultural property.

Heavy rain on the 26th and 27th, ranging from 2 up to 5 inches over the Bad River drainage in central South Dakota, caused the Bad River to overflow at Fort Pierre, S. Dak., on the 27th. The Bad River rose rapidly to a crest of 18.4 feet, 2.4 feet above flood stage. No damage resulted from this overflow.

Moderate to heavy rains on the 4th caused flooding on the Lamine, Blackwater, Little Blue, and Petite Saline Rivers in Missouri on the 5th and 6th. Additional moderate to heavy rains on the 19th, 20th, and 22d caused minor flooding on the Chariton on the 20th and 21st, on the Grand River on the 22d, and on the Lamine River on the 24th. Some damage occurred to crops along the Blackwater River.

Ohio River Basin.--Some minor flooding occurred from the heavy rains of the 19th-22d in the lower portion of the Great Miami River in the vicinity of Miamitown, Ohio. The Little Miami rose to within a foot of flood stage at Milford, Ohio, on the 19th.

The Hocking River went above flood stage at Athens, Ohio, on the 20th and at Enterprise, Ohio, on the 21st. The crests on the 21st ranged from 0.6 foot above flood stage at Enterprise to 1.1 feet above at Athens. Flooding continued at Athens until the 22d. This flooding was due to rainfall averaging 2.5 inches during the 48-hour period ending on the morning of the 20th. Minor damage was reported to a few homes that were flooded. Some damage was reported to highways, bridges, and growing crops.

The average rainfall over the Scioto Basin in Ohio during the month was 7 inches and approached the greatest of record for April. Most of the rainfall occurred in two storms; the first, occurring early in the month and the second during the period from the 18th to the 21st. Flooding resulted after each storm. The prolonged rain in the second flood created anxiety among some communities. Property damage was small considering the magnitude of the flood; however, extensive farmland was under water for a large part of the month.

Heavy rains over a 2-day period during the last half of the month marked the onset of a major flood in Indiana with the highest crests in more than 50 years at some points along the White River. Relatively minor flood crests occurred during the first 12 days of the month with considerable overflow of bottom lands but no significant damage. More than 4 inches of rainfall occurred over the upper White Basin during the 48-hour period ending on the morning of the 21st. Similar amounts occurred over portions of the Wabash, Sugar Creek, and much of the vermilion. The White River reached the highest crest since 1937 at Muncie, Ind., and the highest crest since 1913 at Noblesville, Ind. At Ravenswood, a suburb of Indianapolis, an estimated 50 families were evacuated. Numerous first floors of homes and a few business establishments were flooded from depths of a few inches to as much as 4 or 5 feet in the Ravenswood, Rocky Ripple, and Sunshine Gardens area of Greater Indianapolis. At Spencer, Ind., some dozen families were evacuated from the Prospect Park area before the river crested at the highest stage of record. Flooding was general but not of record proportions over the East Fork and Wabash Rivers. One man was swept to his death by the swirling floodwaters of the Wabash on Indiana 234 west of Cayuga as he attempted to wade away from his stalled automobile. Flood damage was mostly to homes, levees, bridges, public facilities and utilities, and automobiles. Damage was estimated at more than $1 million in three counties alone. Crop damage was at a minimum because of the season of the year, although the heavy rains and flooding delayed spring plowing and seeding preparation.

Minor flooding occurred on Stones River at Donelson, Tenn., on the 8th due to rainfall averaging 2.5 inches on the 6-7th. Light flooding occurred on the Harpeth River at Kingston Springs, Tenn., on the 13th. This overflow was due to rainfall averaging 1.75 inches during the night of the 12-13th.

No damage resulted from the flooding on the Little Pigeon River at Sevierville, Tenn., on the 7th and 8th. There were three periods of overflow along Chickamauga Creek at Chickamauga, Tenn., during April. The first overflow from the 7th to the 9th caused some damage to the Golf Course and streets. The main stem of the Tennessee continued in flood at Gilbertsville, Ky., from March 7 to April 3. Additional flooding occurred along the Tennessee at Gilbertsville, Ky., Florence, Ala., and Whitesburg, Tenn., near the middle and end of the month.

The lower reach of the Ohio, at and below Shawneetown, Ill., was in flood in the beginning of the month. It receded within its banks on April 2. This recession continued until the 7th. Moderately heavy rainfall over the Ohio, Tennessee, Cumberland, and Mississippi Basins on the 5-6th caused minor flooding along the Ohio at Dam 50, Fords Ferry, Ky., Dam 52, Brookport, Ill., and Cairo, Ill. This flood receded rapidly. Additional heavy rainfall from the 19th to the 22d caused minor flooding along the lower portion of the Ohio. The main contributor to this flood was the Mississippi River above Cairo, Ill., which had been rather low during the previous floods of this year. Since flooding along the Ohio was general in March, there was little if any additional damage. The high water did slow down fieldwork in the lowlands.

White Basin.--The lower White River continued in flood at Clarendon, Ark., from March 15 to April 29, for a period of 45 days.

Arkansas Basin.--Moderate to heavy rainfall on the 4th and 5th caused flooding on Bird Creek at Sperry, Okla., on the 5th and 6th. Bird Creek crested about 5 feet above flood stage from Sperry, Okla., downstream to its confluence with the Verdigris. The intense rainfall caused brief overflow in the Tulsa, Okla., area, but no flooding of significance occurred. The Verdigris in Oklahoma crested from one-half to three-fourths bankfull. The Caney River at Ramona, Okla., crested 1.5 feet below flood stage. The Poteau River crested two-thirds bankfull at Poteau, Okla., but produced slight agricultural flooding downstream from Panama, Okla. Damages were largely agricultural.

Deep Fork Creek at Dewar, Okla., was above flood stage from the 10th through the 12th, but no significant damage resulted.

Red Basin.--The flooding in the Red Basin during April was due to heavy rainfall from the 21st to the 27th. The total rainfall over the Ouachita Basin ranged from 3 inches in the extreme north to 9.5 inches over the central portions. The Ouachita reached its highest stage at Arkadelphia and Camden, Ark., since May 1958. The Saline River at Benton, Ark., crested on the 23d, 2.6 feet above flood stage. The Caddo River crested at Glenwood, Ark., slightly above flood stage on the 23d and 24th. The Little Missouri was above flood stage at Boughton, Ark., from the 23d to the 28th.

Six inches of rain fell over the Sulphur Basin in Texas during the six-day period from the 22d to the 28th. Of this, 4 to 5 inches fell over the headwaters with amounts ranging up to 9 inches downstream near the Lake. Only pastureland was inundated.

Lower Mississippi Basin.--Light to heavy rains from the 4th to the 6th caused flooding on the St. Francis River at Fisk, Mo., from the 7th to the 14th. At St. Francis, Ark., the river continued in flood from March 9 to April 19. The crests during April were considerably lower than in March. Damages during the April flooding were negligible and confined to flooding of pastures and small amounts of winter crops and plowed land.

Light flooding occurred on the Tallahatchie at Swan Lake, Miss., during April. Light agricultural damages occurred to farmland. The Yazoo River at Yazoo City, Miss., approached within 0.4 foot of flood stage on the 27th. Minor damages occurred to farmland and pasturelands on the lower Yazoo. The Big Black River was above flood stage most of the month. Only light to moderate farmland and pastureland flooding occurred. Minor flooding occurred between levees and in unprotected areas along the Mississippi River in the Vicksburg area.

WEST GULF OF MEXICO DRAINAGE

Heavy rains on the 13th, 26th, and 27th caused minor flooding on the upper and middle portions of the Calcasieu River in Louisiana. At Kinder, La., the river remained low during the first 20 days. It started to rise rapidly on the 21st to a crest of 16.3 feet on the 22d. Flood stage is 16 feet.

Rainfall over the Sabine Basin in Texas was more scattered. Four to 6 inches of rain fell just above Mineola late on the 21st and 22d. Widely scattered thundershowers fell on the 23d, 24th, and 25th. Two to 3 inches fell over the lower basin from the night of the 25th through the night of the 26th. Light flooding occurred in the upper Sabine at Mineola, Tex., from the 24th to the 28th. No significant damage resulted.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--Minor flooding occurred on the Portneuf River at Pocatello, Idaho, from the 10th to the 14th and from the 15th to the 18th. There was also some minor flooding on the Weiser River at Crane Creek, Idaho, on the 1st and 2d. No flooding was reported along the main stream of the Snake River. An abnormally deep snowpack for so late in the season was reported by stations at intermediate elevation mountain stations. Runoff from lower elevations in the tributary areas was mostly responsible for the slight flooding that did occur. Precipitation was a contributing factor in the Weiser Basin and in the Portneuf Basin from April 10-12. About 450 acres of land were flooded on the Weiser River south and east of Weiser. However, damage reported was light.

Unusually cold temperatures throughout the Columbia Basin, for the third consecutive month, retarded snowmelt in April and resulted in below average streamflow in all northern and central subbasins and in most parts of the upper Snake drainage. April streamflow at The Dalles, Ore., was about 70 percent of the 15-year (1943-57) average. Not since 1944 have April stages been so low in the lower Columbia River. At Vancouver, Wash., the average April stage was 4.5 feet, which ranked as the third lowest in over 60 years of record.

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Lake Erie					
St. Marys: Decatur, Ind.	13	3 21	10 29	18.2 18.9	7 23
Blanchard: Findlay, Ohio	765	22	23	770.9	22
Ottawa, Ohio	10			18.25	23
Maumee: Ft. Wayne, Ind.	15	22	23	15.5	22
Sandusky: Upper Sandusky, Ohio	13	(4 (22	4 23	13.5 15.6	4 22
Tiffin, Ohio	8	22	24	9.5	23
Fremont, Ohio	10	24	24	9.9	23
ATLANTIC SLOPE DRAINAGE					
Pemigewasset: Plymouth, N. H.	11	14	15	12.6	15
Connecticut: White River Junction, Vt.	18	15	16	18.7	15
Hartford, Conn.	16	16	20	18.5	17
Portland, Conn.	9	17	20	11.1	17
North Branch Potomac: Cumberland, Md.	17	29	30	19.4	29
Tar: Rocky Mount, N. C.	9	10	11	9.4	10
Tarboro, N. C.	19	12	14	20.9	13
Greenville, N. C.	13	13	16	# 14.05	15
Neuse: Neuse, N. C.	14	9	12	17.3	11
Smithfield, N. C.	13	8	14	19.0	11
Goldsboro, N. C.	14	11	19	# 18.25	16
Kinston, N. C.	14	14	21	# 16.0	19
Cape Fear: Moncure, N. C.	20	9	9	20.8	9
Fayetteville, N. C.	35	10	11	39.6	10
Lock No. 3, Tarheel, N. C.	42	9	13	54.1	10
Lock No. 2, Elizabethtown, N. C.	20	9	14	# 29.7	11
Rocky: Norwood, N. C.	15	7	9	(18.8 (24.7	7 8
Lynches: Effingham, S. C.	14	14	15	14.6	14
Pee Dee: Cheraw, S. C.	30	8	11	39.2	10
Peedee, S. C.	19	9	20	23.9	14
Saluda: Pelzer, S. C.	9	7	9	13.0	8
Chappells, S. C.	13	7	11	25.0	8
Broad: Gaffney, S. C.	10	7	9	11.4	8
Blair, S. C.	14	7	11	30.3	9
Congaree: Columbia, S. C.	19	8	11	28.6	10
Wateree: Camden, S. C.	23	9	10	26.5	9
Santee: Rimini, S. C.	20	12	13	20.1	13
Jamestown, S. C.	10	Mar. 25	24	(11.2 (19.2	Mar. 26 17
North Fork Edisto: Orangeburg, S. C.	8	Mar. 26 8 29	2 15 30	9.1 E 9.0 8.2	Mar. 28 12 30
Edisto: Givhans, S. C.	10	Mar. 26 12	10 21	#11.6 11.6	3 17
Savannah: Butler Creek, Ga.	21	Mar. 28 9	7 18	22.5 24.2	1 11
Millhaven, Ga.	15	Feb. 15	28	16.1 16.3 22.1	Feb. 21 Mar. 10 17
Clyo, Ga.	11	Feb. 13	30	14.8 15.0 16.5 20.2	Feb. 24 Mar. 13 Mar. 27 8
Ogeechee: Midville, Ga.	6	11	13	7.5	12
Eden, Ga.	9	Feb. 15	25	11.9 11.8	3 18
Ocmulgee: Macon, Ga.	18	6 28	10 30	24.7 20.6	8 29
Hawkinsville, Ga.	25	11	14	30.3	12
Abbeville, Ga.	12	2 10	6 20	13.15 17.55	4 14
Lumber City, Ga.	15	16	21	19.0	18
Oconee: Milledgeville, Ga.	20	7	11	32.2	8
ATLANTIC SLOPE DRAINAGE (Cont'd.)	Ft.			Ft.	
Oconee (Cont'd.): Dublin, Ga.	21	1 10	2 16	20.9 27.7	1 11
Mount Vernon, Ga.	16	Mar. 31 11	6 20	17.1 20.8	4 14
Altamaha: Charlotte, Ga.	15	Mar. 1	25	19.0 22.3	Mar. 6 18
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee: West Point, Ga.	19	7	8	20.2	7
Columbus, Ga.	34	8	10	44.4	8
Ft. Gaines, Ga. (T.W.)	134	8	12	148.7	10
Columbia, Ala. (T.W.)	114	9	12		
Flint: Montezuma, Ga.	20	10	12	24.6	11
Albany, Ga.	20	11	17	31.2	14
Newton, Ga.	24	14	17	30.0	15
Bainbridge, Ga.	25	13	19	28.3	16
Apalachicola: Jim Woodruff Dam, Fla. (T.W.)	66	9	17	70.9	13
Blountstown, Fla.	15	1 8	5 30	 23.6	 14
Choctawhatchee: Caryville, Fla.	12	17 28	19 May 8	12.2 13.5 13.5	18 29 May 4
Oostanaula: Resaca, Ga.	22	9	12	25.1	10
Rome, Ga.	25	8	15	28.1 26.0	9 14
Etowah: Canton, Ga.	17	6 14	11 14	24.6 17.0	9 14
Cartersville, Ga.	18	10	10	21.0	10
Coosa: Gadsden, Ala.	20	Mar. 26	23	26.2 25.9 24.7	Mar. 28 9 14-15
Childersburg, Ala.	20	7	8	20.7	8
Wetumpka, Ala.	45	8 13	11 13	48.8 45.2	9 13
Tallapoosa: Milstead, Ala.	40	7	[illegible]	47.9	8
Cahaba: Centreville, Ala.	23	6 14	8 14	27.7 25.6	7 14
Suttle, Ala.	32	8 15	10 16	38.5 35.5	9 16
Marion Junction, Ala.	36	9	10	37.4	9
Alabama: Montgomery, Ala.	35	7	20	52.4 46.8	10 15,16
Selma, Ala.	45	8	21	53.6 52.8	12 14
Millers Ferry, Ala.	40	7	May 8	54.3 44.6	16 May 2
Claiborne, Ala.	40	9	May 10	50.2 43.5	18,19 May 4
Old Town Creek: Tupelo, Miss.	21	6 14 27	6 14 27	23.1 21.0 21.5	6 14 27
East Fork Tombigbee: Fulton, Miss.	16	6 14 25 28	9 16 25 29	17.9 16.9 16.2 16.0	7 15 25 28,29
Tibbee: Tibbee, Miss.	23	7 14 26	9 16 30	26.0 26.4 25.4	8 15 28
Moxubee: Macon, Miss.	26	7 14 28	10 16 May 1	27.5 26.9 27.8	7 15 29
Black Warrior: Oliver Lock & Dam, Tuscaloosa, Ala.	47	6 14 27	8 16 28	54.8 56.6 51.7	7 14 27
Warrior Lock & Dam, Ala.	30	7 28	21 May 6	40.2 36.6	18 May 1
Tombigbee: Amory, Miss.	20	6 13 28	11 17 28	24.0 24.3 21.8	8 14 28
Aberdeen, Miss.	34	8 13	11 17	38.2 37.85	9 15
Columbus, Miss.	29	15 29	17 29	31.5 29.5	16 29

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
EAST GULF OF MEXICO DRAINAGE (Cont'd.)	Ft.			Ft.	
Tombigbee (Cont'd.): Gainesville, Ala.	36	7 28	25 1/	45.7 43.4	20 May 4
Demopolis Lock & Dam, Ala.	48	7	1/	60.6 57.4	20 May 3
Jackson Lock & Dam, Ala.	43	Mar. 5 7	3 1/	52.6 55.5 54.0	Mar. 24 16,17 27
Chickasawhay: Enterprise, Miss.	20	6 27	10 30	30.7 23.2	8 29
Shubuta, Miss.	30	7 30	14 30	41.5 30.2	9 30
Waynesboro, Miss.	35	9	13	41.9	10
Leaf: Hattiesburg, Miss.	22	9	10	23.9	10
Beaumont, Miss.	20	11	14	24.8	12
Pascagoula: Merrill, Miss.	22	13	18	24.8	14
Bogue Chitto: Franklinton, La.	11	29	29	11.8	29
Pearl Edinburg, Miss.	20	10 16 29	11 19 1/	20.8 22.7 24.05	10 17 30
Jackson, Miss.	18	Mar. 3 7	1 1/	30.9 29.9	Mar. 24 20
Monticello, Miss.	19	Mar. 11 7	1 1/	24.45 25.2	Mar. 18 29
Columbia, Miss.	17	10 27	12 1/	18.1 20.5	11 30
Bogalusa, La.	15	Mar. 3	1/	19.4 19.4	Mar. 22 28,30
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Fox Wayland, Mo.	15	20	22	16.7	21
Salt: New London, Mo.	19	6	7	19.2	6
Sangamon: Monticello, Ill.	13	20	25	16.8	22
Riverton, Ill.	13	9 21	13 1/	13.7 19.8	11 26
Petersburg, Ill.	497	26	1/	498.8	28
Oakford, Ill.	18	25	26	18.15	25
La Moine: Ripley, Ill.	22	22	22	24.9	23
Illinois: Havana, Ill.	14	27	1/	14.2	28
Beardstown, Ill.	14	23	1/	16.05	27
Meredosia, Ill.	10	21	1/	14.5	27
Bourbeuse: Union, Mo.	15	8	8	16.5	8
Meramec: Steelville, Mo.	12	6	6	14.5	6
Sullivan, Mo.	11	6	7	14.25	6
Pacific, Mo.	11	6	9	17.5	8
Eureka, Mo.	16	5	7	16.3	5
Valley Park, Mo.	16	9	9	16.1	9
Kaskaskia: Carlyle, Ill.	21	9 30	16 1/	22.3	13
Shelbyville, Ill.	13	23	27	17.0	25
Vandalia, Ill.	18	7 27	9 1/	18.3 20.5	8 29
Big Muddy: Murphysboro, Ill.	16	28	1/		
Missouri Basin					
Bad: Fort Pierre, S. Dak.	16	27	27	18.4	27
Little Blue: Lake City, Mo.	18	5	5	18.4	5
Grand: Sumner, Mo.	26	22	22	26.2	22
Chariton: Novinger, Mo.	20	20	20	20.2	20
Prairie Hill, Mo.	15	21	21	16.6	21
Blackwater: Valley City, Mo.	22	5	5	25.8	5
Lamine: Clifton City, Mo.	19	5 24	6 24	24.5 20.6	6 24
Petite Saline: Boonville, Mo.	16	5 21	6 21	# 20.4 # 17.2	6 21
South Grand: Brownington, Mo.	19	24	25	19.6	24

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin					
Hocking: Athens, Ohio	17	20	22	18.2	21
Enterprise, Ohio	12	21	21	12.6	21
Paint Creek: Bourneville, Ohio	10	3 19	4 23	12.9 14.4	3 21
Scioto: La Rue, Ohio	11	3 21	5 24	13.8 14.3	3 21
Prospect, Ohio	10	4 21	6 25	# 11.3 14.0	5 23
Circleville, Ohio	14	4 21	6 25	 19.1	 22
Chillicothe, Ohio	16	22	24	18.7	23
Piketon, Ohio	16	4 20	9 27	19.9 22.3	8 22
Green: Lock 2, Calhoun, Ky.	23	Mar. 7	3		
Mississinewa: Marion, Ind.	13	21	22	14.3	22
Vermilion: Danville, Ill.	18	20	24	25.0	21
Sugar Creek: Crawfordsville, Ill.	T 8	20	22	13.4	21
Indianapolis, Ind.	T 10	20	21	11.05	21
East Fork: Columbus, Ind.	10	22	24	13.4	22
Seymour, Ind.	14	22	26	17.6	22-23
Bedford, Ind.	20	25	28	22.8	26
Williams, Ind.	10	27	27	10.0	27
White: Muncie, Ind.	6	20	22	12.0	21
Anderson, Ind.	10	4 20	4 25	10.2 19.45	4 21
Noblesville, Ind.	14	21	23	21.3	22
Nora, Ind.	T 11	21	24	18.5	23
Ravenswood, Ind.	T 6	20	25	# 12.9	23
Indianapolis, Ind.	16	21	24	19.9	22
Centerton, Ind.	T603	20	26	610.2	22
Spencer, Ind.	14	7 21	8 29	15.15 23.3	7 23
Elliston, Ind.	18	6 21	9 1/	20.25 28.1	8 24
Newberry, Ind.	18	24	28	22.0	25
Edwardsport, Ind.	15	6 22	11 1/	17.8 24.3	9 26
Petersburg, Ind.	16	7 25	12 1/	18.5 23.7	10 28-29
Hazleton, Ind.	16	23	1/	24.9	29
Skillet Fork: Wayne City, Ill.	15	6 20 28	6 21 29	15.9 16.9 17.1	6 21 28
Wabash: Bluffton, Ind.	10	3 21	7 25	12.4 14.2	5 22
Wabash, Ind.	12	3 21 29	8 26 29	16.3 14.9 19.6 12.5	4 6 22 29
Lafayette, Ind.	11	4 21 29	9 27 1/	15.0 20.85 13.5	6 23 30
Covington, Ind.	16	5 20	10 1/	18.65 25.05	8 24
Montezuma, Ind.	14	5 20	11 1/	17.6 26.5	8 24
Clinton, Ind.	18	20	30	26.0	22
Terre Haute, Ind.	14	6 20	11 1/	15.6 22.2	10 25
Hutsonville, Ind.	T 20	23	1/	25.4	26
Riverton, Ind.	18	24	1/	21.2	28
Vincennes, Ind.	16	25	1/	23.0	29
Mt. Carmel, Ind.	17	12 26	12 1/	17.0	12
New Harmony, Ind.	15	27	May 7		

FLOOD STAGE DATA

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin (Cont'd.)					
Saline· Harrisburg, Ill	13		2		
Stones: Donelson, Tenn.	40	(5	7		
		(8	8	41.9	8
Harpeth: Kingston Springs, Tenn.	15	13	13	E15.5	13
Little Pigeon: Sevierville, Tenn.	9	7	8	12.4	7
Chickamauga Creek: Chickamauga, Tenn.	10	7	9	15.3	8
		13	15	11.8	14
		27	29	11.3	29
Elk: Fayetteville, Tenn.	8	(4	5	10.2	4
		(7	7	8.8	7
		(27	28	10.6	28
Tennessee: Gilbertsville, Ky.	320	(Mar. 7	3	335.65	Mar. 17
		(7	19	324.8	16
		(26	1/		
Florence, Ala.	419	(8	11	420.1	8
		(13	15	420.1	14
		(30	May 1	419.9	30
Whitesburg, Tenn.	560	7	11	565.4	9
		13	17	563.15	14
		28	1/	561.7	29
Ohio: Dam 47, Newburgh, Ind.	38	26	29	38.4	28
Dam 49, Uniontown, Ky.	37	30	May 2	37.15	May 2
Shawneetown, Ill.	33	Mar. 8	1	54.6	Mar. 20
		26	May 5	36.75	May 2
Dam 50, Fords Ferry, Ky.	34	(Mar. 8	2	57.5	Mar. 21
		(11	16	34.8	14-15
		(26	May 6	39.1	May 2
Paducah, Ky.	39	Mar. 10	1	47.7	Mar. 21
Dam 52, Brookport, Ill.	37	(Mar. 9	2	49.3	Mar.18,24
		(16	16	37.0	16
		(29	May 6	38.0	May 2,3
Dam 53, Grand Chain, Ill.	42	(Mar. 10	2	52.1	Mar. 21
		(29	May 6	43.3	May 3
Cairo, Ill.	40	(Mar. 10	2	48.2	Mar. 22
		(10	11	40.2	11
		(28	May 7	41.6	May 3
White Basin					
White: Clarendon, Ark.	26	Mar. 15	29	28.7	Mar. 22
Arkansas Basin					
Bird Creek: Sperry, Okla.	21	5	6	26.3	5
Deep Fork: Dewar, Okla.	18	10	12	18.5	11
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Red Basin					
Caddo: Glenwood, Ark.	15	23	23	15.05	23
		24	24	15.35	24
Little Missouri: Boughton, Ark.	20	23	28	(22.35	24
				(20.7	27
Saline: Benton, Ark.	20	23	25	22.6	23
Ouachita: Arkadelphia, Ark.	17	23	27	25.1	24
Camden, Ark.	26	26	1	38.05	28
Sulphur: Hagansport, Tex.	38	22	29	43.5	23
Naples, Tex.	22	25	May 6	27.9	28
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	7	14	23.4	9
St. Francis, Ark.	18	Mar. 9	19	(22.0	Mar.14-16
				(19.5	6
				(19.9	13
Big Black: Pickens, Miss.	16	7	22	18.5	16
		27	May 7	18.5	30
Bovina, Miss.	28	6	May 11	35.8	18
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	15	20	13.0	17
		27	1	13.6	29
Oakdale, La.	12	19	19	15.4	19
Kinder, La.	16	22	22	16.3	22
Sabine: Mineola, Tex.	14	24	28	16.3	26
PACIFIC SLOPE DRAINAGE					
Columbis Basin					
Portneuf: Pocatello, Idaho	6	10	14	6.2	12
		15	18	6.15	16
Weiser: Crane Creek, Idaho	8	1	2	9.9	1

* Provisional
# Highest Stage Observed
1/ Continued at end of month
E Estimated
T Tentative

RAWINSONDE DATA

Average monthly values

APRIL 1964

ALBANY, N. Y.
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	86	3.7	77	238	1.7
1000	30	167	3.7	72	194	2.7
950	30	582	3.0	63	257	5.8
900	30	1,021	1.7	63	267	8.9
850	30	1,481	.2	59	276	12.8
800	30	1,965	- 1.5	56	279	15.3
750	30	2,477	- 3.1	51	285	19.8
700	30	3,022	- 5.6	52	281	22.9
650	30	3,596	- 8.7	50	278	25.8
600	30	4,217	-12.2	45	281	28.2
550	30	4,873	-16.3	41	285	30.1
500	30	5,589	-20.8	37	283	33.8
450	29	6,349	-26.0		283	38.7
400	29	7,199	-31.9		285	44.3
350	29	8,130	-38.4		295	49.0
300	29	9,173	-45.4		293	51.9
250	29	10,370	-52.3		291	56.9
200	29	11,794	-57.4		294	54.8
175	29	12,636	-57.5		289	46.4
150	29	13,612	-56.6		288	41.8
125	29	14,770	-56.4		291	33.6
100	29	16,184	-56.8		285	27.8
80	29	17,596	-57.3		295	16.7
70	28	18,444	-56.9		302	11.1
60	28	19,417	-57.0		310	8.4
50	28	20,572	-56.4		345	4.7
40	28	21,993	-55.2		56	5.2
30	26	23,833	-54.2		54	6.8
25	24	25,001	-52.9		69	7.2
20	17	26,454	-50.8		69	5.8
15	9	28,338	-47.7			
10						
7						
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ALBUQUERQUE, N. MEX.
835 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,619	5.3	45	148	1.2
1000	30	118				
950	30	544				
900	30	999				
850	30	1,474				
800	30	1,972	6.4	36	280	7.4
750	30	2,496	2.8	40	288	12.8
700	30	3,053	- 1.3	42	280	17.5
650	30	3,632	- 5.7	44	282	20.2
600	30	4,262	-10.0	42	271	20.8
550	30	4,922	-14.4	40	264	26.2
500	30	5,644	-18.8		262	32.6
450	30	6,416	-24.2		260	33.8
400	30	7,271	-30.3		260	34.8
350	30	8,207	-37.3		257	39.2
300	30	9,255	-44.4		254	49.0
250	30	10,457	-51.5		256	49.0
200	30	11,885	-57.3		260	47.4
175	30	12,727	-58.3		260	48.2
150	30	13,697	-58.9		260	43.5
125	29	14,838	-60.6		257	39.4
100	28	16,220	-62.0		259	35.5
80	28	17,598	-62.4		257	20.6
70	28	18,419	-62.6		254	11.1
60	28	19,373	-62.3		257	9.7
50	28	20,503	-60.4		266	3.7
40	27	21,903	-57.8		250	2.3
30	27	23,729	-55.3		26	.6
25	27	24,896	-53.7		284	4.5
20	27	26,339	-51.1		298	3.7
15	27	28,226	-47.4		281	12.2
10	15	30,931	-42.1			
7						
5						

AMARILLO, TEXAS
888 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,095	6.4	56	246	5.2
1000	29	99				
950	29	532				
900	29	985				
850	29	1,453	10.7	41	256	15.5
800	29	1,957	9.0	30	272	20.0
750	29	2,488	6.1	27	267	22.0
700	29	3,050	2.1	27	257	22.3
650	29	3,636	- 2.5	30	248	26.4
600	29	4,272	- 7.3		247	29.9
550	29	4,939	-12.2		247	33.0
500	29	5,666	-17.1		246	38.1
450	29	6,440	-22.7		250	44.3
400	29	7,301	-29.1		252	48.2
350	29	8,242	-36.0		254	50.9
300	29	9,296	-43.4		257	56.9
250	29	10,503	-50.9		258	63.5
200	29	11,934	-57.0		259	62.2
175	28	12,775	-58.5		259	57.9
150	28	13,743	-59.1		258	55.8
125	28	14,884	-60.5		258	53.0
100	28	16,272	-61.6		259	45.5
80	27	17,651	-62.9		254	32.8
70	26	18,473	-63.4		255	25.8
60	26	19,424	-61.6		250	18.1
50	26	20,560	-58.9		251	10.3
40	26	21,969	-56.4		231	2.7
30	26	23,806	-54.0		221	4.7
25	25	24,981	-52.5		279	3.3
20	23	26,430	-49.8		273	6.6
15	20	28,330	-46.7		257	9.9
10	7	30,969	-42.8			
7						
5						

ANCHORAGE, ALASKA
1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	29	- .7	75	167	3.7
1000	30	62			158	5.6
950	30	468	- 1.9	61	166	3.9
900	30	900	- 4.6	64	155	5.1
850	30	1,348	- 7.3	69	168	6.0
800	30	1,818	-10.2	67	176	6.2
750	30	2,309	-13.4	69	188	7.0
700	30	2,834	-16.6	66	210	8.0
650	30	3,383	-19.9	64	225	10.5
600	30	3,977	-23.7	58	227	11.8
550	30	4,602	-27.6	54	239	14.4
500	30	5,288	-32.0	52	241	17.9
450	30	6,017	-36.9		249	20.2
400	30	6,831	-41.8		248	23.1
350	30	7,727	-46.4		253	28.0
300	30	8,742	-50.0		261	30.1
250	30	9,928	-51.1		261	26.8
200	30	11,380	-50.2		259	22.1
175	30	12,254	-49.3		257	21.8
150	30	13,263	-49.4		258	20.8
125	30	14,458	-49.5		252	19.2
100	30	15,920	-49.2		256	16.3
80	30	17,384	-49.2		249	14.6
70	30	18,264	-49.1		255	11.3
60	30	19,271	-49.2		251	8.7
50	30	20,467	-49.2		243	5.2
40	30	21,930	-49.5		219	2.9
30	30	23,813	-49.6		170	2.1
25	30	25,006	-49.4		97	1.6
20	29	26,470	-49.1		89	4.9
15	26	28,346	-48.3		95	6.0
10	17	31,008	-46.3		89	5.4
7	8	33,385	-43.0			
5						

*** ANNETTE, ALASKA**
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	37	3.3	84	174	2.1
1000	30	122			184	1.9
950	30	536	.4	83	194	7.8
900	30	968	- 2.4	83	213	8.7
850	30	1,420	- 5.1	85	226	9.5
800	30	1,894	- 7.5	78	241	10.5
750	30	2,391	-10.6	74	252	12.4
700	30	2,922	-13.7	71	261	15.5
650	30	3,477	-17.3	60	266	18.1
600	30	4,077	-21.1	54	266	18.5
550	30	4,709	-25.1	53	276	21.4
500	30	5,401	-29.4	53	279	25.4
450	30	6,140	-34.2	47	278	29.3
400	30	6,961	-39.4	47	275	31.3
350	30	7,866	-44.4		278	37.3
300	30	8,890	-48.0		283	37.5
250	30	10,081	-51.5		288	38.7
200	29	11,518	-51.7		287	33.0
175	29	12,384	-51.6		282	27.6
150	29	13,383	-51.9		282	24.5
125	29	14,563	-52.5		281	21.6
100	28	16,007	-52.4		283	15.7
80	28	17,448	-52.7		269	10.9
70	28	18,313	-52.7		273	8.0
60	27	19,308	-52.6		263	6.2
50	27	20,486	-52.2		274	3.9
40	27	21,931	-51.8		244	.4
30	27	23,796	-51.6		43	4.1
25	26	24,980	-51.3		47	4.7
20	26	26,431	-50.9		71	6.4
15	26	28,308	-49.5		77	2.5
10	25	30,977	-46.7		78	5.4
7	22	33,373	-42.9		80	8.4
5	14	35,675	-37.9		69	9.1

ATHENS, GA.
991 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	11.8	86	133	.2
1000	30	165				
950	30	597	13.3	70	232	4.7
900	30	1,053	12.3	67	226	12.2
850	30	1,530	9.9	64	240	15.9
800	30	2,032	7.4	58	247	17.3
750	30	2,558	4.9	46	251	18.8
700	30	3,122	1.9	48	252	19.4
650	30	3,713	- 1.6	47	260	23.1
600	30	4,350	- 5.4	44	261	28.7
550	30	5,020	- 9.4	40	265	31.5
500	30	5,757	-14.3	37	265	35.2
450	30	6,542	-19.7	37	267	39.6
400	30	7,412	-25.7	36	267	39.6
350	29	8,368	-32.9		271	43.3
300	29	9,434	-41.1		273	49.5
250	29	10,648	-50.7		276	56.5
200	29	12,069	-60.0		277	64.5
175	29	12,896	-62.7		278	62.5
150	29	13,844	-63.0		279	60.6
125	29	14,967	-62.9		276	50.7
100	29	16,334	-64.9		276	36.7
80	29	17,690	-65.8		276	26.4
70	29	18,510	-65.1		279	15.7
60	29	19,445	-63.0		308	7.4
50	29	20,574	-60.4		347	2.7
40	29	21,971	-57.9		32	4.1
30	28	23,797	-54.6		17	2.7
25	26	24,968	-52.6		320	1.7
20	25	26,416	-49.6		281	8.9
15	19	28,307	-45.7		281	13.8
10	6	30,973	-40.4			
7						
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*** BARROW, ALASKA**
1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	8	-25.5	56	91	3.5
1000	30	134	-22.8	70	100	5.1
950	30	514	-20.0	79	103	3.9
900	30	914	-18.7	75	86	1.9
850	30	1,340	-18.7	76	41	1.0
800	30	1,791	-19.8	69	280	1.9
750	30	2,266	-22.0	69	272	4.7
700	30	2,772	-24.5	68	270	5.4
650	30	3,310	-27.4	64	270	7.0
600	30	3,881	-30.8	60	270	7.6
550	30	4,494	-34.7	60	268	9.7
500	30	5,154	-39.0	53	271	10.9
450	30	5,871	-43.4		270	13.2
400	30	6,655	-48.0		269	16.5
350	30	7,527	-52.1		272	20.4
300	30	8,520	-53.3		269	21.6
250	30	9,700	-50.4		266	20.0
200	30	11,165	-47.8		258	17.7
175	30	12,047	-47.4		254	14.8
150	30	13,067	-47.0		250	13.6
125	30	14,277	-46.1		242	12.2
100	30	15,763	-45.6		234	10.3
80	30	17,250	-45.5		230	8.7
70	30	18,144	-45.6		230	6.0
60	30	19,166	-45.8		225	4.7
50	30	20,379	-46.0		216	4.1
40	30	21,861	-46.7		220	4.1
30	30	23,767	-47.3		207	2.1
25	30	24,972	-47.6		109	1.4
20	29	26,444	-47.7		111	2.1
15	27	28,343	-47.3		88	3.5
10	25	31,032	-45.3		80	5.8
7	22	33,426	-43.3		72	5.1
5	11	35,664	-41.4			

BARTER IS., ALASKA
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	15	-25.3	75	109	1.6
1000	30	136	-22.8	67	97	1.7
950	30	519	-18.3	62	114	1.4
900	30	920	-17.2	56	290	.8
850	30	1,348	-17.4	58	267	3.5
800	30	1,801	-18.7	58	281	5.6
750	30	2,282	-20.8	57	274	8.9
700	30	2,788	-23.3	56	276	11.1
650	30	3,324	-26.2	55	275	12.8
600	30	3,902	-29.8	51	272	14.8
550	30	4,514	-33.5	47	271	17.5
500	30	5,180	-38.0		271	20.8
450	30	5,895	-42.4		269	23.3
400	30	6,686	-47.2		271	27.6
350	30	7,562	-51.2		271	30.7
300	30	8,558	-52.7		271	32.1
250	30	9,742	-49.6		268	27.8
200	30	11,211	-47.2		269	23.9
175	29	12,098	-46.6		267	22.1
150	29	13,121	-46.0		265	20.8
125	29	14,335	-45.7		258	16.1
100	28	15,820	-45.5		255	14.4
80	26	17,308	-45.2		250	12.2
70	25	18,209	-45.3		255	10.3
60	23	19,231	-45.7		252	7.8
50	21	20,449	-45.8		236	6.6
40	20	21,926	-46.4		219	5.6
30	20	23,833	-47.0		226	3.9
25	18	25,045	-47.0		190	3.1
20	17	26,521	-46.8		157	4.9
15	11	28,411	-45.5		133	4.9
10	8	31,117	-43.5			
7						
5						

BETHEL, ALASKA
1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	39	- 8.1	87	216	4.7
1000	30	70			196	8.7
950	30	468	- 7.4	78	202	7.8
900	30	891	- 8.3	73	212	8.5
850	30	1,334	-10.1	68	226	10.5
800	30	1,799	-12.4	64	221	12.2
750	30	2,284	-15.0	59	222	14.0
700	30	2,809	-17.8	54	220	15.0
650	30	3,354	-20.8	50	220	15.7
600	30	3,948	-24.0	47	219	17.3
550	30	4,573	-27.6	45	224	18.8
500	30	5,258	-31.7	46	224	21.0
450	30	5,987	-36.6		229	23.9
400	30	6,803	-41.8		232	27.4
350	30	7,697	-47.1		235	32.2
300	30	8,707	-51.2		238	35.7
250	30	9,889	-51.7		247	34.8
200	30	11,343	-49.8		245	28.7
175	29	12,210	-48.9		248	28.7
150	29	13,223	-48.7		246	28.6
125	29	14,421	-48.5		246	25.1
100	29	15,890	-48.5		244	20.0
80	28	17,360	-48.5		232	16.7
70	28	18,239	-48.4		237	14.6
60	28	19,253	-48.4		238	11.1
50	28	20,453	-48.6		231	6.8
40	27	21,923	-48.7		216	4.3
30	24	23,806	-49.0		179	2.3
25	23	25,003	-49.0		151	2.9
20	19	26,464	-48.7		51	.4
15	12	28,364	-47.5			
10						
7						
5						

BISMARCK, N. DAK.
951 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	505	2.0	78	355	2.3
1000	30	98				
950	30	516			2	1.0
900	30	955	4.0	61	296	1.7
850	30	1,418	2.7	57	298	3.5
800	30	1,907	.5	54	314	3.3
750	30	2,421	- 2.6	53	308	5.6
700	30	2,967	- 5.7	50	288	8.4
650	30	3,540	- 9.1	45	287	9.7
600	30	4,159	-13.0	46	284	11.5
550	30	4,811	-16.8	41	274	14.2
500	30	5,527	-21.4	39	272	16.1
450	30	6,290	-26.6	41	269	17.9
400	30	7,137	-32.7	41	270	19.2
350	30	8,062	-39.9		268	17.7
300	30	9,097	-48.0		263	20.8
250	30	10,277	-55.3		263	25.3
200	30	11,692	-56.7		263	26.4
175	30	12,540	-55.8		265	26.0
150	30	13,523	-54.9		271	24.1
125	30	14,690	-54.4		272	21.4
100	30	16,120	-54.8		271	16.7
80	30	17,545	-54.9		268	13.6
70	30	18,404	-54.6		267	9.7
60	30	19,385	-54.8		281	5.1
50	30	20,553	-54.0		340	1.9
40	30	21,988	-53.4		66	4.3
30	30	23,842	-52.5		64	7.6
25	30	25,023	-51.4		69	10.1
20	28	26,475	-50.2		73	12.6
15	18	28,361	-47.8		78	15.7
10	10	31,068	-43.1			
7						
5						

BOISE, IDAHO
915 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	868	2.6	74	246	1.7
1000	30	138				
950	30	563				
900	30	1,001	4.4	62	256	1.6
850	30	1,466	3.2	55	307	7.8
800	30	1,955	.2	56	306	10.7
750	30	2,470	- 3.3	58	289	9.9
700	30	3,013	- 6.8	59	285	11.8
650	30	3,587	- 9.8	55	287	13.8
600	29	4,202	-13.5	52	288	14.4
550	29	4,856	-17.8	44	280	16.1
500	29	5,567	-22.9	40	271	19.6
450	29	6,329	-28.3		260	21.6
400	29	7,169	-34.5		260	18.6
350	29	8,089	-41.4		256	21.6
300	29	9,119	-48.7		251	22.9
250	29	10,302	-54.4		280	19.0
200	29	11,721	-56.8		290	17.3
175	29	12,568	-56.1		282	15.2
150	29	13,550	-55.4		278	14.4
125	29	14,712	-55.9		265	13.4
100	29	16,127	-57.1		257	11.3
80	29	17,538	-57.1		258	8.9
70	29	18,391	-56.3		239	7.2
60	29	19,364	-56.2		227	3.9
50	29	20,523	-55.7		150	1.9
40	27	21,947	-54.9		93	4.7
30	27	23,789	-54.0		81	7.8
25	25	24,966	-52.8		66	8.7
20	25	26,411	-50.9		71	9.3
15	20	28,301	-47.5		71	5.8
10						
7						
5						

*** BROWNSVILLE, TEXAS**
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	7	21.9	89	145	7.2
1000	30	101	21.5	89	144	10.3
950	30	544	19.5	84	162	20.2
900	30	1,011	19.1	60	174	22.1
850	30	1,502	18.1	48	179	19.0
800	30	2,019	16.1	40	189	15.3
750	30	2,564	14.0	33	207	10.5
700	30	3,144	10.2	32	233	10.7
650	30	3,748	5.7	35	246	11.7
600	30	4,404	.6	38	257	17.9
550	30	5,088	- 5.0	44	258	24.5
500	30	5,838	-10.4	41	257	28.7
450	30	6,636	-15.6	35	261	35.4
400	30	7,522	-21.5	35	261	43.3
350	30	8,493	-28.7	38	261	50.3
300	29	9,578	-37.0	38	263	59.2
250	29	10,814	-46.7		264	72.3
200	29	12,259	-57.1		264	79.4
175	29	13,094	-62.1		266	79.1
150	29	14,037	-66.4		265	70.9
125	29	15,131	-69.8		263	61.6
100	29	16,450	-73.0		262	42.7
80	28	17,755	-74.2		264	23.7
70	28	18,545	-72.4		266	13.4
60	28	19,451	-67.7		251	3.1
50	28	20,563	-62.6		86	4.1
40	28	21,956	-57.8		325	1.9
30	28	23,791	-52.8		290	1.9
25	28	24,976	-49.9		263	6.4
20	28	26,445	-46.5		261	9.5
15	26	28,364	-42.3		262	21.0
10	14	31,104	-38.2			
7						
5						

BUFFALO, N. Y.
992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	218	4.8	76	193	3.5
1000	30	148				
950	30	565	4.8	64	218	7.2
900	30	1,007	3.5	62	251	8.7
850	30	1,469	1.8	60	263	10.7
800	30	1,957	- .1	61	262	13.6
750	30	2,470	- 2.7	63	261	16.7
700	30	3,017	- 5.3	59	263	19.2
650	30	3,595	- 8.3	54	266	21.2
600	30	4,214	-11.6	43	267	23.1
550	30	4,874	-15.6	40	267	26.6
500	30	5,589	-20.1	38	271	27.2
450	30	6,356	-25.6	38	273	28.7
400	30	7,206	-31.4		275	33.2
350	30	8,137	-38.4		270	38.3
300	30	9,180	-45.8		271	42.5
250	30	10,374	-53.0		272	47.8
200	30	11,795	-57.6		273	45.1
175	30	12,636	-57.7		275	40.2
150	30	13,612	-56.4		272	37.1
125	30	14,770	-56.2		274	30.3
100	30	16,185	-57.0		274	23.9
80	30	17,598	-56.9		277	17.7
70	30	18,444	-57.0		280	12.2
60	30	19,420	-57.0		282	9.7
50	29	20,572	-56.4		300	5.4
40	29	21,993	-55.1		18	3.1
30	26	23,835	-53.4		45	3.3
25	26	25,013	-52.1		66	4.7
20	25	26,462	-50.0		43	4.1
15	14	28,389	-46.2			
10	5	31,102	-39.9			
7						
5						

*** BURRWOOD, LA.**
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	3	19.3	93	163	4.9
1000	30	142	20.1	82	156	8.7
950	30	582	18.0	70	167	15.5
900	30	1,046	16.4	55	183	13.8
850	30	1,531	14.4	46	197	13.4
800	30	2,041	12.2	35	213	13.8
750	30	2,578	9.6	33	230	14.4
700	30	3,149	6.4	32	247	16.1
650	30	3,749	2.8	29	258	19.4
600	30	4,396	- 1.5	31	263	22.5
550	30	5,075	- 6.6	38	266	25.6
500	30	5,819	-11.7	41	267	29.7
450	30	6,615	-17.0	36	265	35.4
400	29	7,493	-22.8	31	270	40.6
350	29	8,459	-29.9	32	273	48.0
300	29	9,538	-38.1	26	273	56.7
250	28	10,765	-47.7		277	63.1
200	28	12,204	-57.7		277	75.2
175	28	13,037	-62.0		274	75.6
150	27	13,982	-64.7		273	69.2
125	27	15,087	-67.5		270	57.5
100	27	16,422	-69.9		269	43.1
80	27	17,746	-71.0		272	26.8
70	27	18,546	-68.9		272	15.3
60	27	19,471	-65.2		266	5.8
50	27	20,594	-61.3		305	1.6
40	27	21,990	-57.5		360	1.7
30	27	23,832	-52.7		331	3.7
25	25	25,009	-50.5		276	5.8
20	25	26,476	-47.1		265	9.9
15	24	28,393	-42.5		267	18.6
10	18	31,191	-37.6		265	35.4
7	9	33,662	-34.2			
5	5	36,057	-28.9			

***CANTON IS., PACIFIC AREA**
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	27.2	80	70	10.1
1000	30	89	26.4	81	73	12.4
950	30	542	22.7	88	84	17.7
900	30	1,013	19.7	76	89	20.2
850	30	1,505	17.2	69	92	22.0
800	30	2,021	15.4	50	92	21.0
750	30	2,567	13.0	44	91	17.1
700	30	3,144	10.0	40	91	15.5
650	30	3,757	6.5	34	91	13.4
600	30	4,409	2.8	30	87	11.3
550	30	5,106	- 1.3	29	82	11.5
500	30	5,863	- 5.3	25	89	11.3
450	30	6,680	-10.0	26	111	10.5
400	30	7,583	-15.6	22	132	6.2
350	30	8,577	-22.7	21	150	.6
300	30	9,689	-31.3	23	275	3.7
250	30	10,954	-41.6		292	5.1
200	30	12,429	-53.7		297	11.3
175	30	13,275	-60.7		288	12.6
150	29	14,218	-68.1		285	15.5
125	26	15,290	-75.8		280	21.4
100	25	16,561	-81.5		270	16.9
80	22	17,823	-75.7		268	7.2
70	22	18,606	-70.1		303	5.1
60	22	19,532	-65.5		273	6.8
50	22	20,650	-61.8		273	13.0
40	21	22,041	-59.5		270	18.3
30	21	23,856	-56.1		260	10.7
25	20	25,019	-53.8		250	6.8
20	20	26,463	-50.9		89	5.4
15	20	28,343	-48.3		92	30.1
10	18	31,055	-39.6		91	51.1
7	13	33,509	-36.5		87	34.2
5	11	35,836	-32.3		88	31.3

See reference note at end of table

RAWINSONDE DATA

Average monthly values

CAPE HATTERAS, N. C.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	12.7	85	237	1.4
1000	30	166	14.5	74	233	3.9
950	30	597	13.2	64	256	8.9
900	30	1,053	11.0	63	266	10.7
850	30	1,528	8.4	62	272	12.2
800	30	2,027	5.7	59	276	16.7
750	30	2,552	3.4	56	274	18.8
700	30	3,111	.6	49	272	19.8
650	30	3,699	- 2.6	43	273	22.9
600	29	4,332	- 6.4		276	25.6
550	29	5,000	-10.4		276	29.5
500	29	5,736	-14.9		275	32.2
450	29	6,519	-20.5		276	36.3
400	29	7,387	-26.8		275	38.7
350	29	8,336	-33.6		277	44.1
300	29	9,400	-41.5		277	46.0
250	28	10,614	-50.5		282	52.8
200	28	12,037	-59.3		286	55.6
175	28	12,867	-61.9		284	52.3
150	28	13,820	-61.8		282	47.2
125	28	14,949	-61.6		283	42.5
100	28	16,330	-62.4		281	34.4
80	28	17,706	-62.8		284	24.5
70	28	18,535	-62.2		291	16.1
60	28	19,485	-60.6		303	11.5
50	28	20,625	-58.9		339	5.1
40	27	22,035	-56.2		351	4.9
30	27	23,876	-53.1		27	3.3
25	27	25,056	-51.2		337	2.9
20	27	26,518	-47.5		278	5.1
15	26	28,439	-42.9		272	9.9
10	24	31,210	-36.0		273	19.6
7	18	33,720	-31.0		271	26.0
5	15	36,126	-26.1			
4						

CARIBOU, ME.
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	191	- 1.6	81	300	2.1
1000	30	157				
950	30	567	- .3	62	310	4.5
900	30	999	- 2.3	59	303	7.2
850	30	1,451	- 4.1	54	302	10.1
800	30	1,928	- 5.7	53	296	13.0
750	30	2,431	- 7.7	52	301	14.8
700	30	2,967	- 9.9	47	297	15.5
650	30	3,531	-12.7	44	294	18.1
600	30	4,143	-15.8	40	291	20.8
550	30	4,790	-19.7		289	22.3
500	30	5,497	-24.4	36	290	23.1
450	30	6,251	-29.2		288	24.9
400	30	7,090	-35.0	39	289	28.6
350	30	8,009	-41.2		291	32.4
300	30	9,041	-47.7		282	39.2
250	30	10,229	-52.9		282	39.6
200	30	11,661	-54.4		281	38.5
175	30	12,517	-53.8		279	35.5
150	30	13,507	-53.8		280	32.6
125	30	14,679	-53.4		277	24.3
100	29	16,114	-53.8		283	19.0
80	29	17,547	-54.3		287	13.6
70	29	18,404	-54.5		297	10.1
60	29	19,390	-54.5		317	5.1
50	29	20,560	-53.8		9	3.9
40	29	21,996	-53.3		67	7.0
30	29	23,853	-52.2		82	12.2
25	27	25,038	-51.0		80	15.7
20	26	26,492	-48.9		87	16.9
15	23	28,396	-45.1		82	19.6
10	20	31,149	-38.0		83	13.6
7	17	33,638	-32.4		114	5.1
5	8	36,029	-29.9			
4						

CHARLESTON, S. C.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	13	14.0	89	147	.4
1000	30	169	16.1	78	183	3.5
950	30	604	15.4	67	210	9.9
900	30	1,064	13.1	62	230	10.3
850	30	1,543	10.6	59	247	10.7
800	30	2,046	8.2	50	255	11.5
750	30	2,573	5.5	45	260	10.7
700	30	3,139	2.4	43	263	15.0
650	30	3,730	- 1.3	42	265	19.2
600	30	4,368	- 4.8	39	265	24.7
550	30	5,042	- 9.1		266	28.7
500	30	5,779	-14.0	36	270	29.3
450	30	6,565	-19.5	42	273	34.4
400	30	7,438	-25.6	37	273	35.0
350	30	8,392	-32.7		276	38.9
300	30	9,460	-40.9		280	40.2
250	30	10,675	-50.3		281	46.8
200	30	12,098	-60.1		284	58.7
175	30	12,926	-62.5		285	59.8
150	30	13,876	-62.9		284	51.7
125	30	14,997	-63.4		280	48.2
100	30	16,362	-65.5		279	36.7
80	30	17,715	-66.4		281	25.1
70	30	18,535	-65.4		287	18.8
60	30	19,469	-63.1		304	8.4
50	30	20,600	-60.2		322	5.8
40	30	22,001	-57.3		1	4.7
30	29	23,842	-53.5		57	3.3
25	28	25,023	-51.0		338	2.7
20	26	26,486	-47.3		287	6.8
15	14	28,390	-42.8		266	10.9

* COLD BAY, ALASKA
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	- .5	83	237	2.7
1000	30	89			250	4.9
950	30	497	- 2.9	79	245	9.5
900	30	924	- 5.6	81	246	10.9
850	30	1,371	- 7.6	74	254	14.4
800	30	1,841	- 9.6	71	253	17.9
750	30	2,334	-12.2	66	258	20.4
700	30	2,862	-14.6	62	253	22.3
650	30	3,417	-17.5	58	248	27.0
600	30	4,016	-21.0	57	246	32.6
550	30	4,650	-25.0	55	247	36.1
500	30	5,340	-28.9	54	250	37.1
450	30	6,082	-33.4	50	252	39.0
400	30	6,906	-38.2	45	257	41.8
350	30	7,814	-43.4		261	42.5
300	30	8,840	-48.1		257	42.5
250	30	10,032	-51.7		259	44.9
200	30	11,473	-52.5		258	38.1
175	30	12,337	-51.5		252	33.0
150	30	13,337	-52.2		247	29.1
125	30	14,517	-52.0		247	26.4
100	30	15,962	-52.1		248	20.4
80	30	17,408	-51.6		231	15.0
70	30	18,279	-51.1		223	12.0
60	30	19,278	-51.0		222	9.5
50	30	20,464	-51.0		210	6.6
40	30	21,915	-51.3		170	3.7
30	29	23,787	-51.3		151	2.3
25	29	24,972	-51.1		128	4.3
20	29	26,424	-50.7		120	5.8
15	29	28,304	-49.5		96	7.0
10	27	30,963	-47.2		84	8.7
7	20	33,362	-43.9		81	6.0
5	17	35,621	-40.6		78	6.0
4	12	37,172	-38.9			

COLUMBIA, MO.
983 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	238	10.1	72	18[illegible]	2.9
1000	30	96				
950	30	523	10.7	66	214	10.5
900	30	975	9.8	62	236	19.2
850	30	1,449	7.7	62	250	21.4
800	30	1,946	4.9	59	261	22.9
750	30	2,467	2.0	53	264	24.9
700	30	3,024	- 1.4	52	264	26.4
650	30	3,603	- 5.2	48	264	28.2
600	30	4,235	- 9.1	42	263	31.3
550	30	4,896	-13.5	37	260	34.6
500	30	5,621	-18.3		260	36.3
450	30	6,390	-24.0		261	40.8
400	30	7,248	-30.2		259	44.5
350	30	8,185	-36.9		259	49.7
300	30	9,235	-44.2		258	51.5
250	29	10,433	-51.7		261	53.4
200	29	11,859	-57.3		259	60.4
175	29	12,701	-58.3		264	56.1
150	29	13,672	-57.9		266	47.0
125	29	14,821	-58.2		268	41.2
100	29	16,222	-59.1		268	27.4
80	29	17,617	-60.1		269	20.0
70	28	18,448	-60.5		273	13.2
60	28	19,410	-59.8		280	7.2
50	28	20,553	-58.3		339	3.3
40	27	21,965	-56.4		54	6.2
30	25	23,805	-53.8		70	7.6
25	25	24,979	-52.5		69	8.0
20	19	26,411	-50.9		66	11.7
15	10	28,300	-47.2			

DAYTON, OHIO
981 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	297	8.2	81	143	3.7
1000	30	132				
950	30	560	9.2	68	206	11.5
900	30	1,006	7.7	62	235	17.1
850	30	1,476	5.6	62	250	20.0
800	30	1,970	3.2	60	252	20.8
750	30	2,490	.2	59	253	19.8
700	30	3,042	- 2.7	58	253	22.9
650	30	3,622	- 6.3	58	251	25.3
600	30	4,250	- 9.9	51	251	27.6
550	30	4,911	-13.9	43	250	32.4
500	30	5,636	-18.3	39	255	37.1
450	30	6,409	-23.5	39	259	35.7
400	30	7,268	-29.7	40	260	37.9
350	30	8,205	-37.0		266	38.5
300	30	9,254	-44.7		271	43.9
250	30	10,453	-52.2		271	54.6
200	30	11,874	-58.8		271	56.5
175	30	12,709	-59.9		274	51.5
150	30	13,673	-58.5		274	48.6
125	30	14,819	-58.9		275	41.8
100	30	16,217	-59.9		277	35.2
80	30	17,609	-60.4		274	25.4
70	30	18,446	-60.1		277	18.5
60	29	19,406	-59.5		288	10.9
50	29	20,548	-58.6		308	3.7
40	29	21,958	-56.6		52	3.3
30	28	23,791	-54.9		55	4.3
25	27	24,962	-53.6		49	4.9
20	27	26,404	-51.3		46	6.4
15	24	28,290	-47.8		33	3.9
10	13	31,014	-41.5		286	5.4

DEL RIO, TEXAS
974 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	314	18.3	67	107	5.8
1000	29	90				
950	29	533	18.5	67	133	12.2
900	29	995	17.4	64	169	14.6
850	29	1,482	15.8	53	197	14.0
800	29	1,996	13.9	40	227	13.0
750	29	2,537	11.3	29	242	15.2
700	29	3,109	7.3	31	251	18.1
650	29	3,711	2.7	27	248	22.5
600	29	4,356	- 2.2		244	27.0
550	29	5,035	- 7.4		244	32.2
500	29	5,776	-12.7		249	37.5
450	29	6,567	-18.4		255	43.1
400	29	7,442	-24.5		257	52.4
350	29	8,401	-31.4	36	257	59.4
300	29	9,475	-39.6		257	69.2
250	29	10,698	-49.0		260	74.8
200	29	12,131	-58.3		264	83.7
175	29	12,964	-62.1		261	85.5
150	29	13,911	-64.8		263	78.9
125	28	15,020	-66.6		262	62.0
100	28	16,362	-69.1		264	46.0
80	28	17,691	-69.7		262	28.0
70	28	18,493	-69.6		265	18.5
60	28	19,411	-66.8		257	9.7
50	27	20,529	-61.3		258	2.7
40	27	21,922	-58.6		312	1.6
30	27	23,750	-54.0		310	1.4
25	27	24,926	-51.4		283	2.9
20	27	26,385	-48.3		271	10.1
15	26	28,293	-44.2		270	20.2
10	20	31,031	-38.4		262	31.9

DENVER, COLO.
833 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,611	3.0	66	259	4.1
1000	30	103				
950	30	528				
900	30	976				
850	30	1,444				
800	30	1,938	3.6	51	277	6.8
750	30	2,462	1.2	46	285	8.9
700	30	3,011	- 2.6	47	285	9.9
650	30	3,595	- 6.7	46	285	11.8
600	30	4,215	-11.0	44	283	14.6
550	30	4,876	-15.4	41	274	16.7
500	30	5,591	-21.0	42	270	16.9
450	30	6,354	-26.8	37	266	16.3
400	30	7,200	-33.0		261	18.6
350	30	8,125	-40.2		257	20.2
300	30	9,160	-47.2		259	22.9
250	30	10,352	-52.6		259	28.4
200	30	11,779	-55.9		261	36.1
175	30	12,629	-56.2		257	33.2
150	30	13,607	-56.4		255	31.9
125	30	14,761	-57.3		256	32.2
100	30	16,170	-57.8		259	20.8
80	30	17,573	-59.3		253	15.2
70	30	18,415	-59.1		257	11.3
60	30	19,376	-59.3		254	4.5
50	30	20,520	-58.2		320	1.2
40	30	21,932	-56.2		61	3.3
30	30	23,769	-54.1		57	6.2
25	30	24,942	-52.9		57	6.4
20	30	26,388	-51.0		55	8.0
15	22	28,270	-48.0		76	6.6
10	8	30,987	-42.9			

DODGE CITY, KANS.
919 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	792	7.7	73	243	5.1
1000	30	88				
950	30	517				
900	30	965	9.2	61	231	7.8
850	30	1,439	9.5	46	240	15.3
800	30	1,940	7.4	39	261	15.7
750	30	2,466	4.5	35	262	17.1
700	30	3,027	.5	37	258	18.6
650	30	3,614	- 4.2	39	251	22.0
600	30	4,243	- 9.0	39	251	25.8
550	30	4,905	-13.9	36	250	28.9
500	30	5,627	-19.3		246	31.3
450	30	6,395	-24.9		247	33.2
400	30	7,250	-31.1		248	39.2
350	30	8,182	-38.2		250	42.9
300	30	9,227	-45.2		250	51.5
250	30	10,425	-52.0		253	54.2
200	30	11,855	-56.4		252	54.8
175	30	12,700	-57.2		256	52.4
150	30	13,675	-57.6		255	48.2
125	30	14,824	-58.5		259	41.0
100	30	16,222	-59.8		261	30.1
80	30	17,611	-61.2		254	17.7
70	30	18,444	-61.1		257	12.2
60	30	19,399	-60.2		274	6.2
50	30	20,541	-58.4		323	1.4
40	30	21,951	-56.4		65	3.1
30	28	23,789	-54.1		69	5.6
25	28	24,963	-52.5		71	5.8
20	28	26,412	-50.5		62	5.2
15	21	28,293	-47.3		39	3.9
10	5	30,984	-42.4			

EL PASO, TEXAS
880 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,193	11.8	28	291	4.7
1000	30	105				
950	30	540				
900	30	1,007				
850	30	1,485	12.7	24	296	7.2
800	30	1,991	9.6	25	270	11.5
750	30	2,518	5.8	27	257	16.5
700	30	3,084	1.9	26	253	21.6
650	30	3,671	- 2.1	26	248	28.4
600	30	4,309	- 6.1		247	33.0
550	30	4,976	-10.6		250	36.5
500	30	5,711	-15.8		251	41.8
450	30	6,491	-21.3		252	46.6
400	30	7,357	-27.6		254	55.8
350	30	8,305	-34.1		253	65.3
300	30	9,366	-41.9		252	72.7
250	30	10,578	-50.6		255	80.4
200	30	12,004	-58.6		257	79.3
175	30	12,838	-60.7		258	76.7
150	30	13,796	-61.1		260	67.8
125	29	14,921	-62.9		259	59.6
100	29	16,287	-65.2		259	47.6
80	29	17,643	-65.8		258	30.3
70	29	18,461	-65.3		258	19.6
60	28	19,397	-64.3		263	6.8
50	28	20,522	-60.3		69	1.9
40	28	21,923	-57.6		70	3.9
30	27	23,753	-54.1		61	3.3
25	25	24,927	-51.4		43	1.4
20	23	26,390	-47.9		296	1.9
15	15	28,290	-44.6		251	9.7

ELY, NEV.
805 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,908	- 1.1	80	247	.6
1000	30	142				
950	30	564				
900	30	1,009				
850	30	1,472				
800	30	1,962			352	1.6
750	30	2,484	- .6	55	318	3.9
700	30	3,029	- 4.1	56	305	7.8
650	30	3,609	- 7.9	55	305	11.5
600	30	4,228	-11.7	53	294	12.4
550	30	4,886	-16.1	49	289	14.4
500	30	5,599	-21.0	44	290	15.7
450	30	6,365	-26.5	35	286	16.7
400	30	7,209	-33.0	32	282	16.3
350	30	8,134	-40.1		289	15.3
300	30	9,170	-47.7		288	17.1
250	30	10,354	-54.3		287	23.5
200	30	11,774	-56.8		288	20.6
175	30	12,619	-57.5		276	21.4
150	29	13,597	-56.0		269	22.1
125	29	14,753	-57.5		267	19.2
100	29	16,157	-58.7		265	16.7
80	29	17,557	-59.1		260	12.4
70	29	18,404	-59.0		241	10.9
60	29	19,363	-58.7		236	3.9
50	29	20,509	-57.9		67	1.4
40	29	21,920	-56.8		63	3.9
30	27	23,750	-54.9		64	7.6
25	27	24,920	-53.4		69	8.9
20	25	26,357	-51.5		70	8.7
15	18	28,219	-48.9		54	8.9
10						
7						

FLINT, MICH.
989 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	234	4.9	72	151	2.7
1000	30	138				
950	30	557	4.7	68	192	7.6
900	30	998	4.0	66	235	12.0
850	30	1,462	2.8	60	248	13.6
800	30	1,951	.7	61	248	16.3
750	30	2,462	- 1.9	61	251	17.1
700	30	3,014	- 4.7	58	255	19.2
650	30	3,588	- 7.9	54	256	21.0
600	30	4,212	-11.6	50	254	24.1
550	30	4,870	-15.7	45	257	27.2
500	30	5,587	-20.2	41	256	28.7
450	30	6,352	-25.4	39	262	28.9
400	30	7,204	-31.4	38	265	32.1
350	30	8,136	-38.4		267	35.0
300	30	9,177	-46.1		266	43.3
250	30	10,370	-52.7		264	49.7
200	30	11,794	-57.0		270	49.9
175	30	12,637	-57.8		270	47.8
150	30	13,611	-56.5		270	43.3
125	30	14,768	-56.1		273	33.2
100	30	16,183	-57.1		270	26.6
80	30	17,593	-57.4		275	18.6
70	30	18,448	-57.1		277	14.0
60	30	19,413	-57.0		293	8.4
50	30	20,568	-56.4		314	3.9
40	30	21,990	-54.6		50	4.1
30	29	23,832	-53.6		53	6.2
25	29	25,006	-52.7		59	9.7
20	25	26,452	-50.7		72	12.0
15	18	28,348	-47.1		62	13.8
10	7	31,090	-40.7			

FORT WORTH, TEXAS
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	180	15.5	79	178	3.3
1000	30	110				
950	30	549	15.7	66	192	10.1
900	30	1,007	14.0	59	212	14.4
850	30	1,489	12.9	49	227	15.9
800	30	1,996	10.8	36	233	16.5
750	30	2,533	8.0	28	242	18.5
700	30	3,098	4.2	31	249	20.6
650	30	3,693	- .1	32	252	26.8
600	30	4,333	- 4.8	33	251	31.9
550	30	5,007	- 9.7		250	34.8
500	29	5,741	-14.6		252	40.2
450	29	6,526	-20.1		254	46.0
400	29	7,395	-26.4		257	49.1
350	29	8,346	-33.7		258	58.1
300	29	9,409	-41.8		258	68.8
250	29	10,620	-50.7		261	78.7
200	29	12,043	-59.2		264	77.5
175	28	12,875	-61.3		263	76.3
150	28	13,828	-61.9		264	71.1
125	28	14,952	-63.1		264	53.4
100	28	16,321	-64.8		263	42.2
80	28	17,678	-66.0		262	25.3
70	28	18,499	-66.4		257	16.9
60	28	19,426	-63.6		256	8.9
50	28	20,556	-60.0		266	.6
40	28	21,956	-57.7		67	2.5
30	27	23,792	-53.9		36	2.3
25	27	24,967	-51.9		318	3.3
20	23	26,415	-48.9		294	6.8
15	18	28,326	-45.1		278	18.3
10	8	31,101	-38.3			

GLASGOW, MONT.
930 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	696	2.0	78	66	3.1
1000	30	101				
950	30	516				
900	30	959	3.6	63	280	2.1
850	30	1,422	2.3	57	285	6.6
800	30	1,910	- .3	55	298	9.1
750	30	2,417	- 3.3	54	294	9.5
700	30	2,966	- 6.7	52	287	9.5
650	30	3,532	-10.3	47	283	10.3
600	30	4,154	-14.1	43	285	13.0
550	30	4,802	-18.3	43	282	14.2
500	30	5,514	-23.2	43	283	15.2
450	30	6,267	-28.7	44	278	18.5
400	30	7,110	-34.8	45	273	22.3
350	30	8,029	-41.5		272	24.5
300	30	9,058	-49.2		269	27.6
250	30	10,235	-55.9		268	32.4
200	29	11,639	-57.0		258	28.4
175	29	12,489	-55.1		263	26.6
150	29	13,475	-54.5		258	22.1
125	29	14,640	-55.1		269	21.8
100	28	16,066	-55.0		265	19.0
80	28	17,491	-54.9		269	12.8
70	28	18,344	-54.5		267	9.7
60	27	19,331	-54.6		279	6.4
50	27	20,499	-54.1		313	2.3
40	27	21,932	-53.6		13	3.3
30	27	23,786	-52.4		62	5.2
25	27	24,968	-51.4		73	7.8
20	27	26,420	-50.5		75	11.3
15	25	28,310	-48.3		70	14.6
10	11	31,004	-44.9			

GRAND JUNCTION, COLO.
849 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,474	5.4	61	139	3.1
1000	30	107				
950	30	532				
900	30	988				
850	30	1,459			134	3.1
800	30	1,956	4.9	48	193	6.2
750	30	2,476	1.1	51	247	8.4
700	30	3,030	- 3.0	55	259	11.5
650	30	3,606	- 7.6	57	268	13.6
600	30	4,230	-11.9	56	271	14.6
550	30	4,886	-16.5	53	271	15.7
500	30	5,601	-21.1	45	272	18.5
450	30	6,362	-26.7	43	275	21.6
400	30	7,209	-33.0	42	281	21.4
350	30	8,134	-39.9		283	25.6
300	30	9,170	-47.3		280	28.9
250	30	10,359	-53.1		272	28.7
200	30	11,785	-56.0		267	29.3
175	30	12,633	-56.1		266	30.9
150	30	13,613	-56.2		257	29.7
125	30	14,769	-57.3		266	25.1
100	30	16,174	-58.9		260	20.4
80	29	17,573	-59.4		287	15.5
70	29	18,411	-59.7		254	10.5
60	29	19,370	-59.9		261	5.1
50	28	20,514	-58.7		360	1.2
40	28	21,922	-56.6		75	3.5
30	28	23,754	-54.9		58	6.0
25	27	24,920	-53.8		64	7.6
20	25	26,358	-52.0		68	7.2
15	24	28,232	-48.7		66	6.2
10	18	30,942	-42.2		299	7.8
7	5	33,366	-36.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

APRIL 1964

GREAT FALLS, MONT.
884 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,123	1.4	68	245	8.4
1000	30	113				
950	30	532				
900	30	973				
850	30	1,438	2.3	49	261	14.2
800	30	1,926	- .5	55	275	12.0
750	30	2,437	- 3.6	59	284	11.5
700	30	2,982	- 7.2	61	281	11.3
650	30	3,552	-10.5	58	276	11.7
600	30	4,169	-14.0	51	275	12.4
550	30	4,823	-18.2	45	272	15.3
500	30	5,531	-23.1	42	271	19.0
450	30	6,290	-28.3	39	272	21.8
400	30	7,131	-34.4		274	22.7
350	30	8,051	-41.3		268	23.1
300	30	9,080	-49.1		264	25.8
250	29	10,253	-55.7		258	24.3
200	29	11,666	-56.8		264	23.9
175	29	12,515	-55.5		272	22.3
150	28	13,503	-54.4		274	22.7
125	28	14,671	-54.4		273	16.3
100	26	16,101	-54.8		262	12.4
80	26	17,527	-54.5		259	13.2
70	26	18,388	-54.4		264	9.5
60	26	19,370	-54.0		260	5.4
50	26	20,540	-54.0		220	2.1
40	26	21,976	-52.7		25	2.3
30	25	23,833	-51.8		67	7.2
25	25	25,017	-51.1		65	8.7
20	25	26,472	-50.0		70	13.2
15	23	28,368	-47.8		72	14.4
10	22	31,071	-43.8		73	14.8
7	14	33,478	-40.0		73	11.7
5	10	35,791	-35.9			

GREEN BAY, WIS.
988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	210	2.8	79	96	.8
1000	30	105				
950	30	522	3.8	66	180	2.9
900	30	961	3.1	62	210	6.2
850	30	1,423	1.8	58	223	7.0
800	30	1,911	.1	51	242	8.5
750	30	2,423	- 1.9	48	253	12.8
700	30	2,973	- 5.0	49	259	15.3
650	30	3,545	- 8.4	49	261	16.3
600	30	4,169	-12.1	45	265	16.9
550	30	4,823	-16.2	41	271	18.3
500	30	5,540	-20.6		271	21.2
450	30	6,305	-26.0		271	21.4
400	30	7,154	-32.3		266	25.4
350	30	8,083	-39.0		260	29.3
300	30	9,123	-46.5		258	36.9
250	30	10,315	-52.4		260	43.3
200	30	11,742	-56.5		260	46.2
175	30	12,589	-56.1		267	40.4
150	30	13,571	-55.7		270	33.8
125	30	14,731	-55.5		273	28.4
100	29	16,151	-55.9		273	23.5
80	29	17,568	-56.1		277	17.1
70	29	18,414	-56.2		280	12.2
60	29	19,395	-56.2		293	5.8
50	29	20,556	-55.0		348	2.7
40	29	21,985	-53.8		50	6.0
30	28	23,835	-52.9		68	12.2
25	28	25,013	-51.7		72	14.6
20	26	26,462	-49.7		77	15.9
15	21	28,352	-46.9		72	16.7
10						
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GREENSBORO, N. C.
988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	273	10.1	83	134	.6
1000	30	171				
950	30	600	11.2	67	239	3.9
900	30	1,051	10.1	64	248	8.9
850	30	1,526	8.1	64	258	15.2
800	30	2,025	5.8	62	258	17.5
750	30	2,546	3.1	56	257	19.8
700	30	3,108	.3	50	254	22.0
650	30	3,695	- 3.2	48	258	25.1
600	30	4,328	- 6.8	45	263	28.2
550	30	4,998	-10.9	46	265	31.3
500	30	5,729	-15.5	41	265	35.0
450	30	6,510	-20.8	39	267	37.7
400	30	7,377	-27.0		267	39.8
350	30	8,326	-34.0		268	46.4
300	30	9,387	-42.4		273	50.3
250	30	10,595	-51.8		271	54.6
200	30	12,013	-60.2		280	63.5
175	30	12,841	-61.8		281	56.7
150	30	13,795	-61.3		278	49.9
125	30	14,926	-61.8		276	41.2
100	30	16,303	-62.8		278	34.4
80	30	17,673	-63.7		279	23.9
70	30	18,500	-62.9		286	16.5
60	30	19,445	-61.6		296	10.3
50	30	20,581	-59.8		330	4.3
40	30	21,983	-57.4		3	3.5
30	29	23,814	-55.0		11	4.3
25	28	24,984	-52.9		334	3.1
20	26	26,436	-49.8		294	5.8
15	19	28,314	-46.1		276	14.6
10	7	31,003	-40.9			
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5						

GUAM, MARIANA IS.
999 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	111	24.9	91	81	7.2
1000	30	98			75	8.9
950	30	550	22.5	89	80	17.9
900	30	1,020	20.1	87	85	15.5
850	30	1,513	17.7	85	84	13.6
800	30	2,030	15.2	80	81	11.1
750	30	2,577	12.4	74	77	10.1
700	30	3,153	9.3	69	66	8.5
650	30	3,766	6.2	63	59	5.1
600	30	4,418	2.4	56	13	2.7
550	30	5,115	- 1.6	48	329	3.7
500	30	5,870	- 6.1	47	318	4.5
450	30	6,688	-10.6	38	293	4.9
400	30	7,587	-16.3		282	9.5
350	30	8,577	-23.2		276	14.6
300	30	9,687	-31.6		269	21.2
250	30	10,949	-41.8		265	27.2
200	30	12,420	-54.1		262	31.1
175	30	13,263	-60.8		261	30.9
150	30	14,205	-67.9		260	26.4
125	30	15,282	-74.5		268	21.6
100	30	16,562	-79.1		297	10.3
80	28	17,831	-78.2		346	3.7
70	27	18,600	-73.6		312	1.4
60	27	19,516	-68.3		252	7.4
50	27	20,624	-63.5		259	15.5
40	27	22,011	-58.9		274	17.7
30	27	23,835	-54.4		274	11.5
25	27	25,012	-50.8		294	5.4
20	25	26,483	-46.4		76	7.2
15	20	28,399	-44.2		72	17.3
10	5	31,161	-40.0			
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5						

HILO, HAWAII
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	19.6	90	238	6.0
1000	30	159	20.1	82	225	4.3
950	30	598	17.3	85	105	5.6
900	30	1,062	14.3	87	103	9.1
850	30	1,543	11.3	89	101	8.5
800	30	2,048	8.8	87	96	6.6
750	30	2,583	6.2	65	66	5.1
700	30	3,145	4.7	46	25	2.7
650	30	3,746	2.1	44	278	4.3
600	30	4,390	- 1.4	42	271	10.9
550	30	5,077	- 5.0	38	264	15.3
500	30	5,824	- 9.1	36	268	19.6
450	30	6,627	-14.5	40	265	26.8
400	30	7,515	-20.6	40	266	32.4
350	30	8,489	-27.7	40	270	38.3
300	30	9,579	-36.1		268	49.7
250	30	10,821	-45.3		271	62.4
200	30	12,276	-55.6		273	71.3
175	30	13,116	-61.4		274	71.1
150	30	14,059	-67.0		271	62.7
125	30	15,148	-71.0		270	50.9
100	30	16,463	-72.3		266	36.3
80	28	17,780	-70.7		261	26.0
70	28	18,573	-69.2		262	18.8
60	27	19,495	-67.0		259	9.7
50	26	20,602	-64.7		244	3.9
40	26	21,975	-60.5		273	2.9
30	25	23,792	-54.2		5	1.6
25	24	24,963	-51.2		21	1.4
20	20	26,422	-47.5		147	1.4
15	15	28,339	-43.7		289	6.2
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5						

HUNTINGTON, W. VA.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	9.8	76	165	2.5
1000	30	149				
950	30	576	10.8	64	210	9.1
900	30	1,028	9.2	62	236	14.8
850	30	1,501	6.6	63	247	19.6
800	30	1,997	4.3	61	253	22.1
750	30	2,518	1.5	59	257	22.3
700	30	3,074	- 1.5	56	256	23.7
650	30	3,659	- 4.8	52	256	26.4
600	30	4,288	- 8.5	47	256	29.1
550	30	4,952	-12.8	43	258	33.8
500	30	5,679	-17.3		260	38.1
450	30	6,455	-22.5		262	40.6
400	30	7,317	-28.6		265	42.2
350	30	8,260	-35.4		265	47.6
300	30	9,316	-43.1		267	53.0
250	30	10,522	-51.6		272	58.3
200	29	11,941	-59.7		271	61.8
175	29	12,773	-60.8		276	59.2
150	29	13,734	-59.7		274	51.7
125	29	14,875	-60.3		273	39.6
100	29	16,265	-60.7		275	31.3
80	29	17,650	-61.4		277	22.3
70	29	18,483	-61.1		276	16.9
60	29	19,438	-60.0		286	11.1
50	29	20,580	-58.6		315	5.2
40	29	21,988	-56.7		351	3.3
30	29	23,821	-54.4		29	3.9
25	28	24,995	-53.0		25	4.3
20	26	26,442	-50.6		23	3.3
15	19	28,313	-47.2		321	2.9
10						

* INTERNAT. FALLS, MINN.
969 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	360	- .9	79	53	2.9
1000	30	101				
950	30	515	.9	67	130	3.3
900	30	949	.9	64	165	4.7
850	30	1,407	- .3	59	233	2.3
800	30	1,891	- 2.0	57	299	1.6
750	30	2,399	- 4.1	57	294	2.3
700	30	2,944	- 6.9	57	295	5.6
650	30	3,514	-10.2	56	286	8.7
600	30	4,131	-13.7	53	287	10.7
550	30	4,783	-17.6	54	284	13.8
500	30	5,496	-22.1	49	274	16.5
450	30	6,258	-27.3	46	273	19.4
400	30	7,102	-33.5	43	271	22.9
350	30	8,025	-40.6		273	25.8
300	30	9,058	-48.5		272	28.6
250	30	10,237	-55.4		269	30.5
200	30	11,652	-56.6		265	29.1
175	30	12,500	-56.2		268	28.7
150	30	13,482	-55.0		270	26.0
125	30	14,649	-54.2		273	23.1
100	30	16,080	-54.0		270	19.6
80	30	17,511	-54.5		273	13.4
70	29	18,371	-54.5		274	10.9
60	29	19,356	-54.5		284	7.2
50	29	20,526	-53.7		313	4.5
40	26	21,962	-52.8		45	2.7
30	25	23,817	-52.3		78	8.5
25	25	24,999	-51.6		81	9.7
20	25	26,450	-50.5		76	13.4
15	24	28,337	-48.2		75	16.3
10	17	31,026	-43.6		83	19.6

JACKSON, MISS.
1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	94	15.1	91	169	2.7
1000	30	137			180	6.6
950	30	571	15.8	72	206	10.1
900	30	1,033	14.2	59	229	13.0
850	30	1,515	12.5	53	237	15.7
800	30	2,022	9.8	50	238	17.5
750	30	2,549	6.9	45	245	18.8
700	30	3,121	3.9	37	255	21.8
650	30	3,714	.2	40	258	24.9
600	30	4,357	- 3.9	39	258	27.8
550	30	5,033	- 8.5	37	259	31.3
500	30	5,772	-13.6		259	34.6
450	30	6,559	-19.0		259	37.1
400	30	7,434	-25.3		260	41.8
350	30	8,390	-32.2		259	46.6
300	30	9,459	-40.2		262	55.0
250	30	10,678	-49.4		269	56.1
200	30	12,106	-58.8		273	62.0
175	30	12,937	-62.0		269	62.0
150	30	13,886	-63.2		271	58.9
125	30	15,006	-64.0		268	49.0
100	30	16,363	-65.9		270	39.2
80	30	17,711	-67.9		265	22.3
70	30	18,521	-66.2		273	15.9
60	30	19,457	-63.3		273	9.1
50	30	20,584	-60.7		305	2.3
40	30	21,980	-58.3		342	2.3
30	29	23,809	-53.9		308	2.9
25	29	24,986	-51.7		292	6.2
20	27	26,448	-48.5		278	13.0
15	14	28,374	-43.5			
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JACKSONVILLE, FLA.
1020 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	16.3	92	245	2.5
1000	30	175	17.7	79	174	3.3
950	30	612	16.6	67	190	7.4
900	30	1,074	14.1	63	209	5.6
850	30	1,555	11.9	55	233	6.2
800	30	2,061	9.8	43	247	6.0
750	30	2,592	7.2	37	260	8.7
700	30	3,159	4.2	33	265	12.6
650	30	3,754	.5	35	267	19.2
600	30	4,397	- 3.4	35	267	23.1
550	30	5,069	- 7.9	36	268	26.2
500	30	5,813	-13.2	35	273	28.9
450	30	6,603	-18.4		279	35.5
400	30	7,477	-24.4		282	38.1
350	30	8,436	-31.3		286	39.2
300	30	9,510	-39.6		287	43.1
250	30	10,732	-49.2		288	52.8
200	29	12,163	-58.7		290	65.7
175	29	12,994	-62.2		289	68.0
150	29	13,941	-64.3		286	65.5
125	29	15,054	-65.3		283	54.8
100	29	16,404	-67.7		280	43.3
80	28	17,738	-69.2		280	27.0
70	28	18,547	-67.7		290	17.1
60	28	19,473	-64.3		311	6.8
50	27	20,600	-60.4		2	3.3
40	26	22,004	-57.2		61	3.7
30	26	23,843	-52.9		53	1.7
25	25	25,016	-50.6		275	3.5
20	25	26,484	-46.7		267	7.6
15	23	28,417	-41.9		267	17.3
10	14	31,139	-36.7		264	32.8

JOHN F. KENNEDY INT. AP, N. Y.
1021 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	6.3	72	334	2.9
1000	30	176	6.1	68	311	2.9
950	30	597	5.1	66	276	4.7
900	30	1,037	4.2	65	263	8.7
850	30	1,501	2.8	65	267	15.2
800	29	1,989	1.1	60	279	19.2
750	29	2,507	- 1.3	56	291	21.0
700	29	3,054	- 3.8	54	280	22.7
650	29	3,634	- 7.1	48	281	27.4
600	29	4,256	-10.8	47	282	31.3
550	29	4,919	-14.4		283	33.6
500	29	5,636	-19.5		284	37.1
450	29	6,411	-24.9		287	42.0
400	29	7,257	-31.1		287	47.0
350	29	8,192	-37.5		288	50.9
300	29	9,239	-44.9		285	52.4
250	29	10,437	-52.4		286	56.3
200	29	11,855	-58.7		286	57.3
175	29	12,692	-59.3		285	51.7
150	29	13,657	-59.0		281	46.0
125	29	14,804	-58.3		279	35.4
100	29	16,206	-59.0		284	28.2
80	29	17,605	-59.3		292	19.6
70	29	18,446	-58.9		298	14.0
60	28	19,411	-58.4		314	9.5
50	27	20,564	-58.0		347	5.8
40	27	21,976	-56.5		27	5.2
30	27	23,812	-54.3		52	7.6
25	25	24,989	-52.7		56	7.2
20	21	26,440	-50.1		28	5.2
15	8	28,333	-45.7			
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JOHNSTON IS., PACIFIC AREA
1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	21	3	24.7	83	94	11.7
1000	21	124	23.6	83	93	14.2
950	21	571	20.3	83	100	15.2
900	21	1,037	17.3	81	103	15.2
850	21	1,525	15.1	73	103	12.4
800	21	2,037	12.8	67	113	8.0
750	21	2,575	9.9	59	156	3.7
700	21	3,148	6.9	57	211	6.6
650	21	3,750	3.6	59	233	8.7
600	21	4,401	- .2	67	244	9.9
550	21	5,087	- 4.4	63	246	14.6
500	21	5,839	- 8.9	54	259	19.8
450	21	6,645	-13.8	52	257	27.2
400	21	7,535	-19.4	50	263	33.2
350	21	8,514	-26.1		264	42.0
300	21	9,611	-34.1		269	52.1
250	21	10,861	-44.3		268	60.0
200	20	12,319	-56.2		269	64.7
175	20	13,155	-62.8		269	68.6
150	20	14,090	-69.1		270	65.7
125	18	15,166	-74.6		274	57.5
100	16	16,460	-74.8		267	40.0
80	13	17,759	-73.2		267	26.0
70	12	18,544	-69.8		271	20.6
60	12	19,471	-66.1		260	15.9
50	12	20,584	-63.8		253	11.5
40	12	21,964	-60.5		286	8.7
30	12	23,780	-54.0		327	2.5
25	12	24,963	-50.4		104	1.4
20	11	26,431	-47.4		64	4.9
15	10	28,359	-43.2			
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KING SALMON, ALASKA
1008 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	- 3.1	80	175	3.9
1000	30	78			204	5.1
950	30	480	- 5.0	73	222	5.1
900	30	906	- 6.9	73	227	7.2
850	30	1,351	- 8.8	73	230	7.8
800	30	1,818	-10.9	71	232	9.7
750	30	2,312	-13.5	66	242	11.8
700	30	2,834	-16.3	62	247	12.2
650	30	3,389	-19.1	59	249	13.8
600	30	3,981	-22.3	57	250	16.1
550	30	4,612	-26.2	55	251	18.6
500	30	5,298	-30.6	55	254	21.0
450	30	6,034	-35.3	53	257	22.5
400	30	6,851	-40.0		260	22.7
350	30	7,754	-44.6		266	27.6
300	30	8,774	-49.3		267	30.9
250	30	9,962	-51.8		268	32.8
200	30	11,409	-51.2		257	29.3
175	30	12,279	-50.4		255	27.2
150	30	13,285	-50.4		253	26.0
125	30	14,474	-50.5		252	24.7
100	29	15,928	-50.4		250	21.0
80	29	17,385	-50.2		249	16.5
70	29	18,260	-50.2		246	13.0
60	29	19,264	-49.8		246	11.5
50	29	20,457	-49.7		239	8.2
40	29	21,916	-50.0		231	4.3
30	29	23,794	-50.2		192	1.4
25	26	24,991	-49.8		163	1.7
20	23	26,454	-49.5		90	1.6
15	15	28,331	-48.8		72	.4
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+ KOROR, CAROLINE IS.
1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	28.4	83	75	5.8
1000	30	91	27.6	83	75	6.8
950	30	544	23.8	82	82	9.5
900	30	1,017	20.9	80	85	9.5
850	30	1,511	18.1	78	89	8.5
800	30	2,030	15.4	77	91	8.4
750	30	2,572	12.6	73	91	9.5
700	30	3,153	9.9	70	89	9.1
650	30	3,764	6.6	66	89	9.7
600	30	4,420	3.0	58	94	9.7
550	30	5,117	- 1.1	59	100	10.3
500	30	5,876	- 5.1	55	98	10.3
450	30	6,694	- 9.6	46	94	9.5
400	30	7,600	-15.2	39	90	6.2
350	30	8,596	-21.9	31	109	3.3
300	30	9,712	-30.2		196	3.1
250	30	10,982	-40.5		221	5.8
200	30	12,462	-53.0		227	9.1
175	30	13,308	-60.1		236	9.7
150	30	14,253	-67.6		254	9.9
125	30	15,331	-74.9		266	6.8
100	30	16,605	-80.9		347	4.7
80	30	17,860	-78.9		26	3.5
70	30	18,633	-72.1		288	7.2
60	30	19,554	-66.1		272	17.3
50	30	20,672	-61.7		270	22.1
40	30	22,065	-58.7		267	24.3
30	30	23,890	-54.7		266	22.1
25	27	25,059	-52.8		268	15.9
20	27	26,510	-49.5		200	3.3
15	22	28,410	-46.3		106	21.6
10	12	31,147	-39.8			
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KOTZEBUE, ALASKA
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	-16.1	76	118	3.9
1000	30	91	-14.2	73	115	5.2
950	30	482	-12.1	67	118	6.2
900	30	896	-13.1	64	134	4.9
850	30	1,330	-14.1	60	146	3.7
800	30	1,789	-15.8	56	165	2.9
750	30	2,273	-18.3	51	188	3.1
700	30	2,786	-20.9	50	212	4.5
650	30	3,328	-24.1	48	221	6.4
600	30	3,911	-27.7	48	228	8.0
550	30	4,529	-31.7	49	233	9.3
500	30	5,199	-36.1		234	11.1
450	30	5,919	-41.0		244	12.8
400	30	6,716	-46.1		246	16.1
350	30	7,594	-50.6		243	19.8
300	30	8,592	-53.3		244	22.7
250	30	9,767	-52.2		240	22.1
200	30	11,221	-49.2		240	20.8
175	30	12,099	-48.4		241	20.0
150	30	13,114	-48.2		240	19.2
125	29	14,317	-47.6		237	16.9
100	29	15,793	-46.6		229	15.2
80	29	17,273	-46.5		231	12.6
70	29	18,162	-46.5		228	9.7
60	28	19,183	-46.7		219	8.0
50	28	20,391	-47.1		210	6.4
40	27	21,868	-47.5		202	4.7
30	27	23,767	-48.0		177	2.3
25	27	24,969	-48.1		137	2.1
20	27	26,440	-48.1		114	3.7
15	23	28,324	-48.0		76	4.5
10	15	31,035	-46.3		66	5.1
7	5	33,430	-47.9			

LAKE CHARLES, LA.
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	17.8	92	171	4.9
1000	30	130	18.7	83	167	9.1
950	30	572	17.5	72	172	16.3
900	30	1,032	15.6	63	188	15.5
850	30	1,516	14.4	51	205	15.9
800	30	2,027	12.0	46	226	17.5
750	30	2,563	9.2	42	235	19.6
700	30	3,134	5.9	32	247	21.0
650	30	3,733	2.3	32	254	22.0
600	30	4,379	- 2.4	32	253	25.8
550	30	5,059	- 7.1	32	259	29.7
500	30	5,801	-12.4	33	261	34.6
450	30	6,594	-17.9	32	260	39.6
400	30	7,470	-24.0	32	264	45.6
350	30	8,431	-31.0		267	52.8
300	30	9,506	-38.9		267	62.0
250	30	10,731	-48.5		268	70.9
200	30	12,166	-58.1		271	77.9
175	30	12,999	-62.1		270	79.1
150	30	13,947	-64.0		269	72.8
125	30	15,061	-64.8		268	60.4
100	30	16,412	-67.9		265	42.9
80	30	17,749	-68.9		265	23.5
70	30	18,556	-68.5		264	16.3
60	30	19,481	-64.3		275	8.4
50	30	20,606	-61.0		223	1.2
40	30	22,004	-57.2		34	1.4
30	29	23,841	-53.1		80	1.2
25	28	25,027	-50.6		338	1.6
20	27	26,489	-46.4		306	4.5
15	18	28,402	-42.5		275	8.5
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

LANDER, WYO. 824 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,696	1.3	68	284	2.5
1000	30	107				
950	30	529				
900	30	971				
850	30	1,442				
800	30	1,932	2.1	49	323	3.3
750	30	2,448	-1.0	49	308	5.8
700	30	2,998	-4.5	53	298	7.8
650	30	3,574	-8.3	54	297	9.5
600	29	4,195	-12.4	49	295	11.3
550	29	4,848	-16.5	41	283	13.2
500	29	5,565	-21.3	37	278	13.2
450	29	6,322	-27.1		284	14.0
400	29	7,173	-33.6		281	11.8
350	29	8,096	-40.5		283	12.8
300	29	9,129	-48.2		287	13.8
250	29	10,310	-54.9		275	15.3
200	29	11,728	-56.9		260	21.6
175	29	12,576	-55.4		264	22.5
150	29	13,561	-54.9		265	22.9
125	28	14,720	-55.4		269	20.0
100	28	16,138	-56.6		264	18.5
80	28	17,549	-57.3		261	16.1
70	28	18,394	-57.3		259	11.1
60	28	19,367	-57.2		258	5.4
50	28	20,523	-56.2		6	1.7
40	28	21,943	-55.5		52	4.7
30	26	23,788	-53.6		56	8.4
25	26	24,963	-52.6		69	11.1
20	24	26,411	-51.0		66	10.7
15	17	28,292	-48.1		71	13.2
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LAS VEGAS, NEV. 936 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	660	12.2	32	220	8.0
1000	29	102				
950	29	533				
900	29	993	13.2	32	258	5.4
850	29	1,470	10.1	36	278	6.4
800	29	1,971	6.3	38	276	6.8
750	29	2,493	2.3	42	288	7.2
700	29	3,049	-1.8	43	302	7.2
650	29	3,626	-5.6	41	294	6.8
600	29	4,258	-9.8	40	278	9.5
550	29	4,915	-14.5	40	278	11.1
500	29	5,638	-19.9	39	282	14.0
450	29	6,399	-25.8		278	14.0
400	29	7,253	-32.3		280	16.1
350	29	8,182	-38.9		280	20.4
300	29	9,224	-45.7		277	26.0
250	29	10,420	-52.0		274	31.5
200	29	11,849	-56.5		272	37.5
175	28	12,693	-56.8		271	38.7
150	28	13,670	-57.1		268	37.9
125	28	14,820	-58.5		268	30.7
100	28	16,216	-60.6		264	26.0
80	27	17,608	-61.3		260	19.0
70	27	18,436	-60.7		266	12.0
60	26	19,398	-59.9		260	8.0
50	26	20,540	-58.5		273	4.1
40	24	21,949	-57.0		11	2.5
30	24	23,780	-54.5		55	4.7
25	23	24,956	-52.6		61	4.7
20	23	26,405	-50.4		65	5.2
15	20	28,291	-46.6		328	1.2
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*** LIHUE, HAWAII 1015 MB**

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	36	22.0	77	68	8.2
1000	30	163	21.4	77	73	10.1
950	30	604	17.6	84	84	13.2
900	30	1,066	14.3	82	83	12.4
850	30	1,548	11.4	75	79	11.1
800	30	2,053	9.1	60	77	10.5
750	30	2,588	7.4	41	77	8.2
700	30	3,152	5.3	31	86	2.9
650	30	3,750	1.5	31	287	1.9
600	30	4,395	-2.0	30	266	6.2
550	30	5,075	-5.8	31	258	10.9
500	30	5,822	-10.5	33	260	15.5
450	30	6,617	-16.1	37	263	19.8
400	30	7,502	-22.4	33	262	24.5
350	30	8,469	-29.9	37	262	33.0
300	30	9,548	-38.2	39	262	42.9
250	30	10,778	-47.5		266	55.9
200	30	12,220	-57.5		266	71.7
175	30	13,053	-62.5		267	74.6
150	29	13,994	-66.6		265	66.4
125	29	15,087	-69.8		263	55.0
100	29	16,409	-71.6		260	38.7
80	29	17,728	-70.5		257	30.1
70	29	18,523	-68.7		253	24.1
60	28	19,450	-66.1		252	11.5
50	28	20,561	-64.2		222	2.7
40	28	21,936	-60.2		222	2.5
30	26	23,750	-55.1		297	1.6
25	26	24,922	-52.3		351	3.7
20	26	26,376	-49.0		305	2.5
15	24	28,287	-43.5		258	7.2
10	23	31,046	-40.2		232	4.9
7	18	33,521	-35.2		187	3.5
5	10	35,869	-29.6			

LITTLE ROCK, ARK. 1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	79	14.2	80	217	4.1
1000	30	123			221	4.7
950	30	557	14.6	62	223	14.0
900	30	1,014	12.5	58	231	16.9
850	30	1,492	10.4	53	241	18.8
800	30	1,996	8.2	46	250	19.2
750	30	2,525	5.2	42	252	20.2
700	30	3,087	1.7	44	259	21.8
650	30	3,679	-1.9	41	259	28.9
600	30	4,314	-5.8	40	258	32.6
550	30	4,985	-10.3		258	35.0
500	30	5,718	-15.6		259	36.5
450	30	6,497	-21.1		256	41.6
400	30	7,366	-27.1		256	45.5
350	30	8,315	-34.1		260	51.7
300	30	9,377	-41.8		269	55.6
250	30	10,590	-50.8		269	61.0
200	30	12,014	-59.1		270	68.0
175	30	12,847	-61.2		270	63.7
150	29	13,804	-61.0			
125	29	14,934	-61.8			
100	29	16,311	-63.4			
80	28	17,674	-64.9			
70	28	18,495	-64.4			
60	28	19,436	-62.5			
50	28	20,568	-59.6			
40	28	21,969	-57.7			
30	27	23,799	-54.5			
25	27	24,972	-52.5			
20	24	26,425	-49.5			
15	18	28,332	-45.3			
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MCGRATH, ALASKA 997 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	103	-6.8	73	238	1.7
1000	30	76			208	1.6
950	30	479	-6.4	70	178	2.1
900	30	900	-7.7	7	120	3.7
850	30	1,344	-9.3	72	165	6.2
800	30	1,811	-11.9	70	186	7.8
750	30	2,299	-14.7	69	195	9.5
700	30	2,822	-17.7	64	201	9.7
650	30	3,369	-21.1	60	208	8.7
600	30	3,960	-24.7	57	213	9.1
550	30	4,581	-28.7	53	225	8.9
500	30	5,265	-33.0	50	230	10.5
450	30	5,993	-37.5		241	11.1
400	30	6,825	-42.3		259	11.3
350	30	7,696	-47.7		250	14.6
300	30	8,705	-51.5		262	15.3
250	30	9,887	-51.3		263	18.4
200	30	11,343	-49.4		259	21.0
175	30	12,219	-48.7		258	21.4
150	30	13,233	-48.4		257	21.0
125	30	14,435	-47.8		250	18.8
100	30	15,907	-48.0		250	16.3
80	30	17,378	-48.0		246	13.2
70	30	18,258	-47.9		248	9.1
60	30	19,276	-47.8		248	7.6
50	29	20,480	-47.9		252	5.4
40	29	21,951	-48.2		235	2.9
30	29	23,844	-48.7		239	1.6
25	29	25,042	-48.7		255	.8
20	27	26,513	-48.4		60	3.7
15	17	28,402	-49.3			
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+ MAJURO, MARSHALL IS. 1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	28.7	79	79	10.1
1000	30	95	27.5	79	79	11.8
950	30	547	23.6	80	84	15.3
900	30	1,020	20.8	79	92	16.7
850	30	1,513	18.1	76	96	16.5
800	30	2,032	15.7	72	100	15.5
750	30	2,576	13.1	67	98	13.4
700	30	3,157	10.0	65	100	11.7
650	30	3,769	6.7	65	98	9.1
600	30	4,425	3.0	60	94	7.0
550	30	5,119	-.9	60	102	5.1
500	30	5,881	-5.1	55	117	5.8
450	30	6,699	-9.8	50	131	5.4
400	30	7,604	-15.2	39	183	2.7
350	30	8,600	-21.9	33	213	3.1
300	30	9,716	-30.4		248	7.2
250	30	10,987	-40.5		256	11.7
200	30	12,467	-53.1		264	17.3
175	30	13,314	-60.0		263	20.0
150	29	14,259	-67.6		259	22.1
125	29	15,336	-74.9		266	23.5
100	29	16,612	-80.5		276	20.4
80	28	17,882	-75.7		270	13.4
70	28	18,667	-69.0		261	12.4
60	27	19,599	-64.2		264	14.4
50	25	20,727	-60.9		270	18.3
40	24	22,125	-58.1		271	20.8
30	19	23,948	-55.4		272	20.0
25	17	25,115	-52.2		269	15.0
20	11	26,591	-47.0		96	2.7
15	9	28,504	-44.6			
10	5	31,262	-37.4			
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MARCUS IS., N. PACIFIC 1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	9	23.2	77	87	11.8
1000	29	163	21.8	78	85	14.4
950	29	604	17.9	85	87	18.1
900	29	1,068	15.0	75	90	15.5
850	29	1,550	12.3	66	89	14.6
800	29	2,057	10.6	51	88	11.5
750	29	2,592	8.6	37	81	10.5
700	29	3,161	5.8	29	82	8.4
650	29	3,761	2.7	25	81	7.2
600	29	4,407	-.9	24	64	4.7
550	29	5,093	-5.2	23	16	2.5
500	29	5,837	-10.2	28	323	4.3
450	29	6,639	-15.6	28	305	9.5
400	29	7,519	-22.0	31	293	13.8
350	29	8,487	-29.3	31	287	20.2
300	29	9,569	-37.5	30	278	30.5
250	29	10,801	-47.1		269	42.9
200	29	12,244	-57.2		272	53.8
175	29	13,080	-61.5		274	56.1
150	28	14,028	-65.1		276	53.4
125	28	15,127	-69.2		281	42.2
100	28	16,446	-73.3		285	31.3
80	25	17,747	-73.6		286	18.1
70	23	18,531	-71.9		289	11.7
60	22	19,452	-67.7		284	7.4
50	21	20,566	-62.7		321	3.1
40	20	21,958	-58.2		142	1.7
30	18	23,802	-52.5		360	2.7
25	17	24,989	-49.9		342	4.3
20	16	26,460	-46.7		314	5.8
15	15	28,379	-43.4		275	5.4
10	15	31,140	-38.1		281	13.0
7	11	33,628	-35.4		304	11.7
5	9	35,958	-32.8			

MEDFORD, OREG. 973 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	401	2.9	82	301	1.9
1000	30	179				
950	30	598	5.1	72	296	3.3
900	30	1,038	3.4	71	309	3.9
850	29	1,502	1.1	68	310	3.1
800	29	1,988	-1.0	54	306	6.8
750	29	2,500	-2.8	46	314	12.0
700	29	3,046	-5.3	42	315	16.3
650	29	3,620	-8.1	35	313	18.5
600	29	4,243	-11.7	34	306	21.0
550	29	4,900	-15.8	33	308	23.7
500	29	5,616	-20.7	33	310	28.0
450	29	6,380	-26.2		316	28.4
400	29	7,229	-32.2		316	30.7
350	29	8,159	-39.0		318	32.8
300	29	9,199	-46.4		314	32.4
250	29	10,389	-53.9		316	35.0
200	29	11,801	-58.9		307	34.0
175	29	12,638	-58.7		304	32.1
150	28	13,606	-57.1		297	26.8
125	28	14,759	-57.7		302	22.3
100	28	16,166	-58.7		299	16.3
80	28	17,568	-58.4		292	11.7
70	28	18,412	-57.7		279	8.7
60	28	19,384	-56.8		272	3.9
50	28	20,541	-55.8		308	1.4
40	28	21,962	-55.3		79	3.9
30	28	23,801	-54.4		73	5.4
25	27	24,974	-53.5		66	7.2
20	26	26,412	-52.0		66	8.4
15	26	28,285	-49.7		53	9.5
10	20	30,978	-44.6		8	3.1
7	15	33,392	-39.9		318	8.9
5	11	35,690	-36.3			

*** MIAMI, FLA. 1018 MB**

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	22.6	80	102	4.9
1000	30	160	22.0	78	111	9.1
950	30	599	18.7	79	124	12.2
900	30	1,067	15.5	74	127	9.7
850	30	1,551	13.1	65	129	5.8
800	30	2,060	11.1	49	104	2.1
750	30	2,594	8.9	39	16	1.7
700	30	3,166	6.0	38	305	3.1
650	30	3,765	2.9	36	287	4.9
600	30	4,414	-.9	30	296	7.6
550	30	5,094	-5.5	28	299	11.7
500	30	5,845	-10.4	26	301	16.3
450	30	6,639	-15.8	28	298	21.2
400	30	7,527	-22.2	27	298	27.8
350	30	8,495	-29.3	28	297	33.0
300	30	9,577	-37.9	29	300	37.9
250	30	10,809	-47.1		299	46.8
200	30	12,254	-56.6		298	58.7
175	30	13,091	-61.3		295	61.2
150	30	14,037	-65.9		289	59.1
125	29	15,131	-69.2		289	47.8
100	29	16,452	-73.0		284	35.7
80	29	17,756	-73.8		286	22.3
70	29	18,546	-71.8		292	16.1
60	28	19,459	-66.6		294	10.1
50	28	20,573	-62.6		310	2.9
40	28	21,964	-58.2		12	5.6
30	28	23,798	-52.5		331	2.7
25	28	24,982	-50.0		277	7.2
20	27	26,455	-46.4		268	11.1
15	25	28,382	-41.5		267	13.8
10	21	31,152	-37.2		274	16.7
7	16	33,616	-33.3		263	20.8
5	12	36,001	-28.6			

*** MIDLAND, TEXAS 912 MB**

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	874	11.9	49	222	3.1
1000	30	94				
950	30	530				
900	30	988	13.8	47	207	5.2
850	30	1,471	14.2	38	242	10.7
800	30	1,981	11.9	29	264	14.0
750	30	2,517	8.2	28	264	17.1
700	30	3,083	4.2	29	253	22.3
650	30	3,679	-.1	31	245	27.0
600	30	4,317	-4.9	32	244	31.9
550	30	4,989	-9.7	32	247	39.0
500	30	5,724	-15.0	34	249	43.1
450	30	6,505	-20.9	31	251	49.5
400	30	7,373	-27.2	34	253	55.2
350	30	8,320	-34.2	32	254	66.6
300	30	9,383	-41.8		254	77.5
250	30	10,596	-50.5		256	88.4
200	29	12,023	-59.1		258	84.9
175	29	12,856	-61.0		260	80.0
150	29	13,811	-61.9		260	68.2
125	29	14,934	-64.2		263	67.6
100	29	16,292	-66.4		264	57.1
80	29	17,640	-66.8		262	41.2
70	29	18,458	-66.5		262	25.1
60	29	19,383	-65.2		254	10.5
50	29	20,503	-61.2		31	1.2
40	29	21,896	-58.6		72	3.3
30	27	23,719	-54.6		65	5.4
25	27	24,890	-52.8		62	3.5
20	24	26,341	-50.1		298	3.9
15	24	28,238	-45.9		283	11.8
10	12	30,980	-39.8			
7						
5						

MONTGOMERY, ALA. 1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	15.1	91	147	3.5
1000	30	152	16.1	81	155	4.5
950	30	585	16.0	66	193	10.3
900	30	1,048	13.8	60	211	12.8
850	30	1,529	11.8	54	226	14.0
800	30	2,035	9.5	51	239	14.8
750	30	2,565	6.6	45	248	15.9
700	30	3,131	3.3		254	17.9
650	30	3,727	-.2		263	21.0
600	29	4,364	-3.9		265	25.4
550	29	5,043	-8.3		268	28.6
500	29	5,778	-13.2		265	31.7
450	29	6,566	-18.6		267	34.6
400	29	7,440	-25.0		267	37.3
350	29	8,397	-31.9		270	42.2
300	29	9,469	-40.2		271	45.6
250	29	10,688	-49.7		273	50.1
200	29	12,115	-59.4		276	51.5
175	28	12,944	-62.4		275	54.2
150	28	13,892	-63.6		274	56.7
125	27	15,010	-64.3		273	47.2
100	26	16,370	-66.4		271	37.5
80	26	17,717	-67.3		273	21.4
70	25	18,532	-66.2		275	15.7
60	24	19,457	-63.4		284	8.4
50	24	20,583	-60.9		293	5.1
40	24	21,979	-57.9		307	3.3
30	22	23,806	-54.2		323	.8
25	21	24,975	-52.0		340	1.6
20	18	26,434	-48.1		296	5.1
15	13	28,302	-46.1		276	7.6
10						
7						
5						

NANTUCKET, MASS. 1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	14	4.6	80	303	2.3
1000	30	167	5.2	68	274	3.7
950	30	586	4.7	63	283	8.0
900	30	1,026	3.3	56	279	11.8
850	30	1,488	1.4	54	277	15.5
800	30	1,975	-.7	53	278	17.9
750	30	2,485	-2.9	52	278	21.2
700	30	3,034	-5.6	46	278	22.9
650	30	3,608	-8.4	43	279	25.8
600	30	4,230	-11.7	39	280	29.1
550	30	4,886	-15.8	37	280	30.3
500	30	5,605	-20.4	35	282	33.6
450	30	6,373	-25.5	37	280	36.9
400	30	7,222	-31.2		278	40.0
350	30	8,156	-37.7		277	42.5
300	30	9,202	-45.1		279	44.3
250	30	10,399	-52.2		281	48.2
200	30	11,825	-57.2		281	50.7
175	30	12,667	-58.1		279	45.3
150	30	13,637	-58.1		277	39.6
125	30	14,789	-57.4		275	34.0
100	29	16,195	-57.3		280	26.8
80	29	17,603	-57.9		286	20.4
70	29	18,446	-57.9		293	14.8
60	28	19,416	-57.4		303	10.3
50	28	20,569	-56.9		320	5.8
40	28	21,987	-55.6		29	3.1
30	28	23,827	-53.8		54	4.3
25	26	25,005	-52.2		58	6.2
20	26	26,458	-49.5		48	5.2
15	25	28,361	-45.3		51	3.1
10	10	31,107	-39.0			
7						
5						

NASHVILLE, TENN. 996 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	177	12.2	81	182	2.5
1000	29	142				
950	29	573	12.8	66	210	12.0
900	29	1,027	10.8	65	231	15.9
850	29	1,502	8.3	64	241	18.3
800	29	2,001	5.8	63	249	19.2
750	29	2,527	2.9	61	252	20.2
700	29	3,083	-.1	49	254	21.8
650	29	3,669	-3.6	47	260	25.6
600	29	4,301	-7.4	41	260	33.2
550	29	4,970	-11.5	39	259	34.4
500	29	5,699	-16.0	36	263	38.3
450	29	6,481	-21.1		263	40.0
400	29	7,344	-27.4		261	44.9
350	29	8,291	-34.4		261	50.1
300	29	9,349	-42.7		265	51.5
250	29	10,556	-51.4		267	58.3
200	29	11,976	-59.4		266	56.5
175	28	12,816	-61.4		266	57.3
150	26	13,767	-61.7		264	54.4
125	26	14,897	-61.6		267	44.3
100	26	16,273	-62.7		268	34.4
80	26	17,647	-63.0		270	23.5
70	26	18,476	-63.0		275	18.5
60	26	19,420	-61.2		288	8.2
50	26	20,555	-59.6		325	3.7
40	26	21,956	-57.6		30	3.5
30	26	23,783	-54.9		25	4.1
25	26	24,952	-53.1		21	2.9
20	25	26,399	-50.6		351	5.8
15	24	28,289	-46.4		347	3.9
10	21	31,013	-40.0		275	9.9
7	11	33,453	-36.0			
5	5	35,770	-33.2			

NOME, ALASKA 1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	7	-12.4	82	78	7.0
1000	29	76			91	7.4
950	29	472	-10.4	65	117	6.8
900	29	887	-10.4	62	144	5.8
850	29	1,325	-11.8	57	164	5.1
800	29	1,787	-14.0	52	167	3.5
750	29	2,274	-16.6	51	186	2.3
700	29	2,791	-19.5	47	225	3.3
650	29	3,334	-22.7	45	231	5.1
600	29	3,921	-26.1	44	238	6.6
550	29	4,538	-30.1		241	8.2
500	29	5,218	-34.3	39	243	10.5
450	29	5,942	-39.2		247	13.6
400	29	6,746	-44.3		246	16.3
350	29	7,631	-49.4		246	19.4
300	29	8,633	-52.3		240	19.6
250	29	9,814	-51.5		240	21.0
200	29	11,271	-48.7		239	21.2
175	29	12,150	-48.2		240	20.8
150	29	13,166	-48.2		245	18.8
125	29	14,368	-47.6		236	18.1
100	29	15,844	-47.0		241	15.5
80	29	17,323	-46.5		234	13.6
70	28	18,206	-46.7		232	11.5
60	26	19,227	-47.0		235	8.7
50	26	20,434	-47.0		230	7.0
40	26	21,909	-47.6		221	3.3
30	23	23,804	-48.7		181	2.5
25	22	25,000	-48.7		126	1.6
20	21	26,469	-48.5		86	1.7
15	15	28,347	-48.1		360	1.7
10						
7						
5						

NORFOLK, VA. 1020 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	9	12.5	82	229	.8
1000	30	171	11.4	69	230	3.7
950	30	597	10.8	61	254	10.5
900	30	1,050	9.1	57	268	11.8
850	30	1,522	6.9	56	268	15.3
800	30	2,019	4.8	53	272	17.7
750	30	2,541	2.4	46	271	18.1
700	30	3,098	-.7	40	269	20.8
650	30	3,682	-4.4	40	273	22.9
600	30	4,313	-8.0	37	276	26.2
550	30	4,975	-12.0		275	31.1
500	30	5,708	-16.7		277	35.7
450	30	6,486	-21.9		274	38.7
400	30	7,349	-28.0		274	41.8
350	30	8,294	-34.8		280	46.6
300	30	9,352	-42.7		282	52.6
250	30	10,558	-51.7		283	57.3
200	30	11,975	-59.8		285	62.0
175	30	12,805	-61.3		286	55.4
150	30	13,761	-61.0		281	48.6
125	29	14,895	-61.3		282	41.6
100	29	16,279	-61.8		284	35.2
80	29	17,659	-61.9		286	22.3
70	28	18,491	-61.8		291	14.0
60	28	19,443	-60.5		302	9.3
50	28	20,583	-59.0		319	4.3
40	27	21,994	-56.5		12	4.9
30	27	23,832	-53.6		37	4.3
25	27	25,009	-51.7		15	2.7
20	26	26,470	-47.9		297	2.5
15	12	28,346	-44.1			
10						
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NORTH PLATTE, NEBR. 911 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	848	3.3	81	354	4.9
1000	30	83				
950	30	505				
900	30	947	4.4	75	359	4.1
850	30	1,413	4.7	65	315	5.2
800	30	1,906	3.0	59	299	8.0
750	30	2,432	.9	54	291	10.7
700	30	2,979	- 2.3	51	285	11.8
650	30	3,560	- 6.3	53	285	13.6
600	30	4,184	-10.5	52	275	16.3
550	30	4,843	-15.2	46	266	16.7
500	30	5,561	-20.4	40	265	19.0
450	30	6,328	-26.3	37	265	20.0
400	30	7,173	-32.7		264	18.5
350	30	8,100	-39.7		273	19.6
300	30	9,137	-46.8		273	22.5
250	30	10,329	-52.4		264	28.6
200	30	11,759	-55.6		259	33.4
175	30	12,608	-55.9		262	33.4
150	30	13,587	-56.2		262	31.9
125	30	14,744	-56.0		261	28.6
100	29	16,153	-57.7		266	23.1
80	29	17,559	-58.4		266	14.2
70	29	18,404	-58.8		265	10.1
60	29	19,366	-58.5		271	7.6
50	29	20,515	-57.2		332	3.5
40	29	21,932	-55.4		56	4.9
30	27	23,773	-54.1		66	7.6
25	27	24,945	-53.0		70	9.9
20	26	26,386	-51.4		72	9.9
15	26	28,266	-48.4		80	8.0
10	18	30,968	-43.1		84	4.9
7	8	33,400	-37.9			
5	6	35,692	-35.3			

* **OAKLAND, CALIF.** 1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	9.2	76	267	3.9
1000	30	142	9.2	72	274	4.5
950	30	564	8.6	65	312	6.2
900	30	1,014	8.6	43	336	8.5
850	30	1,485	6.8	34	339	8.4
800	30	1,981	4.2	34	337	9.3
750	30	2,498	1.2	34	336	10.9
700	30	3,055	- 1.8	30	328	14.8
650	30	3,636	- 5.4	29	326	16.9
600	30	4,266	- 9.6	28	325	20.6
550	30	4,926	-13.9	26	322	24.1
500	30	5,651	-19.1	29	323	26.2
450	30	6,423	-24.7	28	323	28.2
400	30	7,275	-31.1	30	320	30.5
350	30	8,208	-38.1	30	319	33.4
300	30	9,252	-45.9		318	35.5
250	30	10,445	-53.5		317	38.9
200	30	11,862	-58.4		306	35.9
175	30	12,701	-59.0		297	35.2
150	30	13,670	-58.4		292	31.7
125	30	14,814	-59.3		289	28.0
100	30	16,207	-60.5		286	23.3
80	29	17,596	-60.7		279	16.7
70	29	18,427	-60.3		279	12.0
60	29	19,393	-59.0		289	8.0
50	29	20,539	-58.0		325	3.1
40	29	21,951	-56.4		26	1.4
30	29	23,784	-54.8		54	4.7
25	28	24,957	-53.6		59	3.7
20	25	26,398	-51.9		43	5.1
15	23	28,275	-48.7		32	5.1
10	21	30,978	-42.9		278	4.3
7	12	33,422	-37.3		289	13.4
5	5	35,724	-33.1			

OKLAHOMA CITY, OKLA. 966 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	392	12.1	77	186	6.2
1000	30	96				
950	30	526	13.5	66	192	11.3
900	30	984	13.0	53	216	18.8
850	30	1,464	11.5	47	235	18.3
800	30	1,968	9.0	38	241	17.5
750	30	2,500	5.9	32	244	20.2
700	30	3,061	2.1	32	249	25.3
650	30	3,650	- 2.2	35	250	30.1
600	30	4,285	- 7.1	39	251	31.7
550	30	4,953	-11.8	38	249	34.8
500	30	5,681	-16.8		250	40.6
450	30	6,458	-22.3		253	44.3
400	30	7,319	-28.5		255	50.1
350	30	8,263	-35.4		253	59.8
300	30	9,320	-42.7		251	69.7
250	30	10,529	-50.7		252	76.5
200	30	11,957	-57.8		255	70.9
175	30	12,795	-59.1		256	69.0
150	30	13,761	-59.8		257	62.0
125	30	14,897	-60.5		262	52.3
100	30	16,283	-61.8		261	37.9
80	30	17,656	-63.8		256	24.9
70	30	18,483	-63.6		255	18.1
60	30	19,423	-62.0		252	9.7
50	30	20,558	-59.2		248	1.6
40	29	21,961	-57.3		33	3.3
30	29	23,792	-54.4		31	1.9
25	29	24,963	-52.9		45	3.1
20	22	26,409	-50.5		344	2.7
15	16	28,308	-46.7			
10	5	31,078	-39.4			

OMAHA, NEBR. 962 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	403	6.6	80	123	3.5
1000	30	83				
950	30	503	6.7	73	165	3.9
900	30	950	7.0	66	207	6.2
850	30	1,420	5.9	59	252	7.0
800	30	1,915	3.6	57	268	9.9
750	30	2,433	.7	52	277	12.0
700	30	2,988	- 2.6	50	273	15.3
650	30	3,565	- 6.2	49	268	18.8
600	30	4,194	-10.5	47	264	22.3
550	30	4,852	-15.1	43	269	24.9
500	30	5,572	-20.1	38	265	26.2
450	30	6,338	-25.7		265	26.4
400	30	7,189	-31.8	36	265	27.0
350	30	8,119	-38.8		260	28.4
300	30	9,161	-46.0		257	31.3
250	30	10,357	-52.2		253	35.0
200	30	11,787	-56.0		259	41.0
175	30	12,636	-56.3		260	40.2
150	30	13,616	-56.1		263	38.3
125	30	14,775	-56.2		268	33.0
100	30	16,190	-57.3		268	24.7
80	30	17,596	-58.6		265	17.7
70	30	18,435	-58.5		276	12.0
60	30	19,405	-59.9		281	7.2
50	30	20,556	-56.8		332	3.5
40	29	21,972	-55.2		45	4.3
30	29	23,813	-53.9		69	5.4
25	29	24,987	-52.9		69	7.0
20	29	26,432	-51.2		70	7.8
15	28	28,320	-48.1		62	6.6
10	15	31,046	-42.8			

PEORIA, ILL. 990 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	200	7.1	80	137	1.7
1000	30	116				
950	30	541	7.7	70	214	6.2
900	30	985	7.4	64	243	12.8
850	30	1,455	5.9	59	253	15.7
800	30	1,950	3.6	59	250	17.3
750	30	2,473	.6	61	253	20.0
700	30	3,022	- 2.7	57	256	23.7
650	30	3,607	- 6.2	53	254	25.6
600	30	4,229	-10.2	49	256	27.8
550	30	4,894	-14.5	43	256	29.5
500	30	5,610	-19.2	39	259	34.0
450	30	6,379	-24.6	39	259	33.6
400	30	7,231	-30.7	39	261	40.0
350	30	8,166	-37.5		259	43.1
300	30	9,214	-44.6		262	47.8
250	30	10,414	-51.9		264	55.4
200	30	11,841	-56.8		263	57.3
175	30	12,685	-58.0		265	54.0
150	30	13,657	-56.7		269	45.3
125	30	14,811	-57.3		269	36.1
100	30	16,219	-57.9		270	29.1
80	30	17,621	-59.2		274	20.8
70	30	18,463	-59.1		285	14.4
60	30	19,426	-58.8		293	7.6
50	30	20,574	-57.6		333	3.3
40	29	21,989	-55.9		39	4.3
30	28	23,830	-54.0		54	7.0
25	27	25,005	-52.8		56	8.0
20	27	26,451	-50.9		62	7.4
15	27	28,337	-47.7		57	7.0
10	23	31,044	-42.0		79	3.7
7	11	33,488	-38.7		273	9.5
5	5	35,787	-35.7			

PITTSBURGH, PA. 976 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	353	6.5	76	166	1.9
1000	30	154				
950	30	578	7.8	69	204	6.4
900	30	1,023	6.5	63	250	13.0
850	30	1,491	4.8	58	258	16.3
800	30	1,984	2.3	56	256	17.3
750	30	2,501	- .3	54	263	20.4
700	30	3,053	- 3.4	56	264	23.3
650	30	3,632	- 6.4	52	267	27.0
600	30	4,258	- 9.9	47	267	28.6
550	30	4,920	-14.2	45	270	31.5
500	30	5,642	-18.8	44	269	34.8
450	30	6,413	-24.1	44	266	39.2
400	30	7,269	-30.3	40	268	42.3
350	30	8,206	-37.2		268	48.6
300	30	9,255	-44.6		272	52.6
250	30	10,455	-52.4		271	59.2
200	30	11,873	-59.1		273	58.5
175	30	12,710	-59.2		275	53.2
150	30	13,678	-58.6		274	44.7
125	30	14,823	-58.5		276	37.7
100	30	16,225	-59.2		279	29.9
80	30	17,623	-59.2		278	18.6
70	30	18,463	-59.1		285	14.2
60	30	19,428	-58.2		298	8.0
50	30	20,577	-57.9		330	4.3
40	30	21,990	-56.1		38	3.5
30	30	23,826	-54.1		50	5.4
25	29	24,999	-52.9		59	5.6
20	29	26,446	-50.6		37	4.3
15	27	28,337	-46.9		25	4.7
10	26	31,058	-40.3		285	4.3
7	21	33,516	-35.1		265	7.2
5	16	35,855	-32.1			

POINT ARGUELLO, CALIF. 1003 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	113	8.0	92	322	2.9
1000	30	141			333	4.3
950	30	568	9.9	67	350	11.3
900	30	1,016	9.0	52	353	12.0
850	30	1,488	7.2	44	343	11.1
800	30	1,985	5.1	38	332	10.7
750	30	2,507	2.5	36	322	12.2
700	30	3,065	- .6	33	316	15.3
650	30	3,645	- 4.1	31	312	17.7
600	30	4,280	- 8.1	32	313	20.0
550	30	4,942	-12.8	33	312	22.0
500	30	5,671	-17.8	32	306	23.7
450	30	6,440	-23.5	32	304	23.7
400	30	7,301	-30.0	31	301	26.8
350	30	8,237	-37.2	27	301	28.9
300	30	9,285	-44.8		303	29.1
250	30	10,483	-52.5		295	37.5
200	30	11,906	-57.8		284	41.2
175	30	12,746	-58.6		279	40.2
150	30	13,714	-59.1		275	39.8
125	29	14,850	-60.2		274	39.6
100	29	16,237	-61.6		272	31.1
80	29	17,617	-62.1		274	23.9
70	29	18,442	-61.8		274	16.3
60	29	19,399	-61.1		270	10.9
50	27	20,540	-59.6		285	3.5
40	27	21,941	-57.8		83	4.7
30	27	23,767	-54.8		68	6.6
25	26	24,935	-53.0		65	7.0
20	23	26,379	-50.7		68	5.8
15	21	28,275	-47.0		346	2.3
10	21	30,996	-40.7		279	11.1
7	19	33,450	-34.9		273	20.4
5						

PONAPE, CAROLINE IS. + 1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	28.5	79	76	6.4
1000	30	82	27.9	80	80	8.2
950	30	532	23.9	82	90	14.2
900	30	1,008	20.7	83	97	15.3
850	30	1,501	18.2	80	98	15.3
800	30	2,021	16.0	74	100	10.1
750	30	2,564	13.0	73	102	8.2
700	30	3,146	9.9	71	103	8.7
650	30	3,757	6.8	68	111	8.9
600	30	4,415	3.2	63	112	8.2
550	30	5,110	- .8	61	127	3.9
500	30	5,873	- 4.9	57	115	3.1
450	30	6,691	- 9.8	54	112	3.5
400	30	7,596	-15.2	49	86	3.1
350	30	8,592	-21.9	41	121	1.7
300	30	9,708	-30.2		233	4.9
250	30	10,978	-40.6		237	8.0
200	30	12,457	-53.4		237	11.3
175	30	13,303	-60.4		243	12.6
150	30	14,247	-67.9		246	14.2
125	30	15,322	-75.2		254	16.3
100	30	16,597	-80.3		279	13.4
80	30	17,860	-77.2		290	8.2
70	29	18,636	-71.2		269	10.9
60	29	19,560	-65.8		262	16.3
50	28	20,679	-61.8		263	20.2
40	28	22,071	-58.5		264	24.7
30	24	23,893	-55.4		273	23.5
25	24	25,061	-53.2		276	18.1
20	21	26,497	-50.1		307	1.9
15	13	28,396	-47.5		97	22.9

PORTLAND, ME. 1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	20	2.2	78	342	2.5
1000	30	168	2.9	66	336	2.9
950	30	585	2.3	59	318	5.6
900	30	1,019	.7	56	303	6.0
850	30	1,477	- 1.0	55	296	9.5
800	30	1,960	- 2.6	50	292	12.4
750	30	2,467	- 4.7	44	292	13.6
700	30	3,011	- 7.2	44	292	15.7
650	30	3,578	-10.3	46	287	20.6
600	30	4,199	-13.7	43	286	25.1
550	30	4,851	-17.6	38	286	28.4
500	30	5,563	-22.0		287	32.6
450	30	6,325	-27.0		285	34.8
400	30	7,171	-32.8		280	36.7
350	30	8,099	-39.2		281	40.4
300	30	9,139	-46.2		283	46.8
250	30	10,333	-52.4		283	52.1
200	30	11,762	-56.1		283	49.9
175	30	12,609	-56.3		280	44.7
150	30	13,589	-55.7		280	38.7
125	29	14,748	-55.3		282	32.2
100	29	16,170	-55.7		284	24.5
80	29	17,589	-56.1		296	15.7
70	29	18,440	-56.1		301	9.7
60	29	19,418	-56.2		319	6.2
50	29	20,578	-55.4		10	3.9
40	29	22,005	-54.2		56	6.4
30	29	23,855	-52.9		74	8.2
25	29	25,034	-51.4		78	10.3
20	26	26,488	-49.2		79	12.2
15	24	28,398	-44.9		75	12.4
10	13	31,143	-36.6			

RAPID CITY, S. DAK. 900 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	966	3.6	69	325	5.8
1000	30	96				
950	30	517				
900	30	963			327	5.2
850	30	1,426	4.2	55	303	9.9
800	30	1,917	1.4	56	303	10.1
750	30	2,431	- 1.2	58	295	10.1
700	30	2,981	- 4.5	56	300	10.5
650	30	3,555	- 8.0	55	302	12.4
600	30	4,179	-11.9	48	287	11.7
550	30	4,831	-16.2	45	283	12.0
500	30	5,551	-21.1	41	278	13.8
450	30	6,314	-26.7		282	16.1
400	30	7,160	-33.3		271	17.1
350	30	8,083	-40.4		269	19.4
300	30	9,117	-48.0		266	19.4
250	30	10,298	-55.1		265	21.4
200	30	11,718	-57.3		260	24.7
175	30	12,559	-56.1		267	26.8
150	30	13,539	-55.9		265	25.3
125	30	14,700	-55.5		262	24.1
100	30	16,119	-56.6		262	20.0
80	30	17,533	-57.0		265	16.9
70	30	18,379	-57.0		266	11.1
60	29	19,351	-57.2		265	6.6
50	29	20,507	-55.6		332	2.1
40	29	21,933	-54.7		48	3.9
30	28	23,776	-53.6		72	8.4
25	28	24,952	-52.2		79	11.7
20	25	26,399	-50.2		77	16.5
15	16	28,288	-47.4		75	16.1

ST. CLOUD, MINN. 973 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	316	3.1	77	86	3.5
1000	30	90				
950	30	508	3.6	68	113	4.3
900	30	947	3.5	62	156	3.5
850	30	1,410	2.6	66	218	2.7
800	30	1,899	.4	64	248	3.3
750	30	2,412	- 2.1	60	267	5.4
700	30	2,961	- 4.8	55	285	6.8
650	30	3,537	- 8.1	54	288	9.3
600	30	4,159	-11.9	53	278	10.1
550	30	4,815	-15.8	51	275	11.5
500	30	5,532	-20.7	48	281	13.6
450	30	6,293	-26.2	46	286	15.9
400	30	7,144	-32.6	41	282	18.3
350	30	8,071	-39.7		277	19.4
300	30	9,107	-47.8		268	22.5
250	30	10,289	-54.9		263	27.8
200	30	11,704	-57.0		264	32.2
175	30	12,551	-56.1		269	30.9
150	30	13,532	-55.5		270	28.7
125	30	14,695	-55.4		270	25.6
100	30	16,118	-55.6		275	21.4
80	30	17,537	-56.1		275	15.2
70	30	18,386	-56.2		279	12.0
60	30	19,364	-56.4		287	7.4
50	30	20,525	-55.2		322	3.3
40	30	21,952	-54.5		45	4.7
30	30	23,799	-53.4		69	8.7
25	30	24,974	-52.8		77	11.3
20	30	26,418	-51.5		74	13.6
15	24	28,287	-49.1		70	14.8
10	5	30,938	-44.7			

ST. PAUL IS., ALASKA 1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	- 1.9	89	210	3.3
1000	30	62			231	7.6
950	30	464	- 5.1	83	239	7.8
900	30	891	- 7.5	78	238	10.9
850	30	1,334	- 9.7	72	244	12.6
800	30	1,801	-11.8	63	247	12.2
750	30	2,293	-14.2	58	249	13.4
700	30	2,814	-17.1	56	248	16.3
650	30	3,363	-20.2	49	246	17.3
600	30	3,956	-24.0	46	246	19.4
550	30	4,581	-27.8	44	244	22.9
500	30	5,265	-32.1		248	24.3
450	30	6,003	-36.5		250	28.7
400	30	6,812	-41.1		249	34.0
350	30	7,710	-45.9		250	36.1
300	30	8,727	-49.5		249	40.0
250	30	9,919	-50.0		248	38.7
200	30	11,375	-50.3		245	35.2
175	30	12,248	-49.8		242	33.0
150	30	13,256	-49.8		240	30.9
125	29	14,453	-49.9		239	26.8
100	29	15,910	-50.3		235	22.7
80	28	17,367	-50.0		228	18.6
70	28	18,243	-49.7		225	15.5
60	28	19,249	-49.5		221	12.0
50	28	20,443	-49.5		211	9.7
40	28	21,904	-49.6		203	6.6
30	26	23,789	-49.7		173	4.3
25	26	24,982	-49.5		171	3.7
20	25	26,445	-49.4		128	5.8
15	14	28,370	-48.1		209	4.1

SALEM, OREG. 1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	5.5	86	201	2.7
1000	30	177	5.8	80	232	3.3
950	30	592	4.0	74	277	5.2
900	30	1,033	1.6	71	266	6.4
850	30	1,491	- 1.0	65	263	9.7
800	30	1,974	- 2.9	58	282	11.1
750	30	2,478	- 5.1	57	289	13.8
700	30	3,023	- 7.7	46	294	16.3
650	30	3,588	-10.8	42	295	19.8
600	30	4,208	-14.0	41	295	23.1
550	30	4,855	-18.0	43	295	25.4
500	30	5,570	-22.4	39	300	29.1
450	30	6,336	-27.3	36	301	30.1
400	30	7,182	-33.4	36	302	32.6
350	30	8,107	-39.9		303	35.0
300	30	9,143	-47.2		304	37.3
250	30	10,324	-53.5		307	40.0
200	30	11,744	-57.4		305	35.0
175	30	12,588	-57.3		302	31.1
150	30	13,563	-56.9		297	28.0
125	30	14,716	-57.2		297	27.2
100	30	16,130	-56.9		301	16.1
80	29	17,542	-57.7		290	11.7
70	29	18,387	-56.6		290	9.7
60	29	19,366	-55.8		306	4.9
50	29	20,528	-55.2		26	1.4
40	29	21,954	-54.8		66	3.3
30	29	23,798	-53.7		77	7.6
25	29	24,972	-52.9		76	8.4
20	29	26,416	-51.4		76	9.9
15	23	28,289	-48.9		78	13.0
10	11	30,978	-43.3			

SALT LAKE CITY, UTAH 869 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,288	3.9	69	159	2.7
1000	30	130				
950	30	556				
900	30	1,002				
850	30	1,469	5.2	57	163	3.5
800	30	1,962	2.6	55	222	5.8
750	30	2,484	- 1.1	59	265	8.2
700	30	3,028	- 5.0	64	274	11.5
650	30	3,607	- 8.8	65	273	13.2
600	30	4,223	-12.4	60	278	14.2
550	30	4,883	-16.4	56	284	15.3
500	30	5,593	-21.3	50	282	17.1
450	30	6,357	-27.1	46	273	16.7
400	30	7,202	-33.3	43	254	17.1
350	30	8,126	-40.3		243	15.7
300	30	9,159	-48.6		246	17.7
250	30	10,338	-55.2		255	20.0
200	30	11,756	-56.4		264	22.9
175	30	12,604	-55.9		270	21.2
150	30	13,584	-56.0		265	22.3
125	30	14,741	-56.9		262	19.4
100	30	16,152	-57.7		258	19.2
80	30	17,559	-57.9		258	13.4
70	30	18,405	-57.8		246	10.3
60	29	19,372	-58.3		250	4.9
50	29	20,521	-57.3		80	.6
40	28	21,939	-56.1		48	3.1
30	23	23,770	-54.8		59	6.6
25	23	24,939	-53.7		57	8.5
20	22	26,380	-52.2		74	9.9
15	20	28,253	-49.6		58	7.6
10	5	30,898	-44.9			

SAN ANTONIO, TEXAS 985 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	243	16.8	78	137	2.7
1000	30	112				
950	30	549	17.2	69	159	7.2
900	30	1,012	15.6	66	181	13.0
850	30	1,496	14.1	56	200	14.4
800	30	2,007	12.7	46	220	15.3
750	30	2,544	10.4	35	231	16.5
700	30	3,118	7.2	33	240	20.0
650	30	3,717	2.5	34	247	22.3
600	30	4,365	- 2.5	35	249	27.2
550	30	5,040	- 7.5	35	250	32.6
500	30	5,785	-12.8		251	37.3
450	29	6,578	-18.4	39	256	42.3
400	29	7,453	-24.5	41	259	49.3
350	29	8,411	-31.6	41	260	59.4
300	29	9,485	-39.4		259	69.7
250	29	10,708	-49.1		259	78.1
200	29	12,140	-58.6		262	85.3
175	29	12,971	-62.2		261	87.2
150	29	13,918	-64.7		263	82.4
125	28	15,023	-66.7		263	66.0
100	27	16,363	-69.6		262	48.2
80	27	17,689	-70.7		262	30.1
70	27	18,491	-69.4		259	17.7
60	27	19,407	-66.6		259	10.3
50	27	20,521	-62.2		269	1.6
40	26	21,911	-58.8		322	.8
30	26	23,736	-54.2		36	1.6
25	26	24,911	-51.8		283	3.1
20	23	26,368	-48.3		266	10.1
15	15	28,276	-45.2		253	18.5
10	5	31,164	-36.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SAN DIEGO, CALIF. 1001 MB						* SAN JUAN, P. R. 1016 MB						SANTA MONICA, CALIF. 1011 MB						SAULT STE. MARIE, MICH. 989 MB						SHEMYA, ALASKA 1003 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	124	11.2	82	172	.8	30	6	24.2	83	105	3.9	30	38	11.8	74	338	.8	30	221	.3	81	93	4.7	30	38	.6	82	256	11.5
1000	30	132			188	.4	30	146	23.4	77	98	10.1	30	129	12.5	69	5	.6	30	127					30	61			262	13.0
950	30	561	11.4	65	273	3.9	30	592	20.0	78	91	14.8	30	558	11.1	63	24	1.6	30	540	1.0	72	146	8.0	30	470	- 2.8	80	252	15.7
900	30	1,012	9.4	55	266	4.9	30	1,058	17.1	72	91	14.8	30	1,010	9.7	51	312	2.7	30	975	.4	66	187	8.2	30	896	- 6.0	84	253	17.3
850	30	1,484	7.4	48	290	5.2	30	1,544	14.4	68	91	14.0	30	1,483	7.3	47	311	4.1	30	1,433	- .6	62	232	8.2	30	1,342	- 8.6	83	257	18.8
800	30	1,981	5.1	40	290	8.4	30	2,055	12.2	59	87	11.8	30	1,979	4.8	42	289	6.4	30	1,916	- 2.0	56	251	9.7	30	1,810	-11.1	76	255	18.6
750	30	2,503	2.7		293	10.1	30	2,589	9.5	52	85	9.3	30	2,501	2.2	34	290	8.0	30	2,428	- 4.1	55	253	11.8	30	2,301	-14.0	69	255	19.8
700	30	3,062	- .2		289	12.0	30	3,165	6.7	47	83	6.6	30	3,058	- 1.2		290	11.8	30	2,968	- 7.1	53	258	14.2	30	2,825	-16.6	63	253	21.2
650	30	3,648	- 3.7		286	17.7	30	3,764	3.3	42	86	2.7	30	3,641	- 4.7		294	15.3	30	3,539	-10.1	49	265	15.0	30	3,375	-19.4	57	255	24.3
600	30	4,280	- 7.4		284	22.1	30	4,416	- .3	34	69	1.6	30	4,272	- 8.4		296	17.3	30	4,156	-13.3	51	264	16.9	30	3,970	-22.8	56	251	28.7
550	30	4,945	-11.8		281	22.9	30	5,100	- 4.5	30	318	1.7	30	4,932	-12.9		294	19.0	30	4,810	-17.2	47	268	19.2	29	4,608	-26.5	53	261	25.3
500	30	5,677	-17.0		279	24.9	30	5,852	- 8.6	25	288	4.9	30	5,662	-18.1		293	22.0	30	5,522	-21.8	43	271	23.5	29	5,295	-30.5	49	260	28.6
450	30	6,454	-22.7		277	28.4	30	6,658	-13.7	23	288	8.4	30	6,432	-23.8		289	23.1	30	6,287	-27.0	39	271	24.5	29	6,033	-35.0	49	257	31.5
400	30	7,315	-29.1		275	31.3	30	7,547	-19.8	22	285	13.8	30	7,291	-30.4		290	25.8	30	7,129	-32.9		272	27.4	29	6,852	-39.8		255	36.9
350	30	8,256	-35.8		274	36.3	30	8,524	-26.9	21	274	21.2	30	8,227	-37.3		290	27.0	30	8,054	-39.8		270	32.6	29	7,755	-44.7		256	44.5
300	30	9,312	-43.0		271	43.3	30	9,617	-35.0	20	275	30.9	30	9,276	-44.5		287	31.3	30	9,090	-47.4		267	35.0	29	8,776	-48.6		260	42.5
250	30	10,520	-50.6		270	50.3	30	10,865	-43.8		268	39.6	30	10,476	-51.7		281	37.5	30	10,276	-53.8		267	40.6	29	9,969	-50.8		260	46.2
200	30	11,952	-57.2		267	52.3	30	12,327	-54.6		268	45.3	30	11,903	-57.3		274	39.6	30	11,696	-56.2		273	43.3	29	11,418	-51.8		255	41.0
175	30	12,793	-58.4		265	52.6	30	13,170	-60.4		269	48.0	30	12,744	-58.4		272	40.2	30	12,546	-55.4		274	36.1	29	12,284	-51.8		252	37.9
150	30	13,761	-59.0		265	49.0	30	14,116	-66.5		270	45.3	30	13,712	-59.3		270	35.4	30	13,528	-55.1		273	31.1	29	13,285	-51.2		255	35.7
125	30	14,900	-60.3		264	44.5	30	15,205	-71.0		274	37.9	30	14,850	-60.4		270	33.4	30	14,692	-54.6		274	28.2	29	14,469	-51.6		248	31.1
100	30	16,285	-62.2		265	34.4	30	16,513	-74.5		281	25.1	30	16,234	-62.3		267	30.1	30	16,119	-55.0		273	22.0	29	15,916	-51.9		247	25.1
80	30	17,660	-63.4		265	23.7	30	17,808	-74.6		285	15.0	30	17,608	-62.9		269	23.1	30	17,544	-55.1		276	15.7	29	17,361	-51.9		237	16.9
70	30	18,482	-63.1		265	18.1	30	18,600	-71.1		285	11.1	30	18,436	-62.4		271	17.7	30	18,401	-55.3		280	10.9	29	18,234	-51.6		235	14.4
60	30	19,432	-61.7		271	10.7	30	19,517	-65.3		279	9.9	30	19,385	-61.4		270	13.0	30	19,380	-55.2		282	6.6	29	19,228	-50.7		227	11.8
50	30	20,565	-60.0		312	3.1	30	20,636	-62.1		282	9.1	29	20,521	-59.9		275	6.0	30	20,544	-54.6		333	3.1	27	20,409	-49.9		210	9.1
40	30	21,967	-57.5		25	1.7	29	22,029	-58.0		292	5.1	29	21,924	-57.7		31	1.7	30	21,975	-53.7		52	6.4	27	21,868	-49.9		180	7.6
30	29	23,789	-54.8		53	2.9	29	23,868	-51.9		236	2.3	29	23,749	-55.6		53	3.3	29	23,829	-52.9		70	10.3	25	23,748	-50.0		150	6.2
25	29	24,960	-52.6		40	2.5	29	25,060	-48.0		130	2.3	29	24,916	-53.7		52	3.5	29	25,008	-51.9		76	12.0	25	24,938	-50.3		136	5.4
20	28	26,408	-49.9		38	1.9	29	26,542	-45.0		98	9.3	29	26,360	-51.1		8	4.7	29	26,458	-50.5		75	14.0	23	26,393	-49.9		117	7.8
15	24	28,311	-46.2		283	6.2	27	28,484	-41.1		102	17.1	28	28,247	-47.8		292	6.6	27	28,344	-47.6		81	14.6	20	28,279	-48.7		121	6.2
10	10	31,019	-41.3				27	31,260	-37.9		103	17.9	18	30,948	-42.8		281	17.7	17	31,032	-42.6		73	13.6	8	30,967	-45.4			
7							26	33,747	-32.5		84	23.1	5	33,377	-40.0															
5							18	36,153	-27.6		86	25.3																		

Standard pressure surface (mb.)	* SHREVEPORT, LA. 1006 MB						SPOKANE, WASH. 931 MB						SWAN ISLAND, W. I. 1013 MB						TAMPA, FLA. 1018 MB						* TATOOSH IS., WASH 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	79	16.7	84	157	4.3	30	722	2.7	71	192	7.6	23	10	26.3	80	104	10.9	30	8	18.4	89	100	5.8	30	31	6.2	86	213	4.3
1000	30	128			164	5.4	30	134					23	121	25.4	80	99	12.6	30	160	19.7	79	117	9.7	30	153	5.6	82	217	5.1
950	30	569	16.0	64	184	14.8	30	551					23	572	22.1	80	104	16.3	30	594	18.1	70	145	12.4	30	568	3.0	76	245	8.2
900	30	1,025	13.8	57	200	16.1	30	993	3.4	60	230	11.5	23	1,041	19.0	78	109	15.7	30	1,064	15.5	65	153	8.5	30	1,007	.1	76	254	8.7
850	30	1,506	12.2	45	218	16.9	30	1,455	1.2	57	245	11.8	23	1,532	16.3	72	114	15.0	30	1,548	13.4	54	167	6.6	30	1,463	- 2.7	70	262	9.9
800	30	2,012	10.1	36	233	17.9	30	1,940	- 2.2	58	255	10.9	23	2,046	13.8	64	114	12.4	30	2,056	11.0	46	207	5.2	30	1,942	- 4.7	64	268	11.5
750	30	2,547	7.5	30	241	19.4	30	2,445	- 5.6	61	259	10.7	23	2,587	10.6	59	114	9.7	30	2,590	9.1	37	242	5.4	30	2,445	- 7.4	63	272	13.6
700	30	3,111	4.0	27	251	22.5	30	2,987	- 8.8	60	261	10.5	23	3,161	7.4	49	104	5.2	30	3,162	6.2	29	262	8.0	30	2,983	-10.2	58	281	15.5
650	30	3,708	- .1	33	256	26.0	30	3,551	-11.6	59	263	14.0	23	3,766	4.5	35	79	3.7	30	3,759	2.6	28	267	10.5	30	3,548	-13.1	53	282	18.1
600	30	4,345	- 4.6	30	258	30.5	30	4,168	-15.0	54	264	16.5	23	4,417	1.7		44	3.7	30	4,409	- 1.7	29	276	14.0	30	4,157	-16.5	51	282	21.8
550	30	5,022	- 8.9	29	257	35.5	30	4,811	-19.0	49	266	17.5	23	5,110	- 1.6		8	6.2	30	5,086	- 6.4	28	282	17.7	30	4,805	-20.2	51	279	24.5
500	30	5,756	-14.0	25	254	40.0	30	5,525	-23.4	46	266	18.8	23	5,868	- 5.6		356	10.1	30	5,834	-11.2		285	22.7	30	5,508	-24.8	45	283	28.4
450	30	6,542	-19.9	27	255	45.3	30	6,277	-28.7	42	269	21.2	23	6,682	-10.8		345	12.8	30	6,624	-16.6		284	26.8	30	6,263	-29.9	45	287	30.5
400	30	7,411	-26.2	31	258	50.1	30	7,120	-34.7	41	268	22.7	23	7,582	-17.5		332	17.1	30	7,511	-22.9		284	32.8	30	7,097	-35.4	44	282	35.4
350	29	8,362	-33.0	28	263	56.9	30	8,040	-41.3		277	23.5	23	8,568	-24.8		319	21.4	30	8,476	-29.8		284	37.1	30	8,015	-41.5		284	37.1
300	29	9,429	-40.7		264	64.7	30	9,069	-48.7		281	25.4	23	9,671	-33.4		308	25.6	30	9,555	-38.0		291	43.3	30	9,047	-47.7		282	33.8
250	29	10,644	-50.1		265	74.2	30	10,250	-54.8		296	26.8	23	10,924	-43.7		298	29.5	30	10,784	-47.7		289	49.0	30	10,235	-53.0		286	32.8
200	28	12,074	-58.9		268	78.7	30	11,672	-55.3		292	26.0	22	12,386	-55.3		292	30.3	30	12,223	-57.6		290	62.4	30	11,661	-55.8		288	31.3
175	28	12,906	-61.3		268	72.8	30	12,526	-54.2		291	21.0	22	13,226	-62.1		284	31.1	30	13,058	-61.4		288	65.9	30	12,512	-55.2		285	29.5
150	28	13,858	-62.6		267	70.3	30	13,515	-54.4		288	21.4	22	14,163	-68.8		281	30.7	30	14,005	-64.9		285	63.3	30	13,497	-54.9		286	28.2
125	28	14,981	-63.7		268	57.3	29	14,684	-54.5		291	16.3	22	15,239	-74.0		281	24.3	30	15,109	-67.1		282	51.7	30	14,660	-55.4		288	23.3
100	28	16,342	-65.6		265	40.4	29	16,110	-55.4		278	14.4	22	16,527	-77.6		293	19.4	30	16,442	-70.6		279	39.2	30	16,081	-55.9		287	18.1
80	27	17,697	-66.8		261	25.6	29	17,533	-55.2		273	10.5	22	17,800	-78.0		305	10.3	30	17,764	-71.4		282	25.3	30	17,500	-55.7		289	13.0
70	27	18,515	-66.4		264	17.9	29	18,387	-54.3		265	7.2	22	18,574	-75.8		274	7.0	30	18,562	-69.4		289	14.8	30	18,353	-55.5		299	7.8
60	26	19,441	-64.1		270	7.2	29	19,377	-54.0		268	5.6	22	19,469	-70.1		261	7.8	30	19,482	-65.9		306	8.0	30	19,333	-55.1		292	5.2
50	26	20,567	-60.7		271	2.5	29	20,548	-53.5		269	2.1	22	20,570	-63.9		273	10.5	30	20,599	-62.1		6	3.3	29	20,506	-54.1		268	1.7
40	26	21,964	-57.7		20	1.0	28	21,988	-53.1		67	3.3	22	21,957	-58.1		282	6.8	30	21,993	-57.9		43	4.1	27	21,938	-53.6		19	1.9
30	25	23,792	-54.5		61	1.6	28	23,844	-52.6		83	7.8	22	23,800	-51.0		69	1.7	29	23,832	-52.0		48	1.7	25	23,790	-52.9		41	5.2
25	24	24,966	-52.3		328	1.4	27	25,024	-51.8		75	8.4	22	24,992	-49.0		82	7.0	26	25,015	-49.2		271	4.1	24	24,966	-52.3		63	7.6
20	22	26,413	-49.4		281	6.6	26	26,478	-50.2		70	10.1	18	26,479	-45.7		90	16.1	16	26,500	-45.7		263	8.5	23	26,408	-51.3		66	9.1
15	22	28,316	-45.2		274	15.3	19	28,380	-46.5		58	11.5	13	28,397	-42.4		87	28.2	6	28,415	-39.5				20	28,286	-49.7		71	15.5
10	15	31,041	-39.3		271	24.3							8	31,197	-39.3										16	30,967	-45.2		70	13.4
7																									8	33,349	-40.8			

Standard pressure surface (mb.)	TOPEKA, KANS. 979 MB						+ TRUK, CAROLINE IS. 1010 MB						TUCSON, ARIZ. 923 MB						* WAKE IS., PACIFIC AREA 1016 MB						WALLOPS IS. VA. NASA 1019 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	269	9.4	74	154	3.9	30	2	28.5	77	62	7.0	30	789	11.1	38	160	4.9	30	5	24.3	74	71	13.6	22	3	8.7	89	111	1.9
1000	29	87					30	88	27.7	78	70	7.8	30	108					30	142	23.1	75	75	17.9	22	160	9.7	80	161	1.7
950	29	514	10.0	64	201	7.8	30	536	23.9	81	95	10.1	30	543					30	587	19.5	79	80	22.1	22	590	10.4	72	247	7.0
900	29	964	9.6	58	235	15.9	30	1,014	21.1	80	103	11.5	30	999	14.5	31	188	5.4	30	1,053	16.3	76	87	19.6	22	1,037	9.2	65	261	11.5
850	29	1,438	8.3	55	250	17.7	30	1,509	18.4	79	104	11.1	30	1,479	11.4	31	211	5.6	30	1,537	13.4	74	91	16.5	22	1,510	7.0	62	260	13.4
800	29	1,937	5.9	50	259	20.2	30	2,028	15.7	77	107	9.9	30	1,982	7.8	33	223	9.5	30	2,046	11.2	60	89	13.2	22	2,007	4.5	58	266	14.8
750	29	2,462	2.7	45	262	20.8	30	2,575	13.1	71	106	8.0	30	2,506	4.3	30	235	13.2	30	2,584	9.8	45	87	9.5	22	2,527	2.0	55	265	21.2
700	29	3,018	- .8	39	262	23.1	30	3,153	10.1	69	113	7.0	30	3,068	.6		243	16.5	30	3,155	7.0	39	82	6.4	22	3,085	- 1.3	54	262	22.3
650	29	3,601	- 5.1	36	261	26.4	30	3,767	6.6	68	113	6.0	30	3,653	- 2.8		248	19.8	30	3,759	3.8	29	68	2.3	22	3,666	- 5.2	52	265	24.5
600	29	4,230	- 9.5	33	260	30.3	30	4,422	3.0	67	106	5.1	30	4,289	- 6.7		253	24.3	30	4,407	.2	28	347	3.1	22	4,296	- 8.9	46	263	26.8
550	29	4,890	-14.1		259	32.4	30	5,118	- .9	64	112	4.1	30	4,954	-11.2		254	28.2	30	5,098	- 3.8	29	306	5.2	22	4,958	-12.2	36	268	31.7
500	29	5,614	-18.9		257	34.8	30	5,880	- 4.9	61	100	5.1	30	5,688	-16.1		258	33.4	30	5,846	- 8.4	31	286	11.1	22	5,690	-16.8	35	271	37.7
450	29	6,384	-24.7		255	37.1	29	6,699	- 9.6	53	100	4.7	30	6,464	-21.7		257	39.2	30	6,657	-13.4	33	276	16.9	22	6,465	-22.0	37	268	43.7
400	29	7,238	-30.9		253	42.2	29	7,606	-15.0	44	70	1.4	30	7,330	-28.0		257	46.8	30	7,544	-19.8	36	280	24.5	22	7,330	-28.1	37	271	45.8
350	29	8,172	-37.7		254	45.8	29	8,603	-21.7	38	138	1.0	30	8,276	-34.8		257	50.7	29	8,521	-26.4	37	278	32.8	22	8,275	-34.9	36	270	49.3
300	29	9,218	-44.7		256	49.0	29	9,721	-30.1		219	3.3	30	9,336	-42.1		257	58.5	29	9,618	-34.4	33	271	44.3	22	9,333	-42.4		275	57.1
250	29	10,419	-51.3		256	51.5	29	10,992	-40.5		265	4.1	30	10,548	-50.0		258	62.7	29	10,869	-43.7		271	56.7	21	10,546	-51.0		279	59.4
200	29	11,849	-56.7		256	55.6	29	12,472	-53.2		261	7.2	30	11,979	-57.1		258	63.5	29	12,333	-54.9		268	68.0	21	11,970	-58.6		278	59.8
175	29	12,695	-56.9		258	51.7	29	13,318	-60.2		262	10.5	30	12,821	-58.3		258	62.4	29	13,174	-61.2		270	66.6	21	12,804	-60.7		280	53.0
150	29	13,672	-56.6		260	47.2	29	14,263	-67.9		251	13.4	30	13,789	-59.4		261	57.3	29	14,118	-67.4		271	61.4	21	13,761	-61.3		278	48.4
125	29	14,825	-57.7		264	36.9	29	15,341	-74.7		263	13.8	30	14,926	-61.2		258	49.5	28	15,198	-72.9		274	50.5	21	14,895	-60.3		281	43.9
100	29	16,228	-58.7		265	30.1	29	16,619	-79.9		284	8.4	30	16,301	-63.9		255	44.7	28	16,497	-75.3		278	33.6	21	16,284	-61.3		281	33.6
80	29	17,624	-60.1		265	19.8	29	17,884	-77.3		329	4.9	30	17,665	-64.6		261	34.0	28	17,790	-74.7		278	23.5	20	17,665	-61.2		288	20.8
70	29	18,462	-60.0		268	13.8	29	18,661	-71.2		271	9.5	28	18,492	-63.5		263	22.9	28	18,570	-71.6		277	17.9	20	18,498	-61.0		288	15.2
60	29	19,420	-59.7		278	7.0	29	19,588	-64.8		267	17.3	27	19,434	-62.3		264	11.5	27	19,492	-66.1		272	11.8	20	19,453	-60.2		294	8.9
50	29	20,564	-58.1		287	2.7	28	20,712	-60.8		270	22.7	27	20,563	-60.5		266	4.5	27	20,607	-62.1		256	11.1	19	20,596	-58.8		297	6.4
40	29	21,975	-56.1		26	2.5	28	22,108	-58.1		269	24.7	27	21,964	-57.3		15	2.7	27	21,996	-59.1		251	5.8	19	22,001	-57.3		326	3.5
30	29	23,812	-54.1		69	5.6	25	23,923	-55.5		278	22.9	27	23,796	-54.3		62	5.6	26	23,819	-54.2		261	4.3	19	23,830	-55.0		8	2.9
25	29	24,984	-53.2		68	5.2	23	25,093	-52.7		281	14.2	27	24,972	-51.3		47	3.7	25	24,999	-50.9		353	1.9	16	24,994	-53.4		3	2.9
20	27	26,427	-51.3		55	5.2	16	26,551	-49.4		105	6.2	25	26,429	-48.7		343	2.9	25	26,461	-47.7		16	4.3	15	26,426	-51.3		12	2.7
15	22	28,308	-48.3		32	2.3	7	28,484	-45.5				24	28,342	-43.8		276	8.7	24	28,377	-43.7		70	3.5	15	28,313	-46.9		343	2.3
10	10	31,002	-43.4										14	31,101	-36.7		280	19.0	17	31,133	-38.8		84	12.0	15	31,037	-40.9		255	7.2
7	7	33,444	-38.9										5	33,614	-30.6				7	33,561	-35.4				13	33,512	-35.3		262	16.9

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	WASHINGTON, D. C. 1010 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	84	6.1	87	185	.6
1000	30	168	7.6	77	240	1.0
950	30	592	7.1	69	248	6.6
900	30	1,036	6.4	67	260	11.7
850	30	1,504	5.0	60	272	15.3
800	30	1,997	2.9	57	272	17.9
750	30	2,521	.4	56	270	20.8
700	30	3,069	- 2.5	52	266	22.3
650	30	3,652	- 5.9	49	266	25.1
600	30	4,277	- 9.6	44	268	27.4
550	30	4,939	-13.4		271	30.5
500	30	5,663	-17.9		274	34.4
450	29	6,434	-23.4		272	36.7
400	29	7,291	-29.4		271	42.5
350	29	8,231	-36.3		272	48.4
300	29	9,283	-43.8		275	55.0
250	29	10,484	-52.7		276	61.8
200	29	11,896	-60.1		279	64.1
175	29	12,727	-60.5		278	56.1
150	28	13,688	-60.1		275	48.4
125	28	14,824	-60.5		278	41.4
100	28	16,215	-60.4		281	29.1
80	27	17,603	-61.2		280	21.0
70	27	18,440	-60.4		286	16.3
60	27	19,393	-60.0		299	10.7
50	27	20,534	-59.0		314	5.1
40	27	21,940	-57.1		4	4.3
30	26	23,767	-55.1		16	4.1
25	26	24,935	-53.6		28	4.1
20	24	26,375	-51.1		12	2.5
15	16	28,271	-46.3		318	6.0
10	13	31,018	-40.4		269	6.8
7	7	33,466	-36.2			

Standard pressure surface (mb)	WINNEMUCCA, NEV. 868 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,310	.3	70	140	1.0
1000	30	154				
950	30	574				
900	30	1,018				
850	30	1,481	4.5	47	290	1.4
800	30	1,973	1.9	48	302	6.0
750	30	2,489	- 1.8	51	299	8.4
700	30	3,036	- 5.4	53	303	10.3
650	30	3,612	- 8.8	48	299	14.2
600	30	4,231	-12.3	41	296	15.5
550	30	4,886	-16.5	37	295	16.5
500	30	5,600	-21.3		295	16.9
450	30	6,363	-26.9		299	17.5
400	30	7,208	-33.3		301	19.2
350	30	8,132	-40.3		301	20.4
300	30	9,167	-47.3		303	24.9
250	30	10,356	-53.8		302	26.0
200	30	11,778	-57.0		301	25.8
175	30	12,623	-57.0		296	22.5
150	30	13,600	-56.4		293	22.1
125	30	14,756	-56.8		282	20.4
100	30	16,166	-58.0		278	15.0
80	30	17,573	-58.3		263	10.7
70	30	18,422	-57.5		258	8.7
60	30	19,388	-57.1		258	3.9
50	30	20,542	-56.7		263	.4
40	30	21,959	-55.6		75	3.3
30	30	23,798	-54.1		76	7.2
25	29	24,972	-52.8		72	5.8
20	27	26,420	-50.9		65	7.6
15	25	28,311	-47.4		43	4.3
10	5	31,009	-42.5			
7						

Standard pressure surface (mb)	WINSLOW, ARIZ. 849 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,492	3.9	50	214	5.6
1000	30	132				
950	30	558				
900	30	1,009				
850	30	1,479				
800	30	1,976	6.2	40	246	13.2
750	30	2,498	2.5	43	248	12.0
700	30	3,055	- 1.8	48	246	15.0
650	30	3,637	- 5.8	41	244	18.3
600	30	4,263	- 9.3	33	252	19.0
550	30	4,925	-13.6		257	21.2
500	30	5,649	-18.8		259	22.0
450	30	6,416	-24.5		260	25.6
400	30	7,272	-30.7		262	30.7
350	30	8,208	-37.3		260	36.7
300	30	9,257	-44.4		259	40.2
250	30	10,458	-51.4		259	47.0
200	30	11,886	-56.7		260	49.3
175	30	12,730	-57.7		262	51.7
150	30	13,703	-57.9		263	46.8
125	30	14,849	-59.3		260	38.7
100	30	16,239	-61.5		255	32.1
80	30	17,621	-62.0		258	22.7
70	30	18,455	-61.4		254	15.5
60	30	19,405	-61.0		253	9.7
50	29	20,540	-59.9		266	4.3
40	29	21,944	-57.1		45	2.5
30	27	23,777	-54.7		57	3.5
25	25	24,953	-53.0		21	1.9
20	23	26,400	-50.4		352	2.3
15	17	28,291	-47.1		272	6.2
10	7	31,022	-40.7			
7						

Standard pressure surface (mb)	YAKUTAT, ALASKA 1009 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	12	.6	88	120	3.1
1000	28	80			126	2.9
950	28	490	- .3	77	147	8.4
900	28	923	- 3.3	78	164	9.9
850	28	1,372	- 6.4	81	173	8.5
800	28	1,844	- 9.2	78	181	8.7
750	28	2,339	-12.9	75	197	8.0
700	28	2,864	-15.8	69	215	9.3
650	28	3,415	-19.3	66	218	11.1
600	28	4,010	-23.2	63	238	12.2
550	28	4,633	-27.3	60	252	15.3
500	28	5,322	-31.9	57	260	17.9
450	28	6,049	-37.0		263	22.0
400	28	6,865	-42.5		268	24.3
350	28	7,758	-46.6		277	28.2
300	28	8,774	-49.1		281	28.2
250	28	9,967	-49.9		281	32.2
200	28	11,424	-49.8		276	26.6
175	28	12,298	-49.7		274	24.5
150	28	13,307	-49.6		268	22.0
125	28	14,499	-49.8		268	21.4
100	28	15,958	-50.4		267	17.5
80	28	17,414	-50.4		265	13.0
70	28	18,288	-50.5		264	10.1
60	28	19,290	-50.2		266	6.4
50	28	20,480	-50.2		267	2.9
40	27	21,937	-50.3		307	.6
30	27	23,815	-50.1		62	.8
25	27	25,006	-49.9		83	2.9
20	24	26,472	-49.4		66	3.3
15	21	28,354	-48.7		55	4.5
10	6	31,014	-46.7			
7						

Standard pressure surface (mb)	+ YAP, CAROLINE IS. 1008 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	17	28.1	82	58	6.6
1000	30	87	27.3	82	67	8.7
950	30	528	23.6	80	73	11.3
900	30	1,012	20.7	78	80	11.1
850	30	1,506	17.9	76	84	10.3
800	30	2,025	15.4	73	92	9.5
750	30	2,572	12.9	66	94	8.9
700	30	3,150	10.0	60	100	8.9
650	30	3,759	6.7	58	96	8.9
600	30	4,417	3.2	58	93	7.6
550	30	5,108	- .8	53	95	6.2
500	30	5,875	- 5.1	52	99	5.2
450	30	6,689	-10.0	44	101	2.7
400	30	7,597	-15.5	40	141	1.4
350	30	8,591	-22.4		259	2.9
300	30	9,704	-30.8		227	6.2
250	30	10,972	-40.9		228	10.3
200	30	12,447	-53.1		245	14.6
175	30	13,298	-60.1		255	15.7
150	30	14,243	-67.4		259	14.2
125	30	15,323	-74.2		266	9.9
100	29	16,603	-80.3		297	5.2
80	29	17,863	-79.2		308	3.9
70	29	18,633	-72.5		291	7.6
60	29	19,552	-66.4		280	11.5
50	28	20,669	-62.1		266	19.8
40	28	22,059	-58.8		260	22.3
30	28	23,882	-54.7		265	22.9
25	25	25,056	-51.8		265	13.4
20	21	26,518	-48.2		93	9.1
15	13	28,445	-45.0			
10						
7						

Standard pressure surface (mb)	YUCCA FLAT, NEV. 879 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1,196	4.7	47	328	2.3
1000	28	125				
950	28	550				
900	28	1,002				
850	28	1,473	8.6	36	313	3.5
800	28	1,971	5.3	38	295	4.9
750	28	2,491	1.7	42	304	6.2
700	28	3,047	- 2.1	43	293	7.2
650	28	3,626	- 6.2	43	290	10.1
600	28	4,253	-10.5	40	300	11.3
550	28	4,911	-15.0	36	300	13.6
500	28	5,630	-20.2		304	14.4
450	28	6,393	-26.2		302	16.9
400	28	7,242	-32.7		306	18.3
350	28	8,169	-39.2		301	20.4
300	28	9,210	-46.1		294	22.3
250	28	10,406	-51.9		283	29.5
200	28	11,836	-55.8		278	33.8
175	28	12,684	-56.8		277	36.1
150	28	13,660	-57.0		274	34.8
125	28	14,811	-58.4		273	30.7
100	28	16,210	-59.5		268	25.6
80	26	17,603	-60.2		258	15.9
70	25	18,433	-59.8		261	11.7
60	25	19,399	-59.3		268	6.0
50	25	20,543	-58.2		359	1.7
40	25	21,952	-57.0		32	1.9
30	24	23,781	-54.9		73	4.3
25	23	24,948	-53.4		75	5.1
20	19	26,410	-51.1		49	3.9
15	15	28,300	-47.1		343	4.1

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance								
	A.M				*	P.M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Apr.									
1-----	----	0.89	1.02	1.20	----	----	----	----	----
2-----	----	----	----	----	----	----	----	----	0.61
6-----	0.55	.76	.93	----	----	----	----	----	----
7-----	----	----	----	----	----	----	0.97	0.85	.73
10----	.78	.89	1.02	1.23	1.42	1.20	1.02	.86	.72
11----	.90	.99	1.10	1.24	1.42	1.17	.98	.84	.73
12----	.62	.71	.81	1.02	1.27	1.09	.92	.79	.66
13----	.71	.90	.96	1.22	1.42	1.17	.98	.83	.74
14----	.89	.93	1.06	1.24	1.48	1.26	1.13	.94	.82
15----	.89	1.00	1.09	1.24	1.47	1.21	.98	.80	.65
16----	----	----	----	----	1.30	----	----	----	----
17----	.83	.94	----	----	----	----	----	.86	.71
19----	.84	.96	1.08	1.25	1.40	----	----	----	----
20----	.54	----	.87	1.11	1.35	1.15	.98	.84	.73
21----	.77	.89	1.01	1.19	1.40	1.20	1.00	.85	----
23----	.52	.63	.85	1.07	1.40	1.09	.87	.72	.61
24----	----	----	----	----	1.42	----	----	----	----
25----	.72	.83	.99	1.16	1.42	----	----	----	----
26----	----	.88	1.02	1.18	----	----	----	----	----
27----	----	----	----	----	----	1.07	.91	.82	.73
28----	.87	.94	1.06	1.20	1.41	1.16	.98	----	----
30----	.68	.77	.84	1.13	----	----	----	.75	.68

BLUE HILL OBS., MASS.

Date	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Apr.									
1-----	0.62	0.93	1.05	1.22	----	1.16	0.94	0.81	0.62
2-----	.69	.82	.95	1.16	1.33	1.10	.78	----	----
4-----	.67	.78	----	----	1.37	1.24	1.05	.90	.82
5-----	.84	.95	1.08	1.28	1.45	1.21	1.00	.86	.78
6-----	.84	.95	1.06	1.23	----	----	----	----	----
10----	.72	.86	.99	1.11	1.27	----	.77	.65	.48
11----	.48	.58	.72	----	----	.82	.62	.48	.38
12----	.57	.66	.78	.98	----	----	----	----	----
13----	.38	.49	.65	.86	----	----	----	----	----
27----	----	.60	.76	.99	1.29	.99	.79	.66	.54
30----	----	----	----	----	1.39	1.16	.98	.86	.76
Averages	0.65	0.76	0.89	1.10	1.35	1.10	0.87	0.75	0.63

MAUNA LOA OBS., HAWAII

Date	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Apr.									
1-----	(1.07)	(1.15)	(1.25)	(1.37)	----	----	----	----	----
2-----	(1.10)	(1.19)	(1.29)	(1.41)	(1.55)	----	----	(1.13)	(1.04)
3-----	1.15	1.23	1.33	1.43	----	----	----	----	----
4-----	1.19	1.26	1.35	1.45	1.55	----	----	----	----
7-----	.98	1.07	1.19	1.34	----	----	----	----	----
8-----	.99	1.10	1.22	1.37	1.53	1.35	1.20	1.09	1.00
9-----	(1.03)	(1.13)	(1.25)	(1.39)	(1.54)	----	----	(1.05)	(1.00)
10----	(1.01)	(1.13)	(1.24)	(1.39)	----	----	----	----	----
11----	1.01	1.12	1.24	1.39	1.53	----	1.18	1.08	.98
12----	1.03	1.14	1.26	1.40	1.53	(1.34)	(1.20)	(1.10)	(1.00)
22----	(.99)	(1.08)	(1.19)	(1.34)	----	----	----	----	----
23----	1.04	1.13	1.25	1.38	----	----	----	----	----
24----	H .91	H 1.02	H 1.13	H 1.28	----	----	----	----	----
Averages	1.05	1.13	1.25	1.38	1.54	1.35	1.19	1.09	0.99

HS Slight haze
HM Moderate haze
HI Intense haze
H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
( ) Clouds present
* Values corresponding to true solar noon

MADISON, WIS.

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Apr.									
10----	----	----	----	S 1.01	S 1.14	M 0.87	S 0.63	S 0.51	S 0.38
Averages	----	----	----	1.01	1.14	0.87	0.63	0.51	0.38

TUCSON, ARIZ.

Date	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Apr.									
1-----	0.82	----	----	----	----	----	----	----	----
3-----	.54	0.65	----	----	----	----	----	----	----
5-----	----	.85	0.98	----	----	----	----	----	0.62
6-----	.65	.75	----	----	----	----	----	0.75	.63
7-----	.74	----	.97	----	----	----	----	----	----
8-----	.77	.88	----	----	----	----	----	----	.67
9-----	.67	.78	----	----	----	----	0.92	.78	.64
10----	.66	.78	----	----	----	----	----	.88	.76
11----	.78	.89	1.01	1.17	----	----	----	----	----
12----	.75	.85	.98	1.17	----	----	----	.65	----
13----	.66	.76	----	----	----	----	----	----	----
14----	.66	.77	.92	----	----	----	----	----	.65
15----	.44	----	----	----	----	----	----	----	----
16----	----	----	----	----	----	----	----	.80	.69
18----	----	----	----	----	----	----	----	----	.73
19----	.58	.68	----	----	----	----	----	----	.70
20----	.10	.38	.64	----	----	----	----	----	.60
21----	.64	----	----	----	----	----	----	----	----
22----	.52	.66	.82	----	----	----	----	.52	----
23----	.47	----	----	----	----	----	----	----	----
24----	----	.33	----	.91	----	----	----	----	.61
25----	.67	.78	.91	----	----	----	----	----	----
26----	.61	.74	.90	----	----	----	----	----	.71
27----	.62	.76	.93	----	----	----	----	.76	.65
29----	.67	.79	.92	----	----	----	----	----	.64
30----	.57	.69	.83	----	----	----	----	----	----
Averages	0.61	0.72	0.90	1.08	----	----	0.92	0.73	0.66

OMAHA, NEBR.

Date	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Apr.									
8-----	----	HM0.67	HM0.88	HM1.13	HS1.28	HM0.92	HM0.68	HM0.51	HM0.40
9-----	HM0.73	HM .82	HM .94	----	----	----	----	----	----
10----	----	HI .66	HI .77	HM .94	----	----	----	----	
13----	----	----	----	HS1.14	----	----	----	----	----
15----	----	----	----	----	----	HM .92	HM .73	HM .59	HM .46
16----	----	----	----	----	----	HM .86	HI .50	HI .25	----
22----	HM .54	HM .62	HM .80	HM1.02	----	----	----	----	----
29----	HS .71	HS .82	HS .98	HS1.16	HS1.37	HS1.11	HS .81	HS .61	HS .49
Averages	0.66	0.72	0.87	1.07	1.33	0.95	0.68	0.49	0.45

GUAM, M. I.

Date	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observation due to cloudiness								

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	664	---	286	150	555	522	483	692	685	695	700	709	728	727	721	---	443	507	698	740	740	719	745	727	663	735	725	747	480	628		629
ANNETTE ALASKA	128	135	95	364	379	306	187	158	78	126	123	232	107	240	400	301	212	204	292	110	338	449	252	224	310	273	317	624	343	177		249
APALACHICOLA FLORIDA	599	560	---	582	510	194	449	274	634	673	655	438	576	207	647	686	673	656	661	668	650	651	544	647	628	310	50	93	512	558		517
ARGONNE NAT. LAB.	549	46	399	424	10	383	216	208	632	602	472	19	456	512	482	579	429	339	96	220	324	484	264	640	630	365	139	266	123	112		347
ASTORIA OREGON	485	464	553	291	326	592	---	---	178	183	463	370	535	238	413	553	637	681	681	330	247	480	547	576	261	362	220	665	453	182		427
ATLANTA GEORGIA	495	440	114	289	94	131	205	414	730	694	676	202	191	112	700	687	662	666	604	660	633	380	471	470	269	91	229	314	730	---		426
BARROW ALASKA	---	---	---	---	---	---	---	---	407	382	358	444	367	426	305	435	402	363	313	461	514	510	485	532	552	567	494	501	506	590		451
BETHEL ALASKA	477	462	371	301	432	417	329	342	328	504	434	481	626	501	326	322	373	420	322	287	337	483	451	543	565	654	649	645	454	732		452
BISMARCK N.DAK.	482	439	562	558	90	316	487	580	446	472	509	118	403	486	469	579	608	231	542	526	356	178	542	419	268	381	70	605	660	173		418
BLUE HILL MASS.	626	610	143	536	657	449	179	99	415	635	559	575	332	125	96	640	481	458	416	100	664	84	377	258	167	534	698	634	214	615		412
BOISE IDAHO	---	---	---	---	---	---	---	---	---	---	205	522	616	629	592	613	658	662	663	542	593	102	320	444	326	362	642	685	419	650		---
BOSTON MASSACHUSETTS	585	529	147	574	619	419	105	97	386	602	511	530	391	115	98	---	452	458	446	104	628	64	305	180	144	494	650	619	201	618		382
BROWNSVILLE TEXAS	444	506	231	331	447	477	613	630	588	329	278	347	365	304	356	506	552	523	626	616	443	406	453	520	545	531	545	597	433	429		466
BURLINGTON VERMONT	483	376	96	620	632	275	277	53	141	470	583	548	534	77	239	651	389	175	585	98	494	65	251	126	241	654	633	569	665	641		388
CANTON ISLAND P.I.	---	---	---	---	---	---	---	573	489	571	583	552	612	572	583	---	509	589	541	595	605	559	579	588	597	605	585	586	581	571		574
CAPE HATTERAS N.C.	351	506	151	---	64	176	154	102	637	650	634	610	572	287	347	688	649	635	558	616	429	---	594	472	514	617	353*	474	669	577		467*
CARIBOU MAINE	475	585	240	581	621	574	329	173	296	472	600	574	573	94	124	536	643	223	603	650	648*	434	71	125	373	580	641	531	628	647		455*
CHARLESTON S.C.	655	341	416	244	316	183	335	159	657	687	686	695	438	277	601	713	680	694	657	672	655	---	589	619	138	145	---	171	554	699		488
CLEVELAND OHIO	571	72	101	575	467	249	347	112	614	207	508	362	177	---	---	397	574	220	52	32	160	423	480	---	643	516	95	526	195	232		330
COLUMBIA MISSOURI	425	374	160	109	101	555	257	282	654	589	487	415	671	---	589	614	341	74	219	337	544	637	366	240	554	292	632	285	715	699		421
DODGE CITY KANSAS	480	536	319	68	525	521	329	646	616	548	587	370	421	639	649	566	607	457	378	542	562	483	416	542	608	485	571	620	512	453		502
E. LANSING MICHIGAN	575	104	549	617	342	544	529	193	643	607	564	355	366	619	670	584	549	258	118	124	227	133	509	568	709	568	86	476	368	103		422
EL CENTRO CALIF.	516	519	327	463	522	526	535	530	527	524	525	526	543	548	549	514	413	529	512	547	538	540	549	517	561	561	554	542	545	558		522
EL PASO TEXAS	365	634	600	434	676	686	662	705	697	696	637	710	718	732	682	646	726	552	651	751	761	739	742	727	684	761	734	725	663	755		675
ELY NEVADA	279	521	318	579	296	421	340	654	---	---	652	684	687	683	688	527	439	140	253	630	517	679	348	723	570	527	715	640	547	495		520
EPPLEY.NEWPORT R.I.	562	547	283	578	592	371	128	94	368	582	575	553	181	154	96	619	530	459	254	92	516	97	538	245	344	612	651	434	524	609		406
FAIRBANKS ALASKA	278	206	341	308	244	---	---	327	390	274	318	249	337	465	410	287	307	272	366	280	256	184	391	332	472	---	524	512	528	599		350
FLAMING GORGE UTAH	162	301	149	565	---	318	488	540	587	193	398	632	405	---	643	491	317	209	263	126	359	679	625	269	383	257	402	677	640	424		411
FORT WORTH TEXAS	295	435	382	54	497	540	323	412	557	575	282	361	556	566	586	171	399	182	271	159	67	296	437	542	453	599	677	690	576	448		413
FRESNO CALIFORNIA	257	616	605	540	284	629	622	590	612	632	620	613	620	625	624	593	550	578	206	630	595	649	491	578	688	679	674	537	680	695		577
GAINESVILLE FLORIDA	660	606	550	615	575	459	594	554	714	675	707	664	647	458	593	722	683	701	699	706	702	600	659	480	545	491	249	76	562	600		585
GLASGOW MONTANA	328	85	313	550	270	237	558	577	513	565	435	510	435	343	489	313	373	572	631	618	340	373	357	490	100	249	642	693	282	694		431
GRAND JUNCTION COLO.	153	374	402	501	311	290	488	435	605	252	659	693	646	673	689	650	280	191	514	446	621	702	707	400	---	---	726	723	606	588		512
GREAT FALLS MONTANA	277	80	420	537	90	357	585	481	443	514	216	333	569	313	485	240	541	611	598	437	353	355	167	79	510	218	472	629	612	494		401
GREENSBORO N.C.	638	448	216	209	123	72	95	153	674	656	631	431	75	188	623	651	649	620	599	536	545	388	423	519	204	257	92	377	439	255		393
GRIFFIN EXP.STA.GA.	612	510	142	362	178	149	238	421	733	772	755	272	296	156	772	765	745	742	676	733	672	413	620	552	420	81	175	214	791	754		491
INDIANAPOLIS INDIANA	617	145	157	539	131	522	419	166	688	640	463	253	471	646	660	540	640	302	167	143	217	711	334	674	715	102	244	612	221	247		413
ITHACA NEW YORK	557	565	18	573	602	71	254	113	91	360	582	463	327	166	316	612	554	80	---	9	93	202	429	120	532	655	458	235	73	42		316
LAKE CHARLES LA.	---	247	309	258	64	120	204	604	604	521	238	196	301	238	639	647	346	408	244	---	414	304	513	484	184	120	656	486	457	175		357
LAKELAND FLORIDA	631	566	478	407	527	514	513	583	261	592	576	639	624	548	527	663	591	649	650	624	661	658	516	471	560	609	496	166	481	573		545
LANDER WYOMING	288	105	292	588	535	314	643	626	615	518	612	654	338	609	640	535	565	209	256	342	398	554	658	598	267	490	681	689	675	598		496
LARAMIE WYOMING	201	128	340	553	604	418	557	603	597	317	530	566	387	587	620	595	508	483	366	195	511	635	540	552	483	375	642	470	648	492		483
LAS VEGAS NEVADA	409	523	353	458	582	619	651	666	667	670	680	684	686	690	707	454	589	441	706	636	687	694	488	361	680	723	708	486	629	719		601
LITTLE ROCK ARKANSAS	294	---	198	173	180	587	299	594	595	574	369	109	589	576	601	584	407	354	357	338	130	417	322	155	247	123	606	633	650	594		402
LOS ANGELES CALIF.	481	545	510	586	288	569	633	636	630	563	536	609	618	639	652	591	502	344	499	591	633	504	670	690	680	667	582	237	346	574		553
LOS ANGELES CALIF. U	303	614	543	563	218	557	634	642	628	614	582	612	616	635	662	634	513	396	294	578	654	359	694	645	682*	676*	609	153	172	451		531*
MADISON WISCONSIN	579	93	603	568	66	394	181	458	620	625	391	283	210	491	479	615	320	321	344	324	554	555	383	702	671	531	209	398	---	194		419
MANHATTAN KANSAS	506	541	191	44	285	584	342	622	619	634	258	482	566	627	608	620	193	483	123	257	549	390	324	396	302	222	221	274	585	182		401
MATANUSKA ALASKA	355	193	280	349	126	390	253	342	221	440	462	397	323	385	474	232	85	367	475	190	58	291	460	398	454	338	426	322	452	492		334
MAUNA LOA OB.HAWAII	---	701	537	755	390	554	595	823	799	735	816	839	595	496	707	457	740	738	755	558	602	676	538	590	566	530	---	405	206	297		607
MEDFORD OREGON	392	357	579	469	353	574	595	580	256	523	593	609*	605	620	505	657	568	575	593	591	564	448	519	348	520	590	671	673	364	---		527*
MIAMI FLORIDA	680	558	597	564	561	566	630	579	477	435	316	520	532	586	369	544	607	628	695	539	656	695	670	485	407	664	606	600	383	561		557
MIDLAND TEXAS	398	616	598	379	628	643	437	653	664	648	627	638	617	665	648	571	622	577	507	651	666	614	644	654	640	677	679	623	453	690		604
NASHVILLE TENNESSEE	406	184	142	148	224	357	308	230	656	579	635	146	295	615	674	662	499	560	475	627	482	383	138	298	522	107	419	666	579	680		423
NEW YORK N.Y. U	587	455	306	625	602	74	118	56	347	589	588	490	366	60	153	663	527	533	238	74	100	36	634	424	403	620	611	90	132	126		354

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. APRIL 1964

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
NORTH OMAHA NEBRASKA	595	193	247	101	146	587	210	650	518	609	432	248	561	566	642	644	495	558	300	316	211	484	362	518	550	175	228	181	735	567		421
OAK RIDGE TENNESSEE	530	311	214	79	194	221	351	325	547	535	550	131	96	381	594	572	547	525	417	523	514	165	181	253	314	90	259	315	441	561		358
OKLAHOMA CITY OKLA.	307	576	310	64	534	595	527	647	613	607	430	509	621	610	617	519	469	351	186	258	645	366	520	456	497	617	540	663	601	590		495
PAGE ARIZONA	426	318	412	417	251	528	564	584	588	596	601	612	613	611	614	608	500	295	575	523	593	616	596	378	583	535	633	597	521	293		519
PHOENIX ARIZONA	581	504	467	576	456	598	642	634	627	633	629	634	649	653	648	645	625	499	615	673	677	643	665	660	663	683	669	316	659	642		609
PORTLAND MAINE	531	550	36	548	601	245	267	144	412	607	512	592	539	104	91	442	234	423	633	203	646	102	85	97	261	497	632	629	558	680		397
RAPID CITY S.DAK.	343	84	360	338	299	243	502	556	405	454	424	349	393	467	575	384	536	114	375	88	548	521	489	444	501	397	182	610	643	642		409
RIVERSIDE CALIFORNIA	333	489	608	646	216	614	681	688	681	668	574	685	698	702	690	660	649	606	370	660	701	556	526	636	741	750	656	121	180	312		570
SAINT CLOUD MINN.	538	514*	583	572	29	178	251	610	573	539	408	257	68	611	536	495	461	536	305	494	75	442	514	638	647	301	514	298	199	122		410*
SAN ANTONIO TEXAS	179	184	504	368	519	466	339	380	658	640	291	262	627	639	658	157	245	350	439	336	308	233	359	334	334	592	678	677	357	151		409
SANTA MARIA CALIF.	398	631	619	593	336	599	639	637	633	634	628	638	631	634	641*	523	484	272	427	667	619	337	685	664	682	686	618	289	249	694		559*
SAULT STE MARIE MICH	---	---	---	---	---	---	---	---	---	628	289	---	---	---	---	---	---	---	---	---	68	---	353	670	682	687	331	97	50	79		---
SEATTLE TACOMA WASH.	305	322	485	323	194	525	535	291	217	113	261	420	292	131	461	604	564	618	613	100	137	340	553	630	136	391	281	555	496	574		382
SEATTLE WASH. UNIV.	316	329	420	66	152	498	482	205	221	166	292	376	218	176	352	422	501	584	577	180	165	336	530	604	165	346	295	443	222	545		339
SHREVEPORT LOUISIANA	512	103	350	365	269	577	408	538	691	684	243	294	623	682	698	684	352	384	411	401	---	---	504	---	134	151	701	696	639	623		471
SPOKANE WASHINGTON	322	546	589	253	369	585	576	479	455	391	531	396	506	470	473	372	629	675	669	404	545	438	503	442	501	---	196	678	447	373		476
STATE COLLEGE PENN.	577	199	106	628	607	44	134	255	300	472	615	422	138	263	465	512	614	391	60	36	48	192	588	661	707	674	252	190	34	88		342
STERLING VIRGINA	397	136	227	591	592	67	153	114	548	605	592	473	135	166	504	637	619	549	270	75	66	151	530	461	569	598	274	147	65*	97*		347*
STILLWATER OKLAHOMA	270	557	351	40	563	578	509	618	588	572	263	520	607	591	592	576	331	297	93	212	601	350	409	482*	469	499*	579	584	540	568		460*
SWAN ISLAND W.I.	707	698	706	724	710	727	739	715	741	720	712	701	714	751	574	699	742	609	---	699	697	736	712	666	709	569	721	720	747	706		702
TAMPA FLORIDA	596	642	582	418	598	542	475	475	226	454	463	502	511	424	438	---	543	640	634	---	---	689	671	592	643	642	596	147	541	577		528
TUCSON ARIZONA	514	526	375	315	624	615	650	637	618	627	554	619	659	668	624	659	664	542	674	683	680	678	677	647	675	704	689	336	695	496		604
WAKE ISLAND,PACIFIC	618	261	494	601	445	533	539	443	320	392	557	584	559	494	601	565	484	499	569	559	532	541	316	610	501	557	379	539	152	526		492

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

APRIL 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	16	-157	27	193	109	-70	228	188	174	160	96	116	136	226	210	-128	229	271	273	278	99	210	271	83	-140	-21	318	257	348	335		145

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

These data are of an experimental nature and are published as received from the Huntley Exp. Station. **The instrument with which they were measured has not been checked by the Weather Bureau.**

TOTAL OZONE DATA

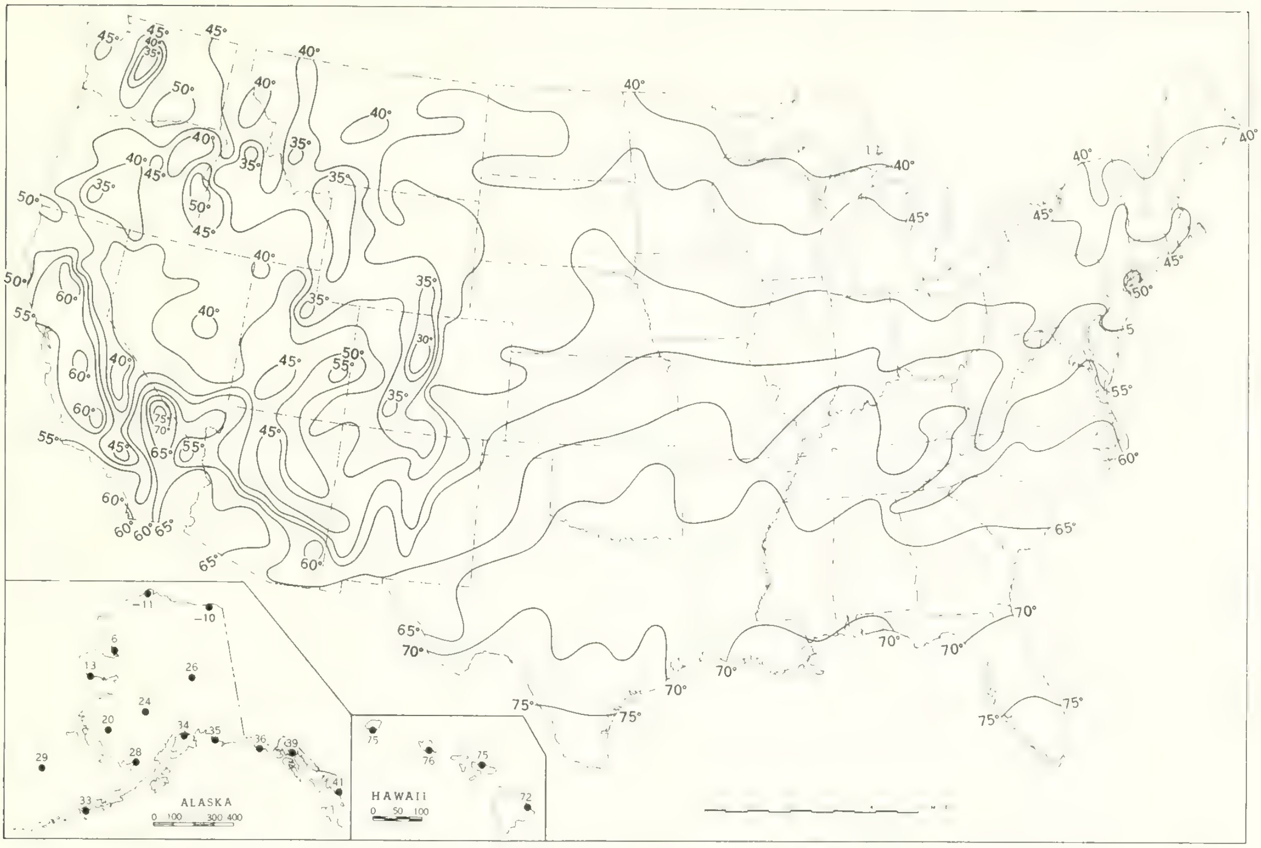
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

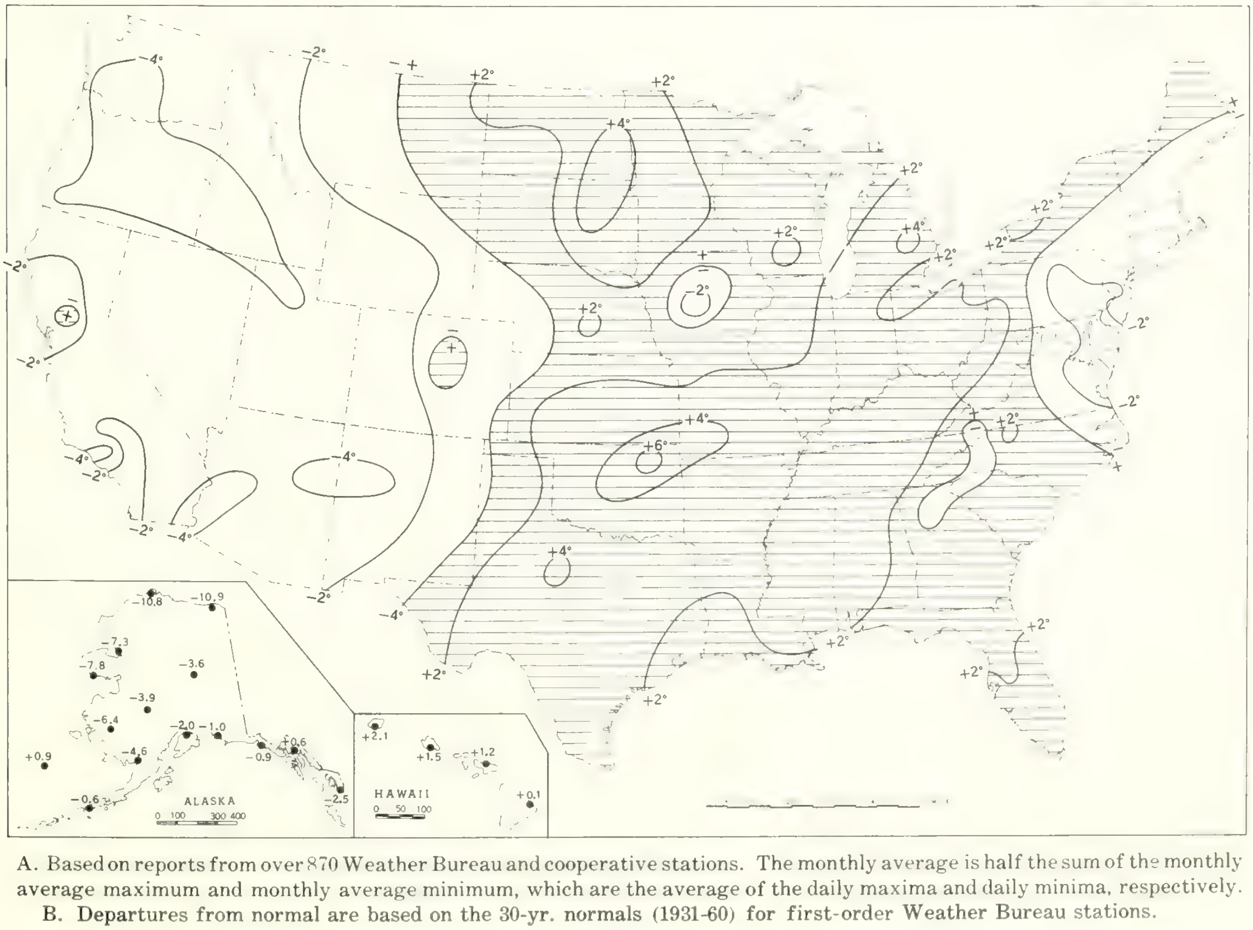
Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
Albuquerque, N. Mex.	00314	-----	-----	-----	-----	-----	00305	00308	00318	00349	00340	00343	00326	00334	00307	00311	-----	-----	00304	00328	00355	00358	00339	00325	00363	00387	-----	00333	-----	00316		332
Bedford, Mass.	00486	00417	05410	-----	-----	00351	07369	05375	00402	00387	-----	-----	00360	05361	05436	00416	00386	-----	-----	05404	00378	05410	00390	05427	-----	-----	00392	00373	00376	00393		395
Bismarck, N. Dak.	00353	00345	00370	00365	-----	36426	05408	00394	00385	00360	00361	-----	05407	00419	00353	00345	00385	05405	00396	00379	05389	05398	03373	00366	06371	00383	36422	00422	00346	05376		382
Caribou, Maine	00516	00446	-----	00486	00460	00365	04395	04439	-----	34414	-----	-----	-----	-----	-----	00427	00417	06383	00410	00441	00422	03388	-----	-----	05413	00401	00445	06436	00412	00402		425
Green Bay, Wis.	00424	04400	00407	00402	04388	04399	04413	00413	00405	00386	04400	00380	05453	05461	00424	00366	00354	04351	00382	00386	00381	00414	00422	00393	00395	00402	-----	00448	05483	05487		408
Nashville, Tenn.	00366	04323	05334	07399	04304	00343	04309	05313	00326	00345	00356	04354	00327	00341	00346	00318	00320	00318	00296	00317	04305	00306	34319	00344	00310	-----	00320	00360	00363	00361		333
Sterling, Va.	02458	04401	06393	00359	00347	06359	05341	04356	00371	00358	00345	03342	05376	-----	00365	00347	00328	00321	05336	05431	05367	05365	05345	00361	00346	00346	05356	05357	06400	06398		365

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e g , 350 milli-atmo-cm ozone implies an ozone layer 0. 350 centimeter thick The code λ s designates the type of measurement made.

Chart I. A. Average Temperature (°F.) at Surface, April 1964.



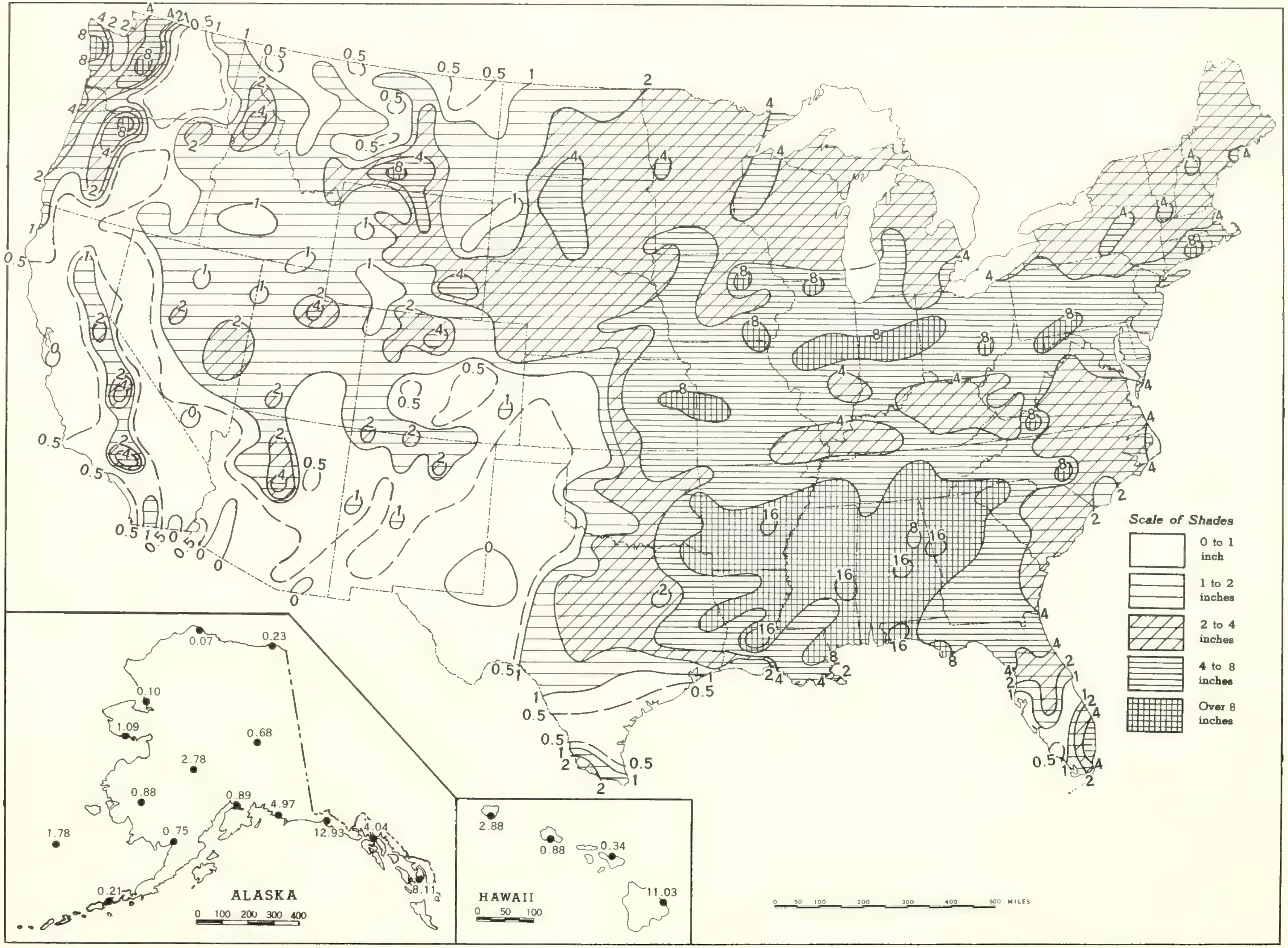
B. Departure of Average Temperature from Normal (°F.), April 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

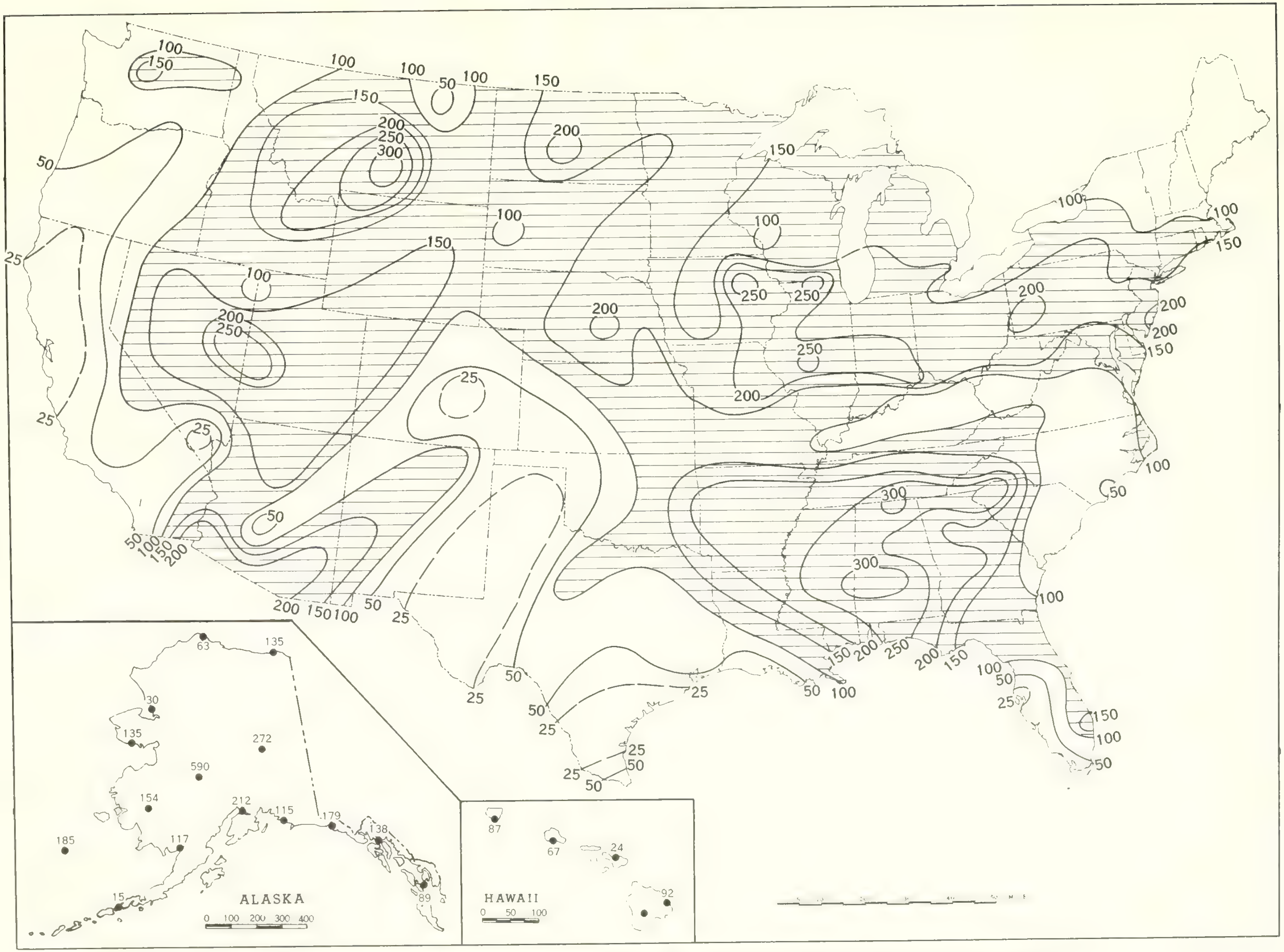
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), April 1964.



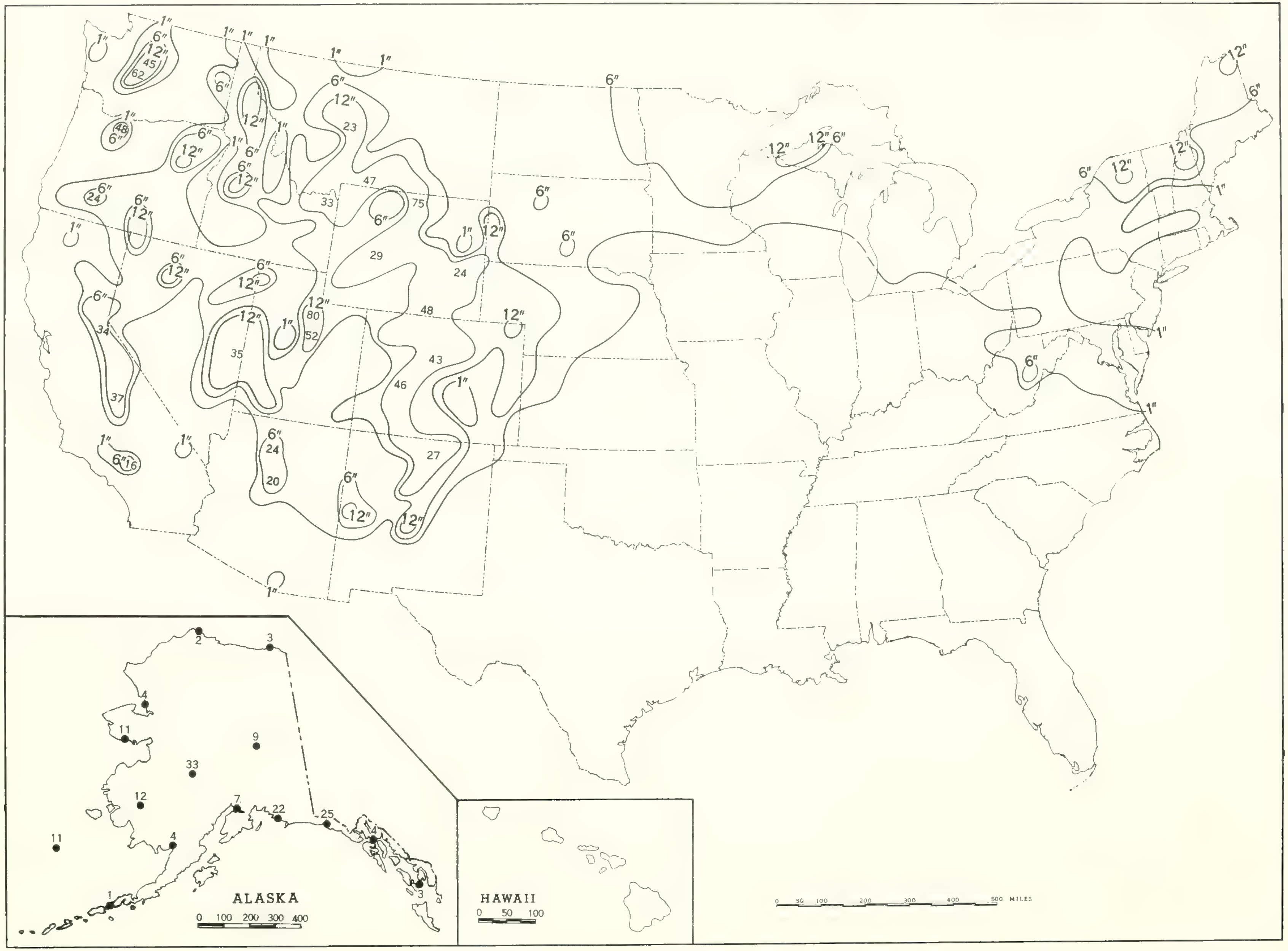
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, April 1964.



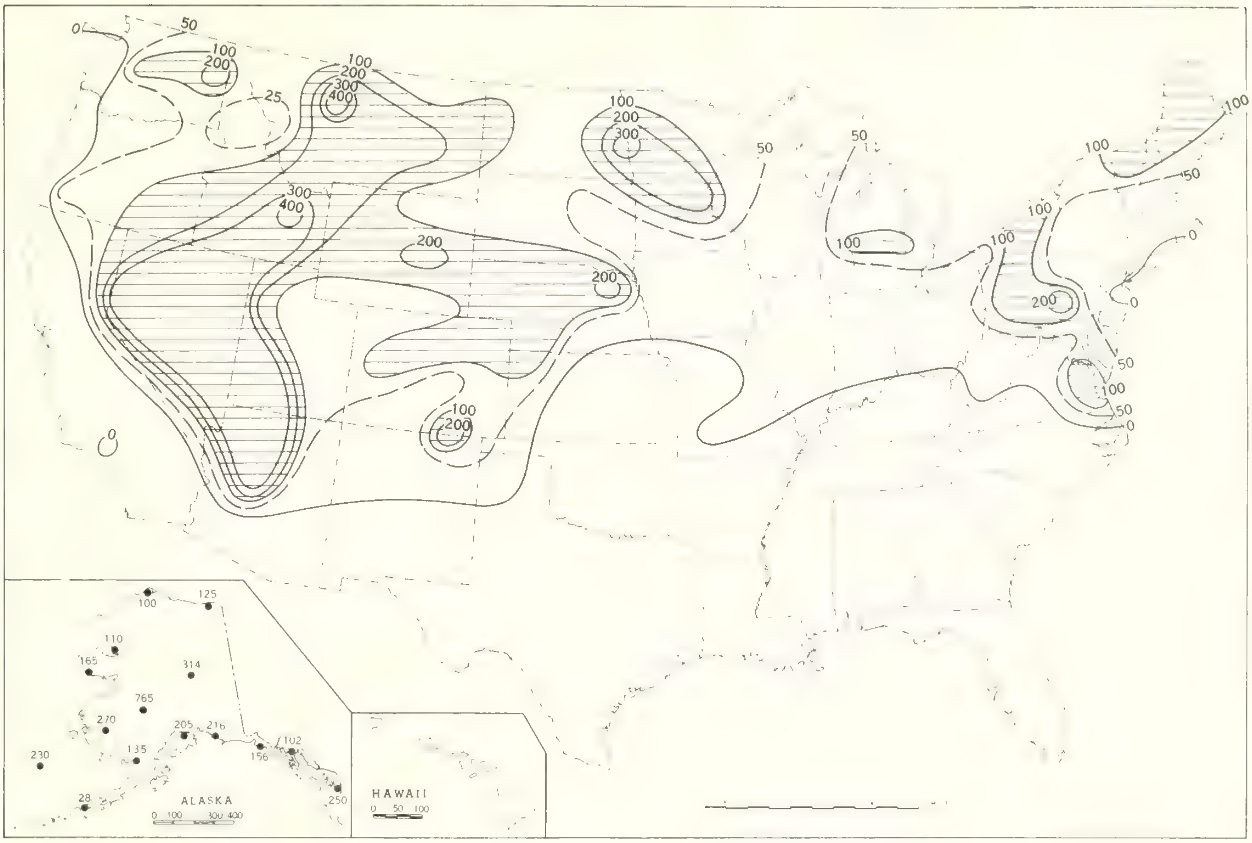
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), April 1964.

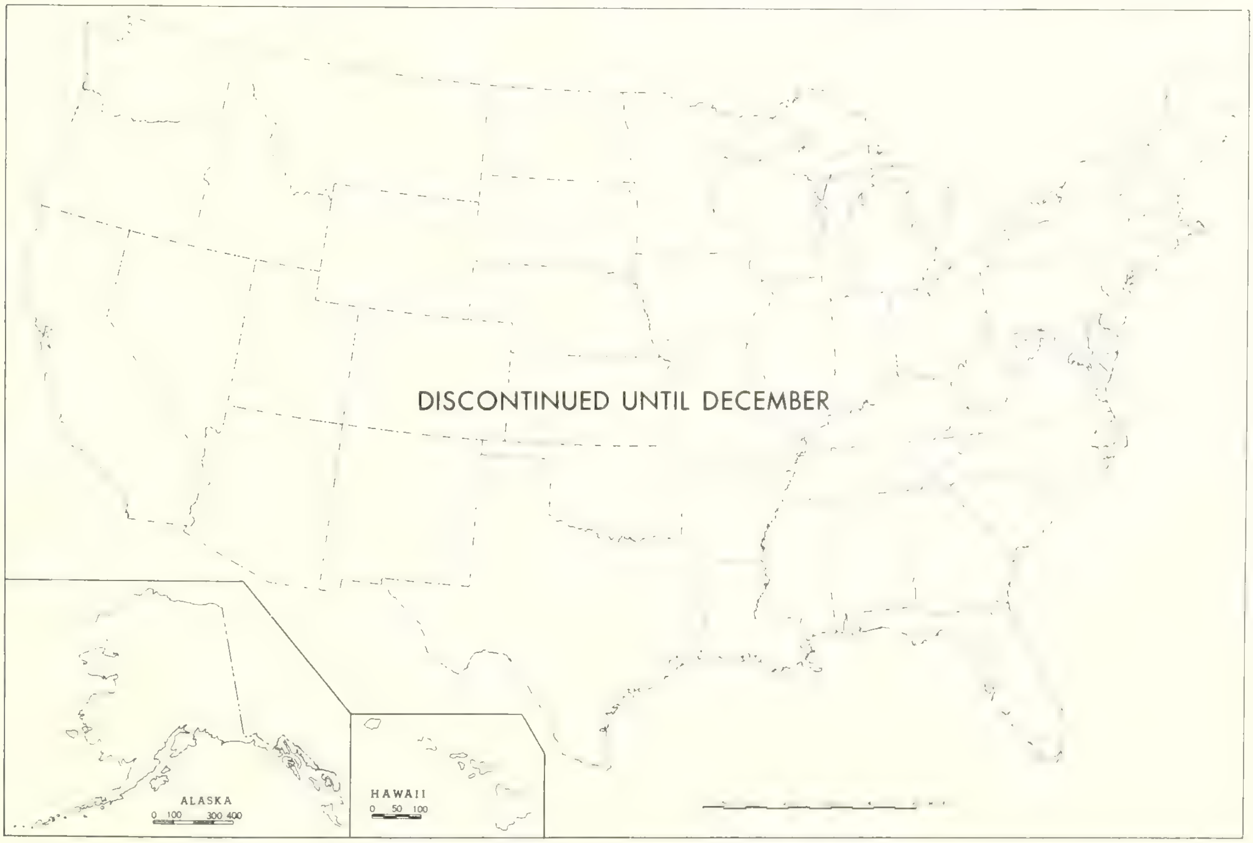


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, April 1964.

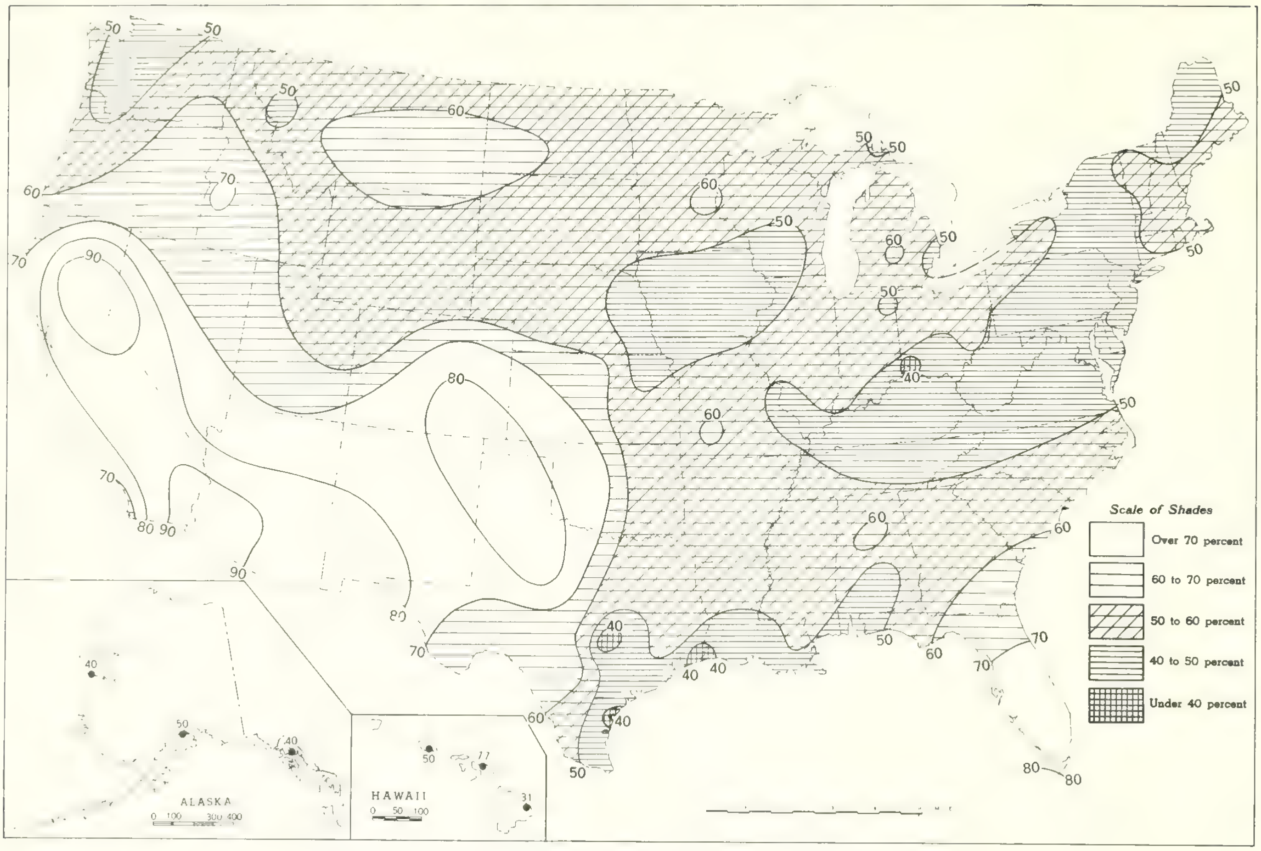


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., April 1964.

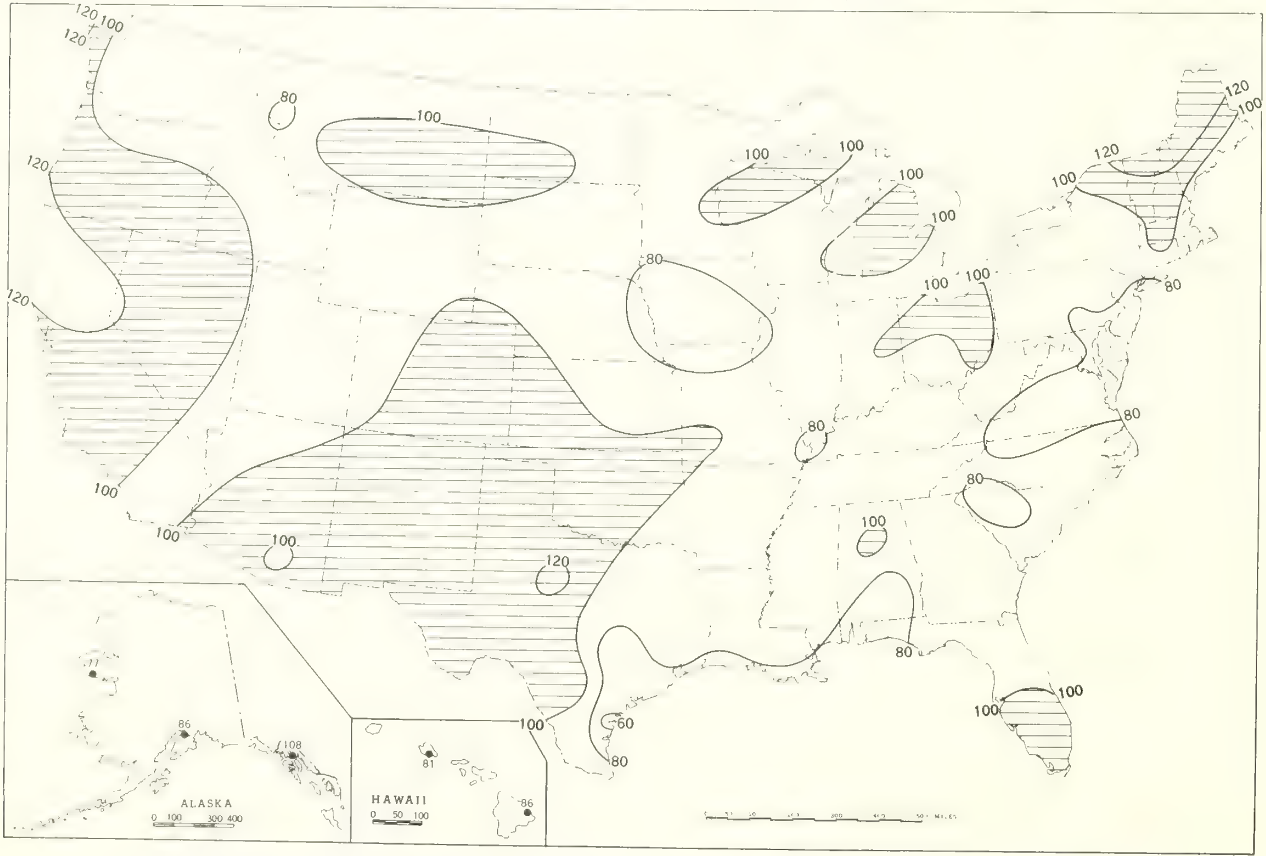


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, April 1964.

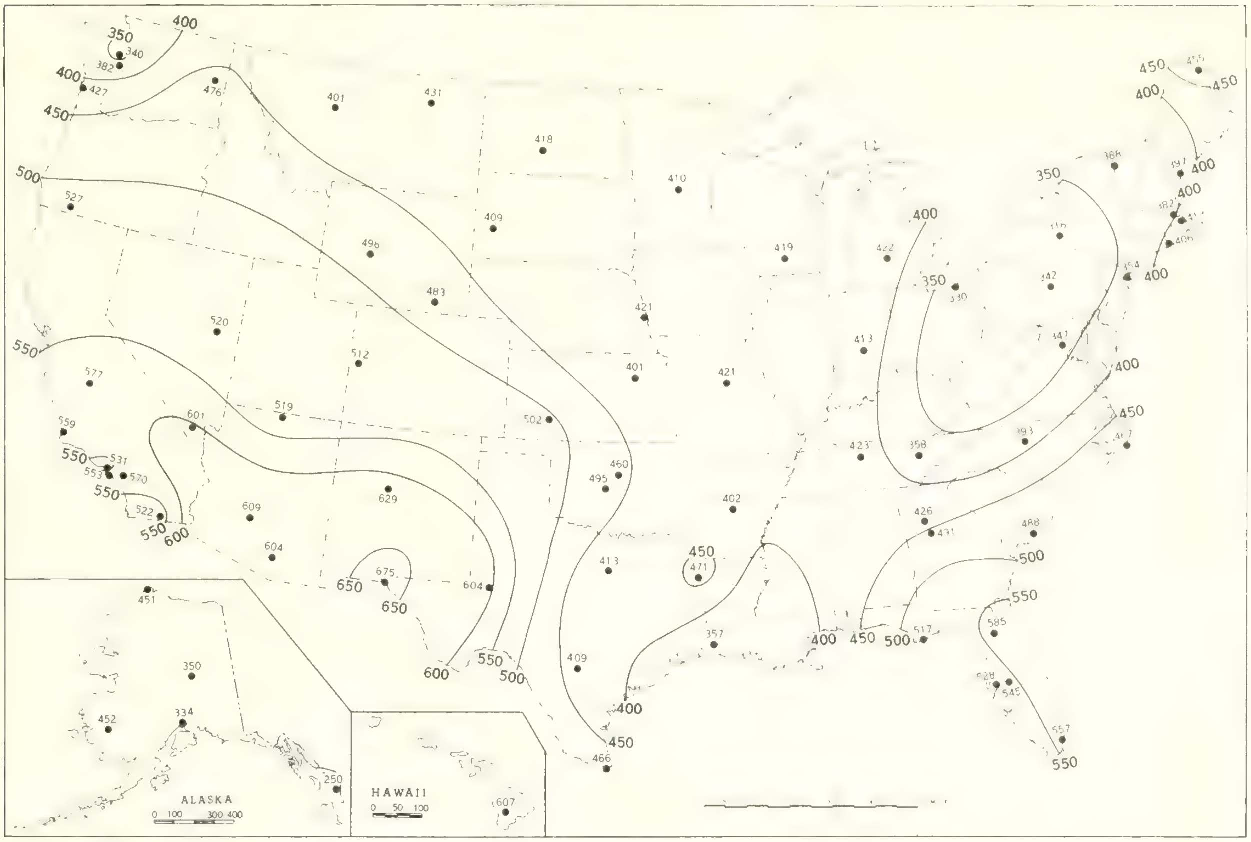


B. Percentage of Mean Monthly Sunshine, April 1964.

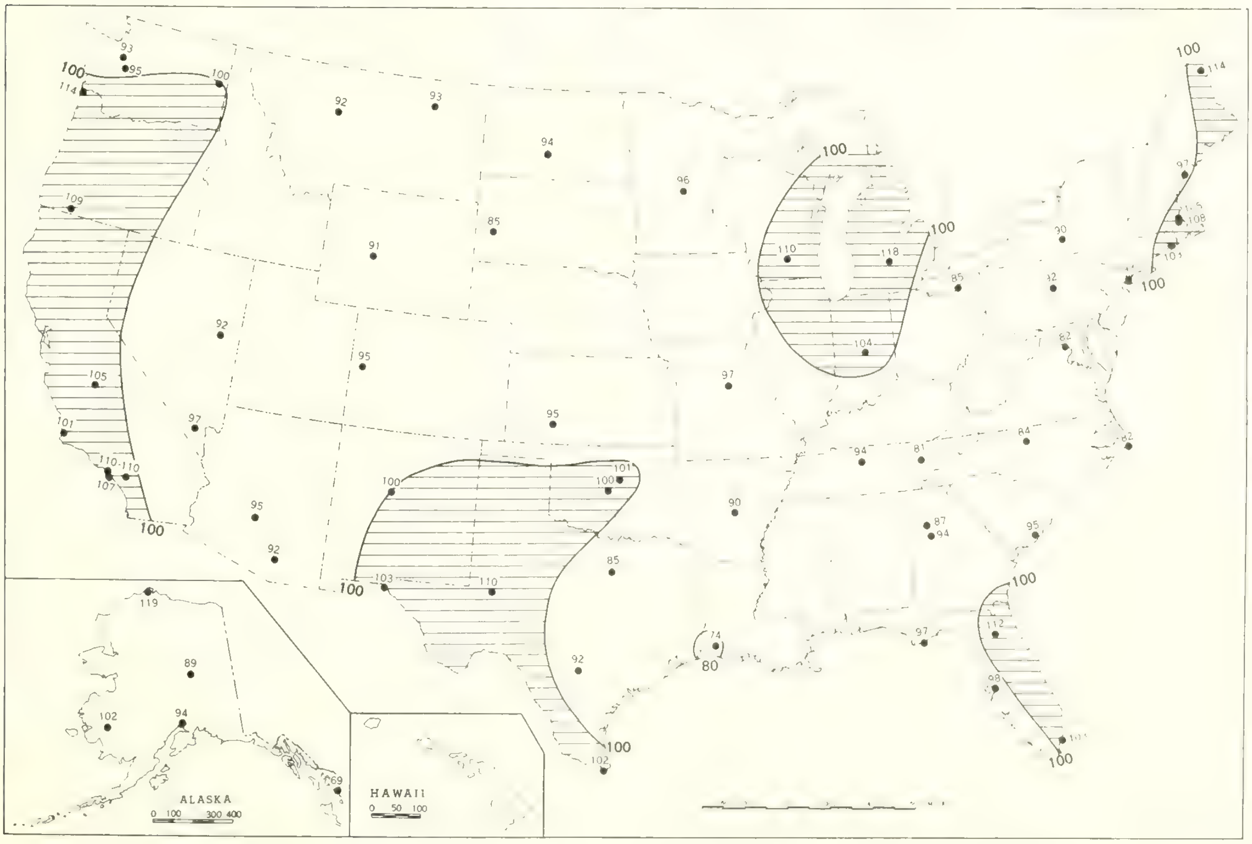


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, April 1964.

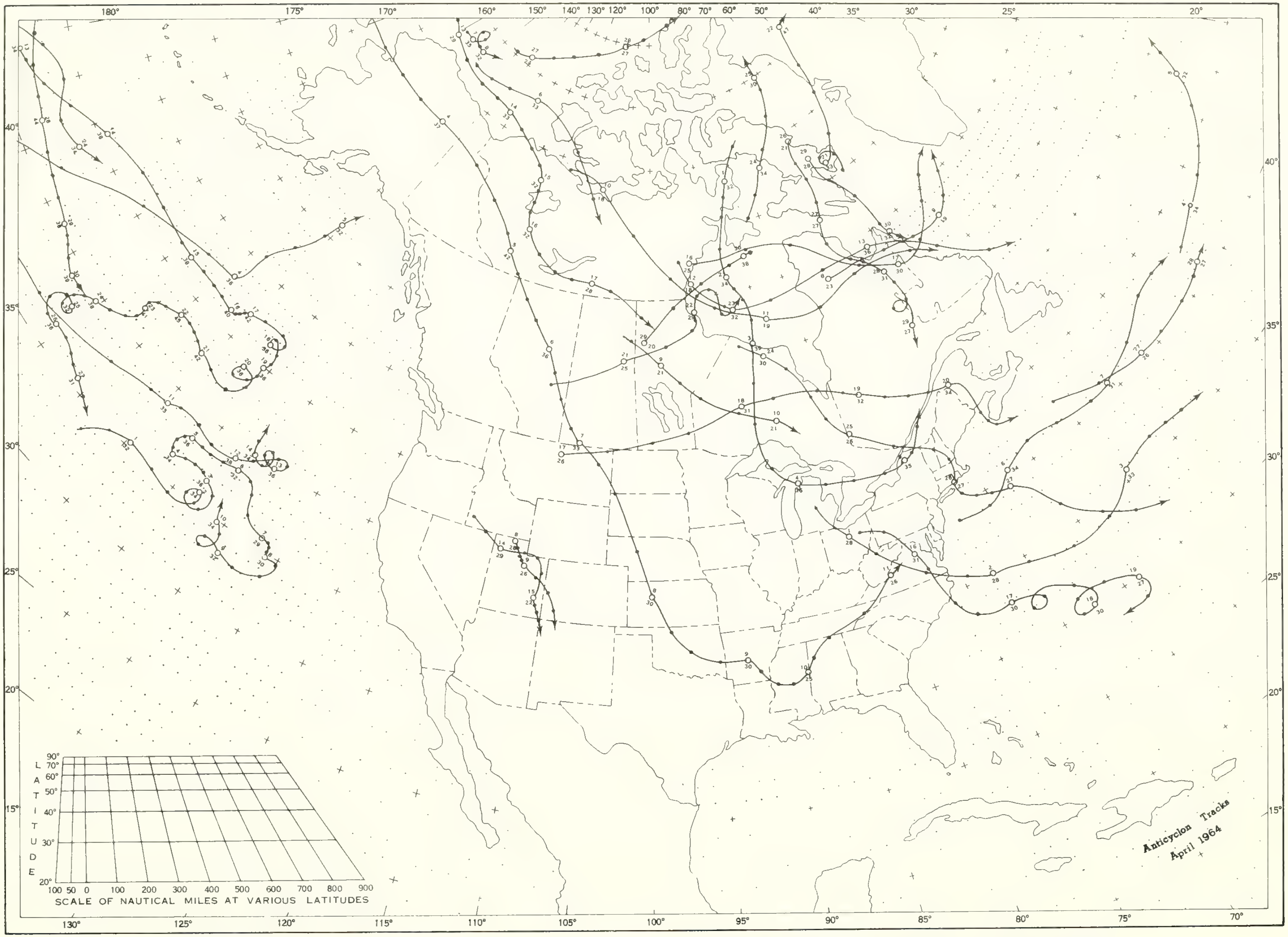


B. Percentage of Mean Daily Solar Radiation, April 1964.



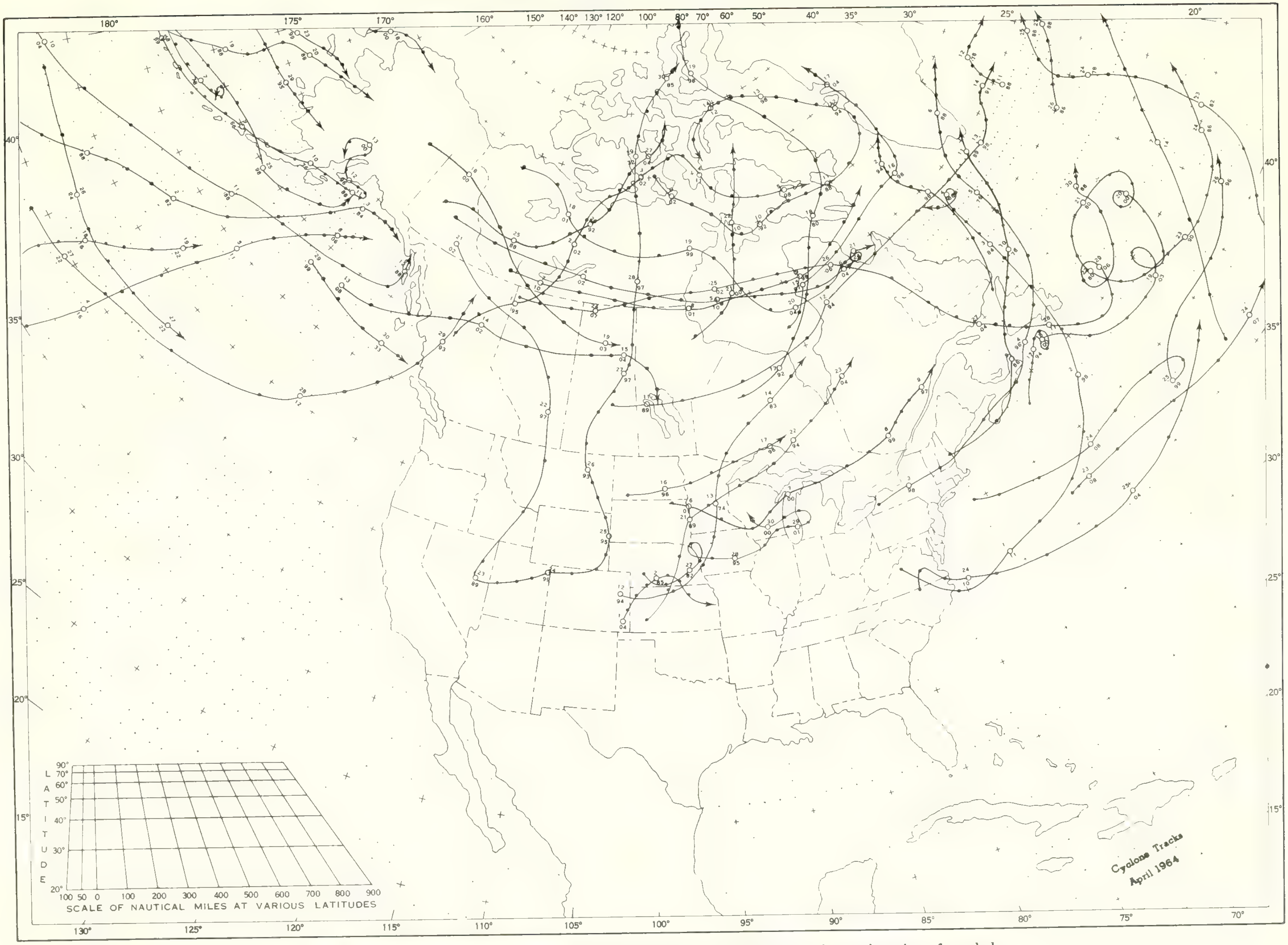
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, April 1964.



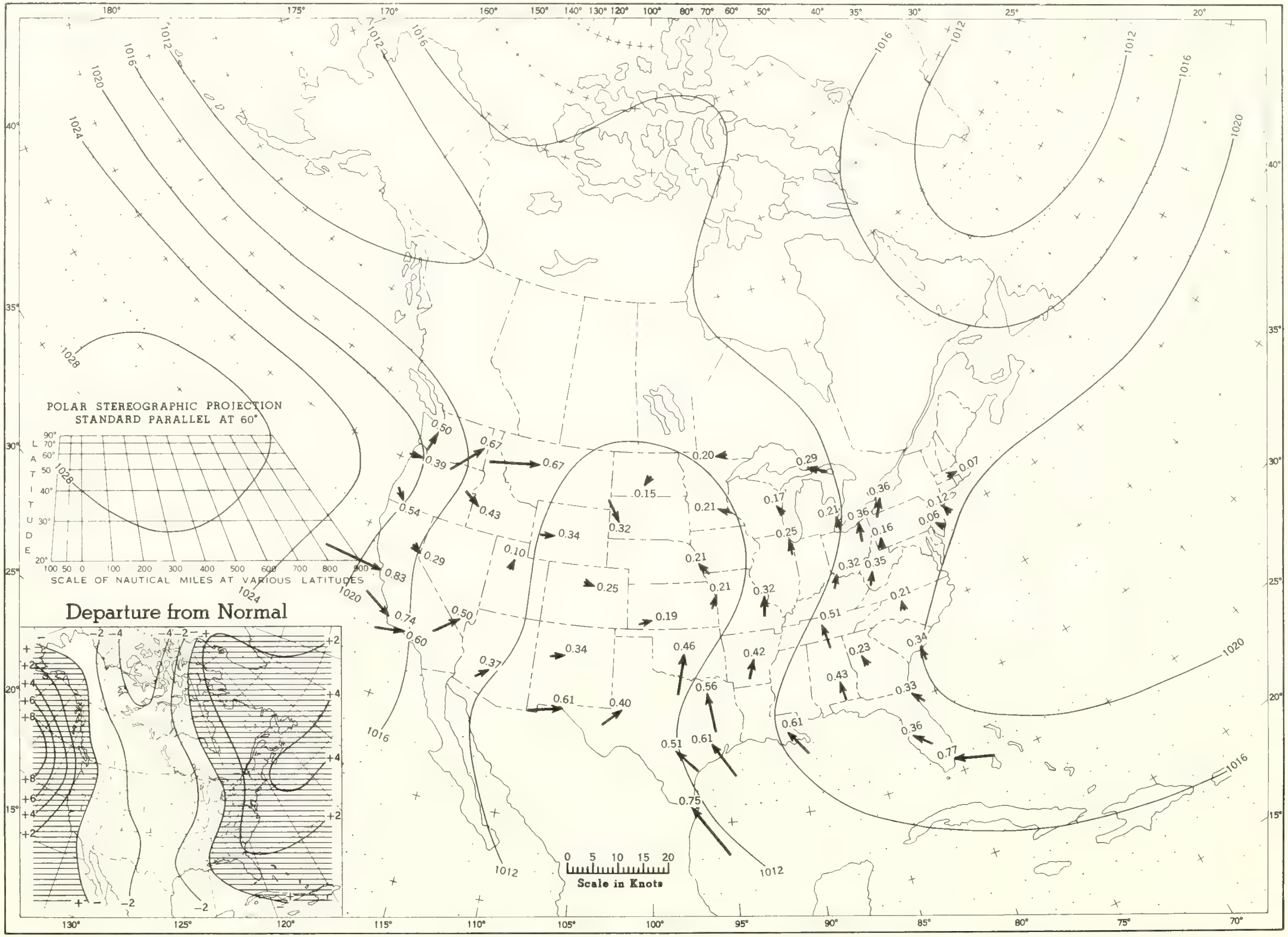
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, April 1964.



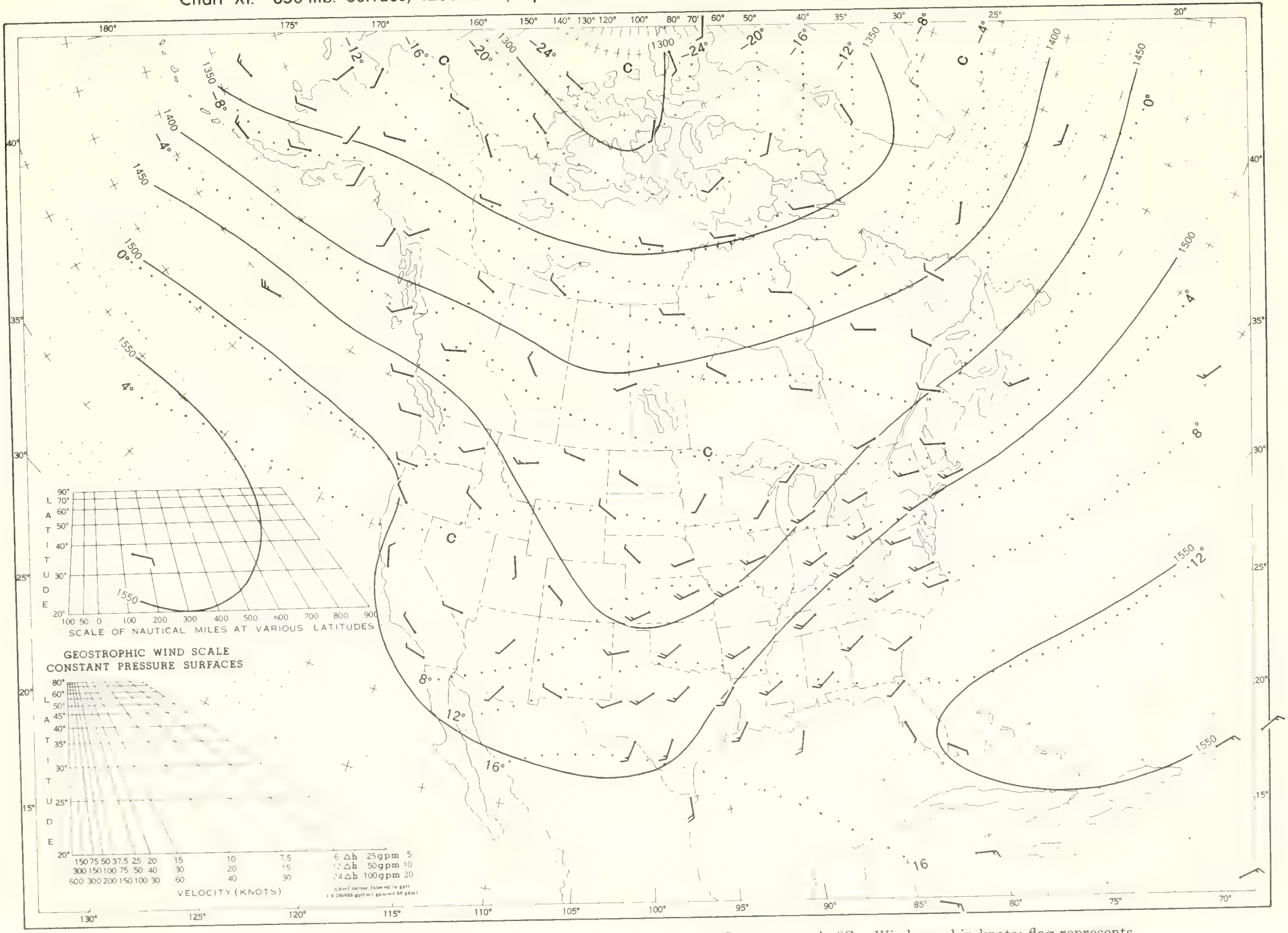
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, April 1964. Inset: Departure of Average Pressure (mb.) from Normal, April 1964.



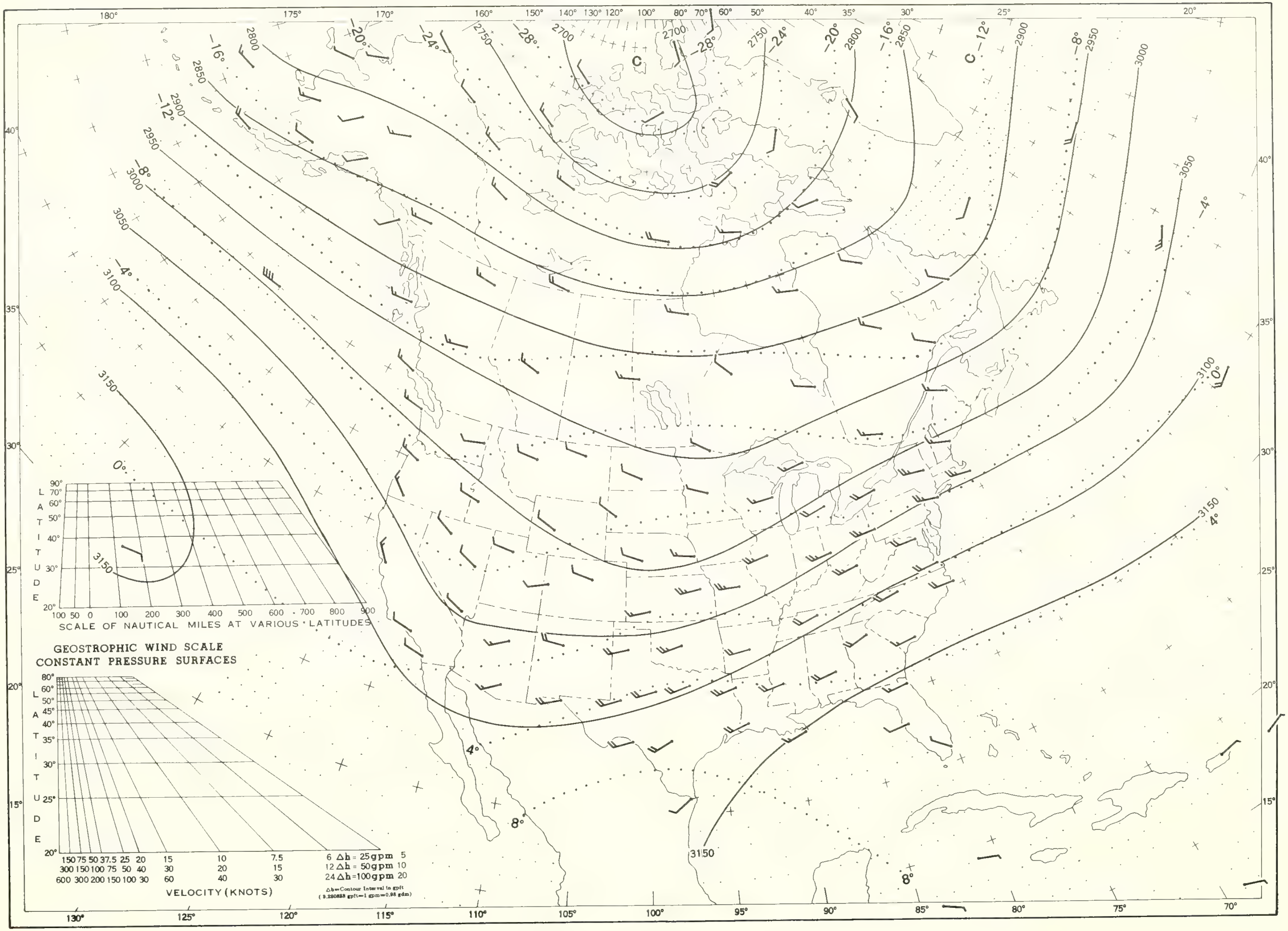
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, April 1964. Average Height and Temperature, and Resultant Winds.



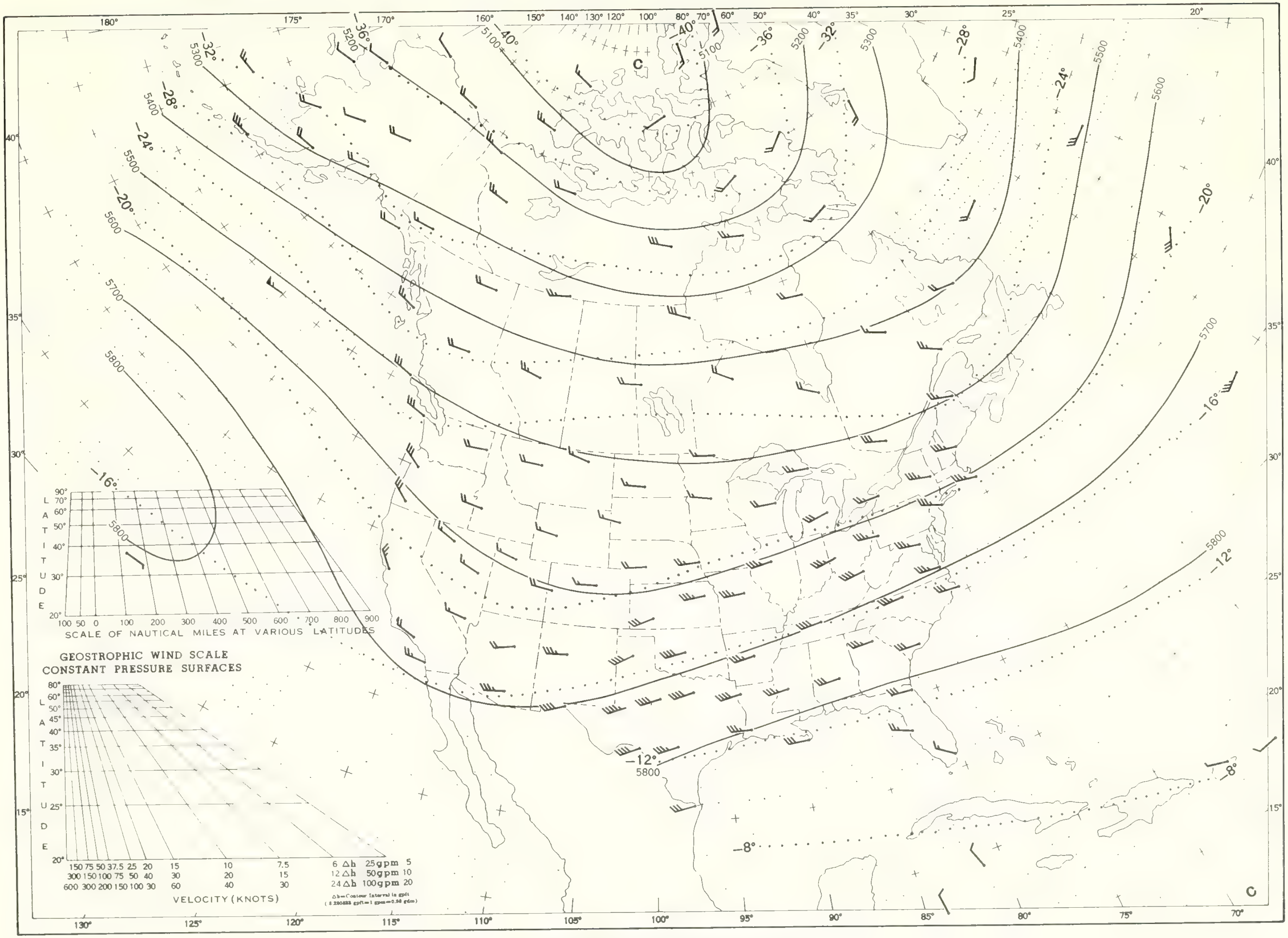
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, April 1964. Average Height and Temperature, and Resultant Winds.



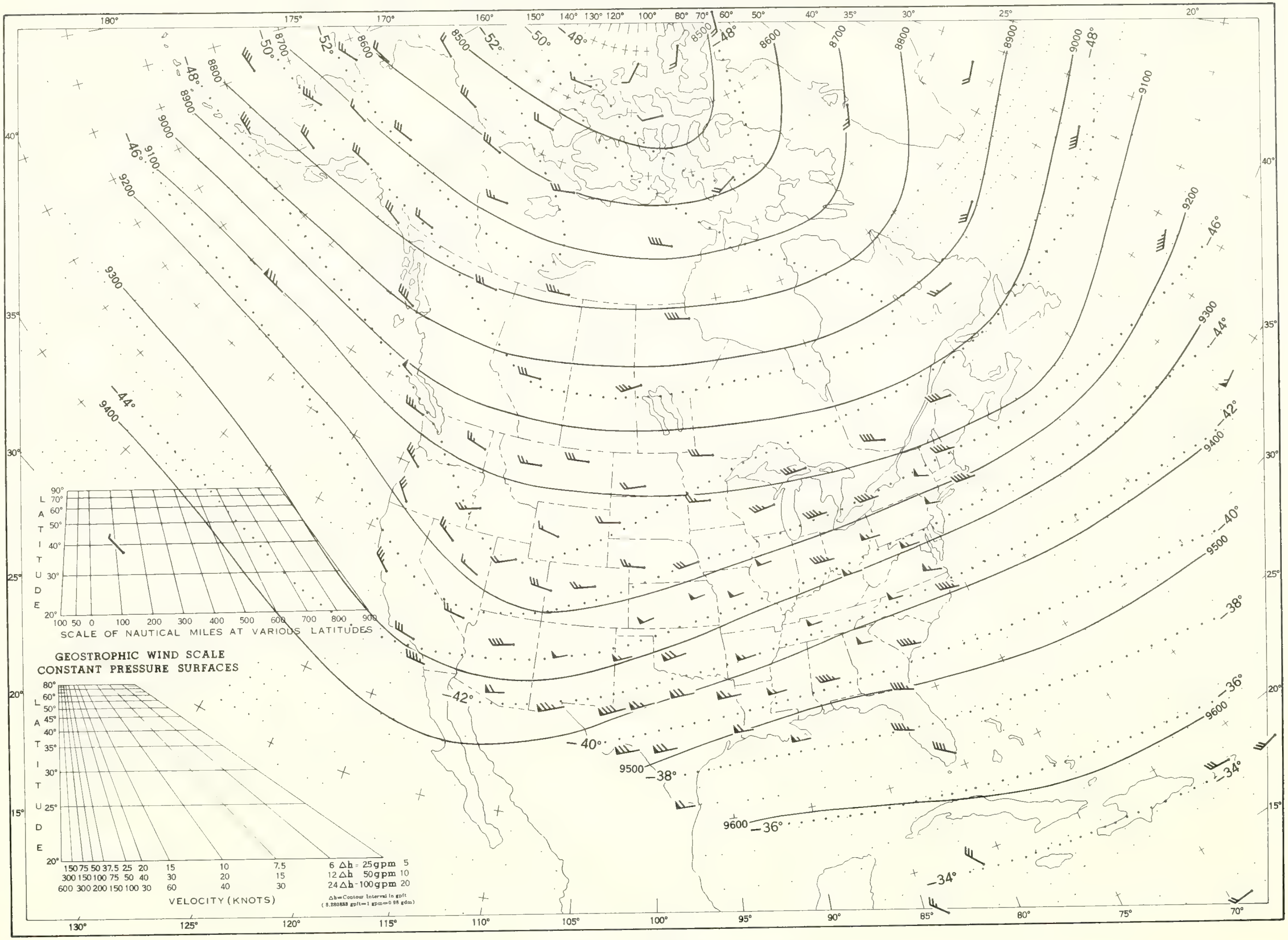
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, April 1964. Average Height and Temperature, and Resultant Winds.



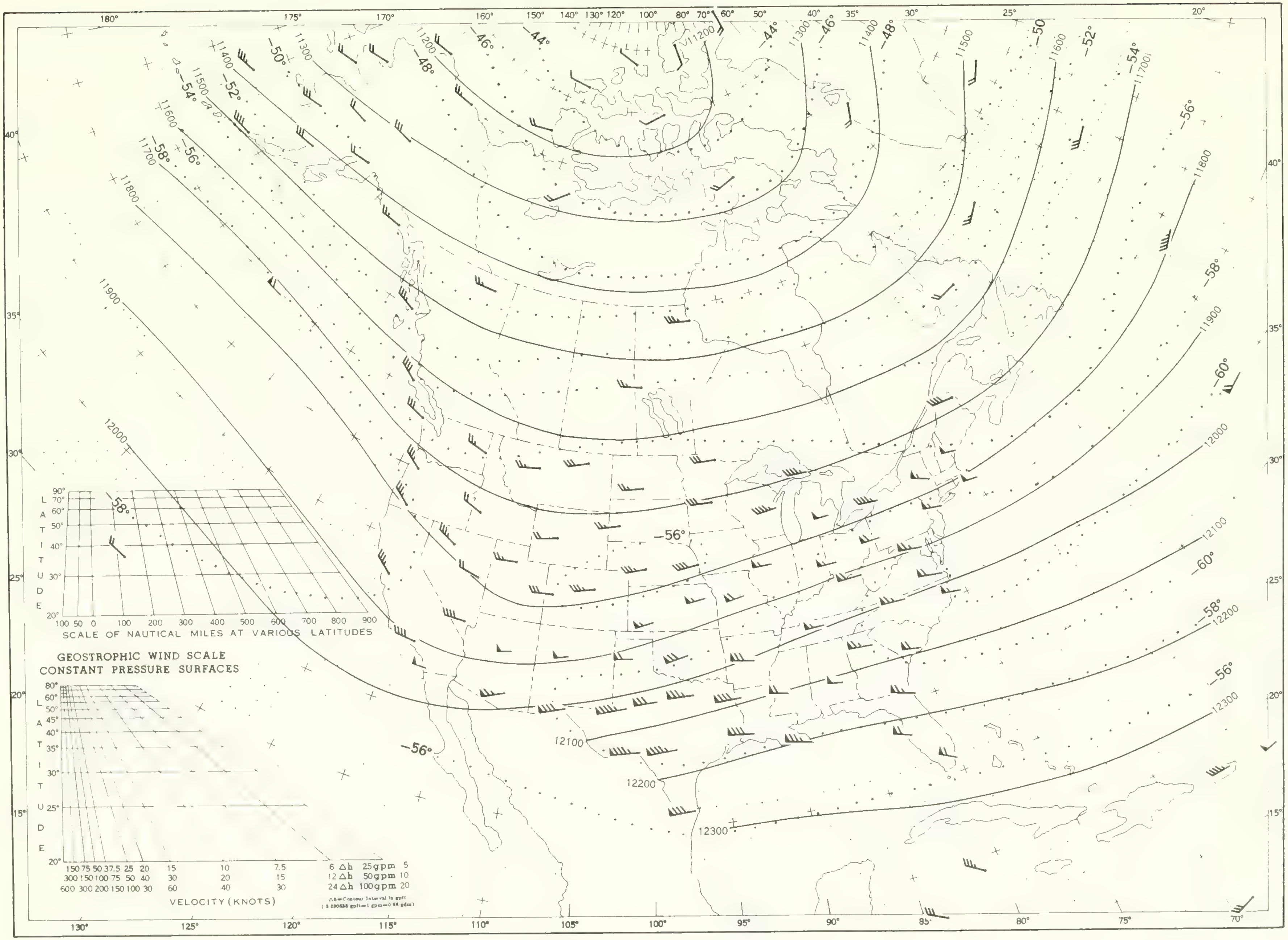
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, April 1964. Average Height and Temperature, and Resultant Winds.



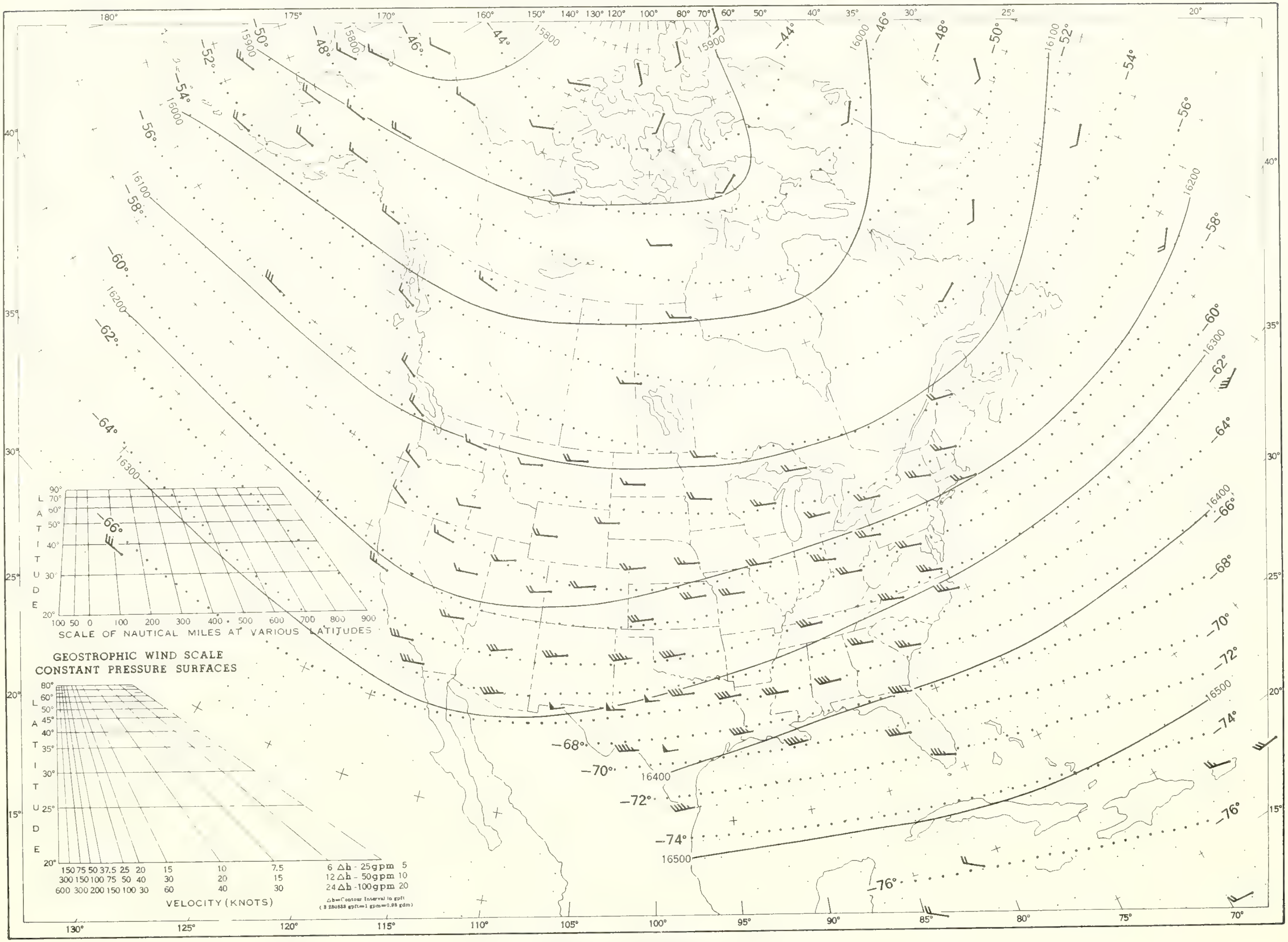
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, April 1964. Average Height and Temperature, and Resultant Winds.



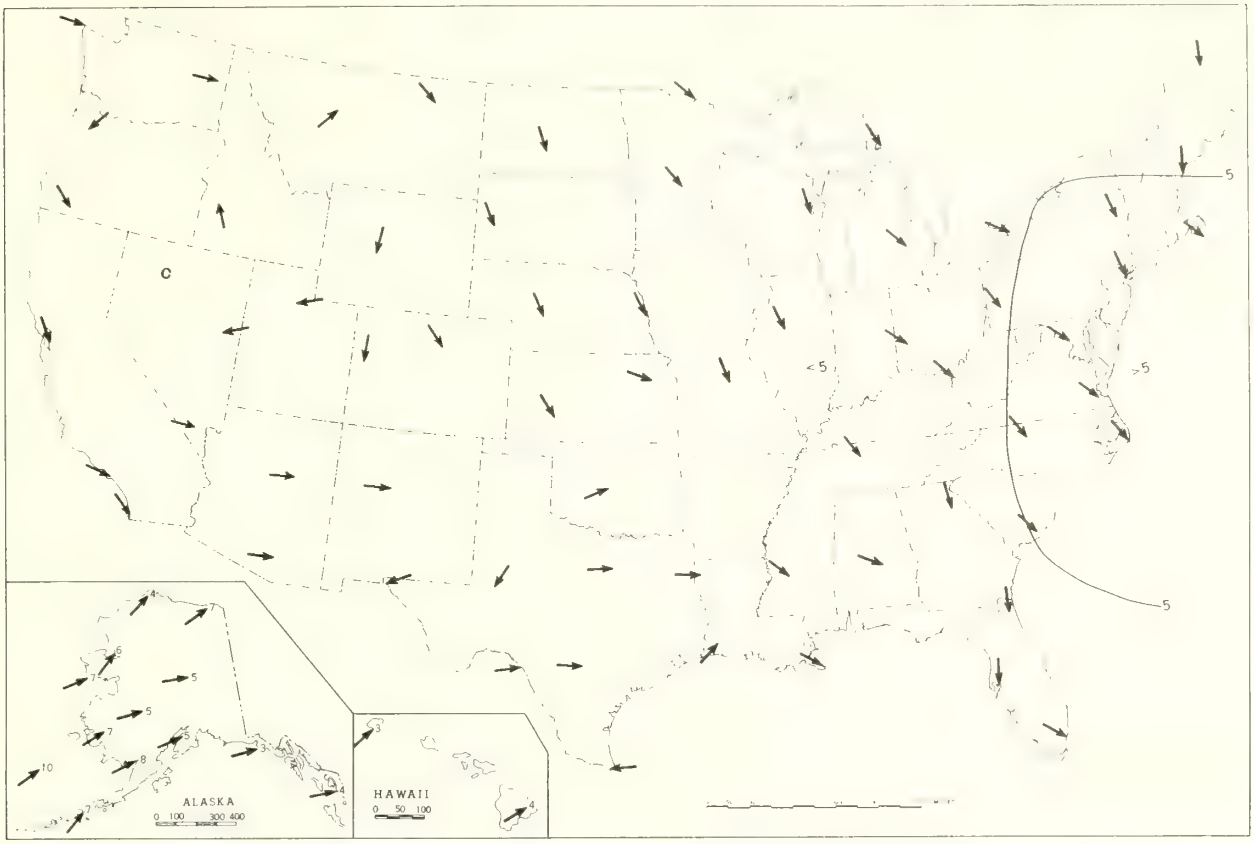
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, April 1964. Average Height and Temperature, and Resultant Winds.

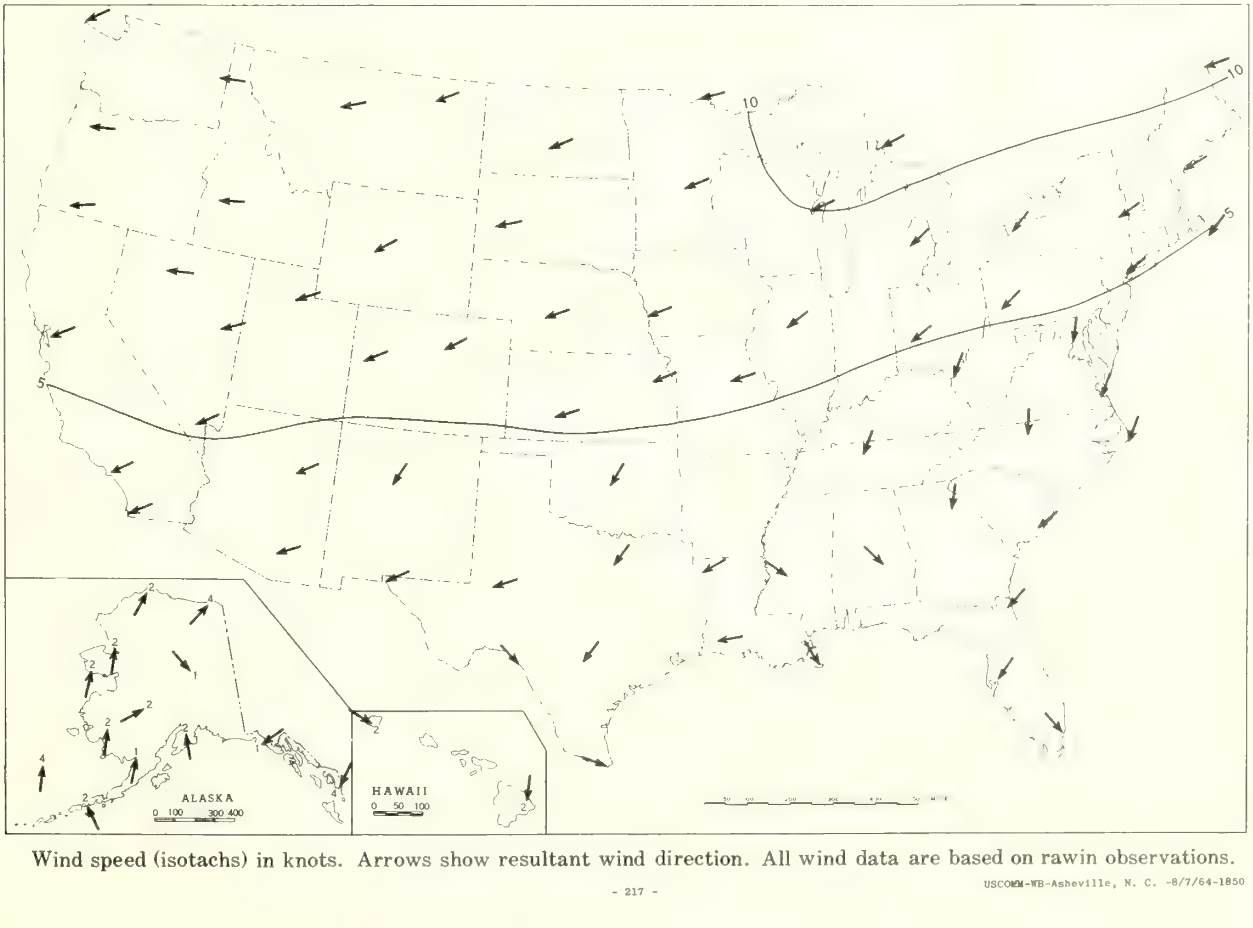


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, April 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, April 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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Volume 15 No. 5

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 5 MAY 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

For the month as a whole, temperatures averaged below normal from the Pacific Ocean almost to the Continental Divide and above normal over most of the rest of the Nation. Rainfall exceeded the normal from Nevada to Montana and over the western portions of Kansas and Oklahoma, but at only scattered locations east of the Great Plains. Rainfall was especially light over the southern portions of Arizona and New Mexico, most of Washington, in spots in Texas and Illinois, and from North Carolina to southern New England.

A late season snowstorm brought several inches of snow to the northern Rocky Mountains on May 2 and 3. Boise, Idaho, received 4 inches on the 2d. That was more than had fallen at Boise in all the Mays of record. Missoula, Mont., received 6.6 inches during the 2-day storm and 10.1 inches fell at Helena, Mont., on the 3d.

Cloudy, rainy weather continued over the eastern half of the Nation. Especially heavy rains fell over Georgia and nearby portions of Alabama, South Carolina, and Florida. Numerous stations in that area received more than 3 inches on May 2.

The rains ended in the Southeast and dry weather predominated from the 4th to the 28th. At Charleston, S. C., that was the longest spring dry period of record.

Some violent weather occurred over the northern and central Great Plains near the end of the first week of May. On the 5th, hail as large as baseballs fell during a heavy thunderstorm at Dodge, Nebr. The wind reached 72 m.p.h. at Redwood Falls, Minn., and 83 m.p.h. at Rochester, Minn., on the 6th. Damaging winds occurred over parts of Iowa and Illinois on the 8th. A tornado in the Alpena, Mich., area caused about $300,000 property damage. Other damaging storms occurred from the Dakotas to Wisconsin. Over a dozen persons in Michigan were killed by tornadoes on May 8.

Cool air invaded the midsection of the United States about the middle of the month. Temperatures dropped to freezing at Madison, Wis., on the 14th and light frost occurred as far south as South Bend, Ind., on the 15th. A few stations in the Far Northwest and in northern New England registered minimums in the 20's.

Warm air pushed northward about May 17 and 18. The mercury climbed to 90° or higher from South Dakota to Kansas on the 17th and to 105 at Needles, Calif., on the 18th. On the 19th, Springfield, Ill., Evansville, Ind., and Columbus, Ohio, registered 92°. As the warm, sunny days brought the hottest temperatures of the growing season, rainfall was limited to scattered showers over a few areas.

Cold air began pushing into the Great Lakes region on the 19th. As the cold air crossed Chicago, Ill., the temperature dropped 16° in a few minutes. Numerous stations in Upper Michigan registered subfreezing temperatures on the 20th. Marquette, Mich., registered 27° on that date. Afew light showers occurred along the leading edge of the cold air. Hot weather continued over eastern Montana and over North Dakota. Miles City, Mont., registered 99° on May 20 and Fargo, N. Dak., registered 98° on the 21st. This was in sharp contrast to the maximums in the 50's and 60's that were common in New England.

The heat wave arrived in New England on the 23d. Numerous locations from Arizona to New England recorded afternoon temperatures in the 90's. The mercury at Hartford, Conn., reached 96°; at Amarillo, Tex., 99°; and at Needles, Calif., 108°. In sharp contrast, cold air covered the Northwest and a few flakes of snow fell at Sheridan, Wyo. Violent thunderstorms swept across the northern and central Great Plains. Wind gusts reached 106 m.p.h. at Minneapolis, Minn., on the 23d and 90 m.p.h. at Akron, Ohio. A tornado occurred at Marion, Minn. Hail as large as baseballs fell at Madison, Nebr. Gales on Lake Michigan capsized a number of boats near Chicago on Sunday afternoon, May 24. As the cold air moved eastward, it broke the hot spell in the Northeast. Northwesterly winds held afternoon temperatures in the 60's and 70's.

On May 25, temperatures over mid-America again climbed to record levels -- 97 at Norfolk, Nebr., -- and unseasonably cold air covered the Northwest -- 56° at Seattle, Wash. Storms occurred on the 26th along a front from Kansas to Ohio. Hail up to 1 inch in diameter and winds approaching 60 m.p.h. caused some property damage in Kansas City, Mo. At least two tornadoes occurred in Nevada on May 26. A thunderstorm at Yuma, Ariz., flooded basements. Hail damaged garden crops at Pueblo, Colo., on May 27 and 29. As the cold air pushed southward, a few stations registered their coldest temperatures for the month. The temperature at O'Hare Field, Chicago, Ill., dropped to 34° on the morning of May 30 and several locations in the Dakotas and Nebraska registered 31° on the last day of the month.

There were complaints of drought in the Far Northwest. Walla Walla, Wash., received only 0.23 inch of rain in May; only 2.87 inches in the 5-month period, January to May. This was the driest such period in their 90-year record. In Nevada, Reno recorded that the cool weather favored the growth of range grasses but Elko wrote that several range fires occurred during the dry middle part of May. Amarillo, Tex., reported the spring as the second driest since 1892, the beginning of the record. May 1964 was one of the driest of record at New Haven, Conn., but the wettest May in 5 years at Nashville, Tenn. It was the fifth driest May in 146 years at Boston, Mass., the driest since 1912 at some stations in Pennsylvania, and among the driest of record in North Carolina. During the last few days of the month, timely rains fell over some dry areas of New Mexico, the High Plains of Texas, and northward into Colorado and Kansas.

In general, a few areas received excessive rains but the areas of deficient rainfall were larger and more numerous.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In
Alabama	Chatom 3N	105	21	Valley Head	36	15	Pine Level	6.63	2 Stations	0.40
Alaska	Sitka Magnetic	83	30	2 Stations	-16	9+	Yakutat WBAP	11.74	Tanacross	T
Arizona	2 Stations	107	22+	Pinon	4	6	Bright Angel RS	1.22	102 Stations	.00
Arkansas	Sparkman 3WSW	99	26	Gravette	36	13	Greenwood	7.05	Stuttgart 9ESE	.54
California	Death Valley	108	21+	White Mountain 2	-15	7	Pacific House	6.45	18 Stations	.00
Colorado	Eversoll Ranch	102	23	Hot Sulphur Springs	7	3	Lamar	6.97	Ignacio 1N	.16
Connecticut	Hartford WBAP	96	23	Coventry	22	3+	Danbury	2.78	Pauchaug Forest	.52
Delaware	Shelbyville	94	23	3 Stations	39	16+	Dover	.58	2 Stations	.19
Florida	Fountain 3SSE	100	28	Fountain 3SSE	47	30+	Ft. Lauderdale Exp Sta	14.99	Fort Myers WBAP	.50
Georgia	Quitman	100	29	Blairville Exp Sta	33	15	Quitman	7.24	Surrency 2WNW	1.33
Hawaii	Mana 1026, Kauai	89	25	Mauna Loa Slope Obs.	29	5	Papaikou Mauka 140 A	51.35	12 Stations	.00
Idaho	Orofino	98	16	2 Stations	15	23+	Fenn Ranger Station	3.33	Potlatch	.25
Illinois	Carlyle Reservoir	96	19	6 Stations	34	30+	Galena	7.07	2 Stations	.18
Indiana	6 Stations	95	23+	4 Stations	33	30+	Decatur	5.21	Rushville Sewage Plant	.20
Iowa	3 Stations	95	23+	Inwood 2W	32	13	Ida Grove	7.86	Keokuk Lock and Dam 19	.63
Kansas	2 Stations	104	23	Oberlin	27	13	Cimarron	8.93	Niles	1.07
Kentucky	Paradise Steam Plant	95	20+	Blaine 1W	32	30	Bonnieville 4N	5.37	Vanceburg Dam 32	.59
Louisiana	2 Stations	98	27	Converse	43	14	Port Sulphur	10.04	New Orleans London	.46
Maine	Sanford 2NNW	95	24	Squa Pan Dam	22	15	Van Buren 2	4.32	Lewiston	1.31
Maryland	2 Stations	95	23+	Oakland 1SE	28	29	Dalecarlia Resv D. C.	2.27	Frederick 3E	.20
Massachusetts	Haverhill	96	23	6 Stations	25	3+	Adams	2.16	Camp Wellfleet	.22
Michigan	Marquette WB City	98	22	Ironwood	17	14	Bergland Dam	9.37	Caro State Hospital	1.14
Minnesota	Thief River Falls AP	100	21	Bigfork	21	30	New Ulm 2SE	7.87	Morris WC School	.28
Mississippi	2 Stations	99	28+	2 Stations	44	15+	Hattiesburg	6.90	Pascagoula City	.93
Missouri	3 Stations	94	27+	Grovespring	36	14	Conception	8.09	Kahaka	.52
Montana	2 Stations	99	20	2 Stations	13	5	Shonkin 7S	12.53	Lonepine 1WNW	.50
Nebraska	Beaver City	101	25	Broken Bow 2W	22	13	Genoa 2W	7.47	Kearney	.09
Nevada	Boulder City	105	21	Sheldon	7	6	Lamoille Power House	4.56	2 Stations	.00
New Hampshire	Manchester	96	24	Grafton	20	3	York Pond	4.75	Greenville	.99
New Jersey	3 Stations	96	25+	Layton 2	30	3	Wertsville	2.74	Cape May 3W	.18
New Mexico	2 Stations	105	24+	3 Stations	10	10+	2 Stations	3.43	11 Stations	.00
New York	Bedford Hills	100	24	2 Stations	24	22+	Lawrenceville	5.53	Mineola	.35
North Carolina	4 Stations	98	28+	Celo 2S	32	16	Wilmington 7N	6.20	Turnersburg	.45
North Dakota	Grand Forks FAA AP	101	21	Medora 3NNE	22	12	Pettibone	4.12	Colgate	.62
Ohio	Bowling Green Swg Pl	96	23	2 Stations	30	30	Galion Water Works	6.13	2 Stations	.62
Oklahoma	Hooker	103	23	Kenton	34	9	Okemoh	9.96	Valliant 1E	.57
Oregon	Ontario KSRV	94	19	Hampton	6	3	Brightwood	4.38	Redmond KPRB	.00
Pennsylvania	2 Stations	100	23	Clermont 4NW	23	30+	Meadville 1S	4.45	Hyndman	.01
Puerto Rico	3 Stations	96	16+	Guineo Reservoir	57	11	Coloso	9.17	Fountain	.08
Rhode Island	Providence WBAP	94	23	Kingston	26	4	Block Island WBAP	1.41	Woonsocket	.53
South Carolina	5 Stations	100	29+	3 Stations	41	16+	Hilton Head	7.82	Crescent 1W	.74
South Dakota	Fort Sully 8NE	98	21	Deerfield 5NW	18	12	Deadwood	5.78	Sisseton	.59
Tennessee	2 Stations	96	27	Unicoi 2ESE	33	1	Gainesboro	6.80	Selmer	1.21
Texas	Castolon	109	5	Marfa No 2	35	2	Jacksboro	9.40	3 Stations	.00
Utah	3 Stations	96	19+	Strawberry Hwy Station	4	4	City Creek Water Plant	6.05	Monument Valley Miss	.06
Vermont	Bellows Falls	93	24	Chelsea	21	3	Huntington Center	5.51	Bennington 2NNW	1.21
Virginia	Hopewell	96	20	2 Stations	33	16+	Mendota	4.00	McDowell	.14
Washington	3 Stations	92	31+	Rainier Paradise RS	16	13	Tolt South Fork Resvr	8.80	Sunnyside	.00
West Virginia	Williamson	94	23+	Canaan Valley	25	29	Athens Concord College	4.02	2 Stations	.42
Wisconsin	2 Stations	94	22+	6 Stations	24	31+	Madeline Island	10.00	Jump River 1ESE	1.89
Wyoming	Redbird	95	21	3 Stations	11	12+	Grass Creek	5.60	Dixon	.30

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	992.8	1017.9	83	60	71.7	- 0.1	94	27	46	15	8	0	60	70	3.20	- 0.22	1.95	5	4	0.0	0	6.2	3	29	N	2	9	10	12	5.6	82
HUNTSVILLE	605	996.0	1017.7	84	60	71.7	1.3	95	27	47	15	9	0	58	65	2.13	- 1.26	1.25	7	6	0.0	0	5.6	16	26*	9	2	9	10	12	5.7	
MOBILE	211	1014.6	1016.7	86	64	74.9	- 0.7	97	27	55	15	8	0	63	71	4.32	- 0.56	3.27	5	4	0.0	0	8.6	18	34*	17	13	13	10	8	5.0	
MONTGOMERY	195	1009.2	1017.4	84	61	72.9	0.5	95	28	52	15	9	0	62	71	1.92	- 1.55	1.51	4	5	0.0	0	6.4	36	19	W	28+	11	10	10	5.3	68
ALASKA												8																				
ANCHORAGE	90	1010.0	1015.3	50	32	41.2	- 4.7	75	31	17	10	2	13	27	59	0.97	0.45	0.46	8	0	0.4	T	9.2	18	33*	35	9	8	8	15	6.2	60
ANNETTE	110	1012.9	1017.0	55	40	47.4	- 1.8	79	28	32	13+	3	2	38	74	4.96	- 2.11	1.81	15	0	5.0	6	7.6	20	29*	18	11	2	12	17	7.4	
BARROW	22	1016.3	1017.2	25	11	17.7	- 0.7	40	31+	-14	5	0	30	14	82	0.38	0.26	0.21	7	0	4.1	8	10.6	21	25*	19	29	4	8	19	7.4	
BARTER ISLAND	39	1016.8	1018.7	27	15	20.9	0.2	52	29	-16	1	0	30	17	84	0.41	0.16	0.17	9	0	4.3	12	10.0	26	35*	26	11	7	5	19	7.3	
BETHEL	125	1017.7	1018.6	38	24	31.0	- 8.0	63	31	6	1	0	28	27	87	0.71	- 0.24	0.25	11	0	5.7	7	12.5	32	31*	2	2	6	6	19	7.1	
COLD BAY	94	1016.1	1020.0	44	32	38.1	- 1.4	65	31	22	1	0	16	32	81	1.15	- 1.14	0.42	12	0	1.2	1	16.2	33	45*	30	2	2	5	24	8.3	
CORDOVA	40	1011.9	1013.6	50	31	40.5	- 3.2	76	30	23	9+	3	19	34	78	5.45	0.39	1.52	15	0	9.9	4	6.9	12	32*	11	3	6	10	15	6.9	
FAIRBANKS	436	999.1	1016.6	47	30	38.6	- 8.5	81	31	- 1	9	3	18	24	58	0.97	0.26	0.56	10	0	4.7	4	8.0	34	24*	22	13	6	10	15	6.7	
JUNEAU	17	1014.4	1015.4	54	36	45.1	- 0.5	79	29	27	3	4	10	37	76	4.35	1.11	0.93	17	0	1.2	1	10.4	12	33*	11	10	4	6	21	7.8	45
KING SALMON	43	1015.0	1016.9	47	29	38.2	- 5.1	75	31	18	10	2	23	29	72	1.87	0.91	0.55	12	0	2.2	T	12.2	23	43*	16	2	9	6	16	6.4	
KOTZEBUE	10	1016.3	1016.8	33	16	24.5	- 6.4	44	30	-12	1	0	28	21	82	0.66	0.33	0.25	9	0	12.0	23	11.3	16	32*	24	14+	10	6	15	6.1	
MC GRATH	334	1003.9	1016.9	44	26	35.3	- 8.8	68	31	7	9	0	26	25	68	0.87	0.01	0.30	13	0	4.5	26	8.0	36	29*	23	13	7	6	18	6.9	
NOME	13	1016.2	1016.7	34	22	28.1	- 6.9	47	25	-10	1	0	29	24	84	0.44	- 0.25	0.20	6	0	3.2	12	13.1	23	43*	4	24	5	10	16	7.0	39
ST. PAUL ISLAND	22	1018.4	1019.5	38	30	34.3	- 0.5	44	17	18	9	0	18	32	90	1.84	0.54	0.51	12	0	1.6	2	15.3	16	37*	33	25+	4	2	25	8.3	
SHEMYA	122	1023.8	1024.3	40	35	37.8	- 0.2	45	16	28	1	0	5	33	85	1.20	- 1.20	0.59	7	0	0.2	2	17.4	24	46*	20	12	2	4	25	9.0	
YAKUTAT	28	1014.2	1015.3	49	33	41.2	- 3.4	77	30+	23	1	2	12	34	78	11.74	3.76	2.58	16	1	12.8	9	7.1	9	29*	18	9	5	5	21	7.6	
ARIZONA																																
FLAGSTAFF	6993	789.5	1013.4	66	33	49.4	- 1.5	79	21+	20	8	0	18	24	41	0.84	0.33	0.44	6	0	3.8	3	8.6	18	29*	19	2	17	9	5	4.2	
PHOENIX	1117	971.7	1010.3	91	56	73.7	- 1.3	102	19	44	8+	21	0	35	25	T	- 0.13	T	0	1	0.0	0	6.6	27	41Y	WNW	25	20	7	4	3.2	94
PRESCOTT	5014	846.1	1012.4	76	44	59.6	- 1.7	89	24+	26	8	0	5	23	30	0.22	- 0.02	0.22	2	0	T		11.2	19	43	SW	2	20	6	5	3.4	91
TUCSON	2584	923.6	1010.2	89	57	73.2	- 0.3	100	24	41	8	18	0	20	15	0.00	- 0.13	0.00	0	0	0.0	0	8.3	16	30	SW	6	19	10	2	2.8	92
WINSLOW	4880	850.1	1012.2	81	44	62.6	- 2.2	95	24	23	8	7	3	22	25	0.04	- 0.28	0.04	1	3	0.0	0	10.4	22	43*	22	2	16	11	4	3.9	
YUMA	199	1005.6	1010.7	91	61	75.8	- 3.8	101	31+	47	5	21	0	36	26	T	- 0.01	T	0	2	0.0	0	7.5	30	36	W	4	22	5	4	2.4	95
ARKANSAS																																
FORT SMITH	449	999.2	1016.1	84	59	71.3	1.4	95	27+	43	13	10	0	59	70	5.16	- 0.10	2.88	10	6	0.0	0	7.3	9	25	SE	1	6	10	15	6.6	53
LITTLE ROCK	257	1003.6	1016.7	84	61	72.3	1.8	98	26	48	14	8	0	61	70	1.40	- 3.88	0.97	5	1	0.0	0	7.5	25	28	W	10	8	11	12	6.0	70
TEXARKANA	361	1002.6	1016.2	84	64	73.9	2.3	94	26	52	14	6	0	64	77	2.71	- 2.19	2.21	6	4	0.0	0	5.9	18								
CALIFORNIA																																
BAKERSFIELD	494	997.5	1015.0	81	54	67.6	- 2.8	96	12	41	2	4	0	39	39	0.20	- 0.02	0.16	3	0	0.0	0	7.9	34	31*	33	26	16	9	6	3.3	
BISHOP	4108	871.6		78	42	60.0	- 2.6	91	21+	25	3	5	5			0.81	0.61	0.41	4	1	2.3	2						13	11	7	4.4	
BLUE CANYON	5280	837.7		55	38	46.4	- 5.8	69	31	22	6	0	7			5.28	2.18	1.59	11	0	26.1	21	7.2		29*	18	16	11	12	8	4.8	
BURBANK	699	989.3	1015.1	74	50	61.6	- 2.8	85	10	40	7	0	0	46	62	0.04	- 0.14	0.03	2	0	0.0	0	8.0	19	23*	15	6	17	7	7	3.8	
EUREKA U	43	1017.3		55	46	50.4	- 2.6	64	31	37	6	0	0			1.59	- 0.59	0.47	8	1	0.0	0	8.2	N#	29	N	21	1	9	21	7.7	51
FRESNO	326	1002.8	1014.7	80	50	64.9	- 3.3	96	31	38	3	4	0	42	48	0.35	0.05	0.35	2	0	0.0	0	8.5	30	26	NW	20+	19	6	6	3.4	85
LONG BEACH	34	1014.6	1016.1	69	50	59.5	- 4.0	79	10+	40	7	0	0	48	71	0.04	- 0.07	0.04	1	0	0.0	0	7.1	28	25*	23	4	13	14	4	4.4	
LOS ANGELES	97	1012.8	1016.4	65	52	58.5	- 3.5	72	25+	45	7	0	0	48	73	0.01	- 0.12	0.01	1	0	0.0	0	10.7	27	29*	27	4	14	12	5	4.5	
LOS ANGELES U	312			70	53	61.7	- 3.1	83	25	46	7	0	0			0.01	- 0.15	0.01	1	0	0.0	0	6.5	W#	32	SW	4	15	11	5	3.9	74
MT SHASTA R	3544	892.2		64	37	50.5	- 3.3	77	31+	24	2	0	7			2.02	0.03	0.73	9	3	2.7	1						15	7	9	4.8	
OAKLAND	3	1017.2	1017.6	60	50	55.2	- 4.5	65	21+	44	15	0	0	47	75	0.24	- 0.41	0.13	6	1	0.0	0	11.0	29	37*	30	5	13	10	8	5.0	
POINT ARGUELLO R	367	1003.7		58	45	51.5	- 3.9	67	16	40	4+	0	0			0.18	0.01	0.17	3	0	0.0	0	8.7		25*	31	2	6	7	18	7.2	
RED BLUFF	341	1002.0	1014.7	79	51	65.0	- 3.3	92	30	37	4	4	0	38	41	0.43	- 0.70	0.24	3	0	0.0	0	7.9	17	30	S	16	14	9	8	4.4	85
SACRAMENTO	17	1014.4	1015.8	79	47	63.0	- 1.0	91	11	37	2	3	0	45	60	0.23	- 0.36	0.17	4	1	0.0	0	9.3	22	27	SW	19	19	9	3	3.7	87
SACRAMENTO U	23			76	49	62.8	- 1.4	90	11	40	6+	1	0			0.18	- 0.44	0.11	5	0	0.0	0										
SANDBERG R	4517	862.2		65	43	54.1	- 2.5	83	18	26	2	0	7			0.66	0.35	0.36	3	0	7.0	3	13.3		36*	35	29	18	4	9	3.6	
SAN DIEGO	13	1013.0	1016.1	67	55	60.9	- 3.1	77	25	49	7	0	0	50	70	0.15	0.00	0.10	4	0	0.0	0	8.2	29	26	NW	25	9	14	8	5.3	64
SAN FRANCISCO	8	1017.2	1017.9	64	48	55.8	- 2.5	70	21	43	15+	0	0	46	74	0.32	- 0.16	0.11	7	0	0.0	0	14.4	26	47	S	16	12	12	7	4.9	
SAN FRANCISCO U	52			58	48	53.4	- 4.0	66	21	44	6	0	0			0.22	- 0.41	0.19	4	0	0.0	0	10.4	W#	35	W	5					74
SANTA CATALINA	1568	960.0		65	49	56.9	- 2.1	79	10	43	7	0	0			0.04	- 0.32	0.02	3	0	0.0	0						20	3	8	3.7	
SANTA MARIA	238	1009.3	1017.9	65	43	53.5	- 4.1	74	9	31	2	0	1	45	79	0.27	0.05	0.23	3	0	0.0	0	9.5	30	31*	29	2+	11	13	7	5.0	
STOCKTON	28	1014.5	1016.2	79	48	63.5	- 2.7	93	12	38	4	3	0	43	55	0.47	0.03	0.15	5	1	0.0	0	8.9	27	25*	25	4	17	9	5	3.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow Sleet				Fastest mile							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F or above	Min. 32 F or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft	Mb	Mb.	F.	F.	F	F	F.		F				F	%	In	In.	In			In	In	Mph		Mph							%
COLORADO																																
ALAMOSA	7536	770.9		69	34	51.5	0.7	82	24	20	9	0	14			0.50	- 0.23	0.34	3	7	0.0	0						9	18	4	4.7	
COLORADO SPRINGS	6173	809.6	1011.3	72	43	57.6	2.6	92	25	28	12	1	1	27	39	2.54	0.41	1.49	8	9	0.0	0	12.1	36	41*	22	5	9	10	12	5.9	
DENVER	5283	835.7	1010.4	74	43	58.8	2.6	91	25+	27	4	2	3	32	44	2.53	- 0.17	1.71	6	4	1.0	1	8.6	18	43	SW	5	8	14	9	5.7	65
GRAND JUNCTION	4849	857.0	1010.3	77	48	62.3	0.1	92	16	33	8+	5	0	25	30	0.41	- 0.19	0.15	6	1	T	T	9.0	14	36	SW	5	9	12	10	5.5	73
PUEBLO	4639	854.3	1010.6	78	44	61.3	0.7	94	25+	31	7	8	2	30	36	1.88	0.08	1.63	6	7	0.0	0	13.0	24	61	SW	5	10	10	11	5.2	72
CONNECTICUT																																
BRIDGEPORT	7	1015.9	1016.8	71	50	60.4	1.7	87	23	37	2	0	0	47	66	0.98	- 2.73	0.60	4	2	0.0	0	13.9	25	36*	30	10	12	10	9	5.0	
HARTFORD	169	1009.3	1015.3	78	47	62.6	2.7	96	23	30	3	3	3	45	55	0.87	- 2.54	0.59	4	1	0.0	0	9.5	18	33	NW	10	7	13	11	6.0	75
NEW HAVEN	6	1015.3		70	48	59.2	2.0	83	24	34	4+	0	0			0.84	- 2.87	0.45	4	1	0.0	0	8.3		29	W	25	12	9	10	5.2	79
DELAWARE																																
WILMINGTON	78	1013.9	1017.3	76	53	64.3	1.6	92	23	43	3+	2	0	48	58	0.22	- 3.31	0.16	2	1	0.0	0	10.2	22	24*	23	19+	11	11	9	5.3	
DIST.OF COLUMBIA																																
WASHINGTON U	72			79	57	67.8		94	23	44	3+	4	0			1.73		1.28	2													
WASH NATL AP	14	1012.2	1016.8	80	57	68.1	2.3	94	23	44	2	6	0	50	56	1.46	- 2.68	1.18	3	2	0.0	0	9.2	18	31	WNW	10	10	11	10	5.4	70
FLORIDA																																
APALACHICOLA U	13	1015.1		81	67	74.1	- 0.7	88	21	59	15+	0	0			2.09	- 0.79	1.58	3	5	0.0	0	7.9					15	12	4	3.6	75
DAYTONA BEACH	31	1016.0	1017.8	84	66	74.8	0.6	92	29	60	18	3	0	65	74	2.58	- 0.27	1.42	5	4	0.0	0	9.0	10	37*	1	2	6	18	7	5.7	
FORT MYERS	13	1015.6		89	66	77.7	0.3	95	31	61	8	15	0			0.50	- 3.35	0.24	5	5	0.0	0	9.7		25*	6	23	7	16	8	5.4	
JACKSONVILLE	24	1015.3	1017.1	84	65	74.5	- 1.3	95	28	56	15	10	0	64	73	4.80	1.33	2.28	4	6	0.0	0	9.5	24	51	E	2	12	13	6	5.1	74
KEY WEST	5	1015.1	1016.2	85	76	80.4	1.4	90	30	71	15	1	0	69	70	0.96	- 1.77	0.70	9	6	0.0	0	11.4	12	24	S	1	7	14	10	5.8	76
LAKELAND U	214			86	67	76.3	- 0.6	92	31	62	4	5	0			2.83	- 0.71	2.66	4	3	0.0	0	7.6					7	16	8	5.4	66
MIAMI BEACH	9			81	74	77.9	- 0.3	91	3	66	5+	1	0			2.33	- 2.21	0.92	11	0	0.0	0	14.4					9	13	9	5.4	64
MIAMI	7	1015.3	1016.5	84	72	77.6	0.0	90	3	65	10+	1	0	68	73	4.67	- 1.77	2.08	10	5	0.0	0	7.8	6	22*	24	3	5	16	10	6.3	
ORLANDO	106	1012.8	1017.4	88	66	77.1	- 0.5	94	31+	62	8	13	0	64	68	2.74	- 0.83	1.49	5	4	0.0	0	9.1	6	25*	28	3	10	13	8	5.4	
PENSACOLA	13			84	65	74.4	- 1.1	96	26	54	15	5	0			1.64	- 2.92	0.67	4	3	0.0	0	7.6	34	32	SE	2					80
TALLAHASSEE	58	1014.8	1017.6	86	61	73.5	- 1.4	95	21	52	15+	10	0	62	70	2.63	- 1.47	1.00	6	8	0.0	0	8.4	18	23*	22	2	9	16	6	5.4	
TAMPA	19	1015.1	1016.8	88	66	76.7	- 0.1	92	31+	60	15+	12	0	64	68	3.58	0.73	3.13	5	2	0.0	0	11.2	9	27*	10	23+	10	9	12	5.8	82
WEST PALM BEACH	15	1015.6	1016.8	85	68	76.4	- 1.2	91	3	60	9	1	0	68	76	5.74	0.63	2.78	12	4	0.0	0	9.7	7	29*	18	1	5	14	12	6.5	
GEORGIA																																
ATHENS	803	988.9	1017.6	83	58	70.6	0.5	95	20	46	15	8	0	57	66	4.77	1.16	4.45	4	5	0.0	0	7.6	5	31*	29	12	9	13	9	5.6	
ATLANTA	1005	976.3	1017.9	79	59	68.9	- 0.7	89	28+	46	15	0	0	57	69	2.59	- 0.57	2.35	3	2	0.0	0	7.2	27	27	NE	2	9	13	9	5.5	75
AUGUSTA	143	1010.3	1017.1	87	59	72.9	1.3	99	28	49	15	14	0	57	64	4.27	1.28	3.97	3	3	0.0	0	7.3	4	40*	17	21	5	14	12	5.7	
COLUMBUS	385	1003.1		84	59	71.6	- 0.5	95	26	50	16	8	0			3.63	0.13	2.27	4	3	0.0	0	7.6		25*	9	2	11	9	11	5.6	
MACON	356	1004.0	1017.6	85	61	73.0	- 0.9	96	28+	51	16+	11	0	58	63	3.54	0.22	3.03	4	2	0.0	0	6.9	27	23	NE	2	8	12	11	5.5	72
ROME	637	994.9		82	55	68.6	- 0.1	93	27	44	15	6	0			4.82	1.02	4.35	8	5	0.0	0						11	7	13	5.5	
SAVANNAH	48	1014.8	1017.4	85	62	73.2	- 0.2	96	28+	53	7	11	0	62	71	4.66	0.89	3.80	5	6	0.0	0	9.9	24	29	E	2	11	11	9	5.6	75
THOMASVILLE U	283			85	63	73.6	- 1.8	95	27	53	15	8	0			6.74	2.90	5.28	6	4	0.0	0										
HAWAII																																
HILO	31	1016.0	1017.8	79	65	72.0	- 1.0	82	22+	62	30	0	0	65	82	25.01	15.68	8.27	27	0	0.0	0	8.8	25	26*	11	6	0	6	25	8.6	21
HONOLULU	7	1016.6	1017.0	83	70	76.4	0.5	85	31+	65	30+	0	0	61	60	0.21	- 0.78	0.11	6	0	0.0	0	11.4	6	29	NE	22	7	10	14	6.3	62
KAHULUI	44	1013.7	1016.5	81	66	73.6	- 1.7	86	31	58	17	0	0	64	74	0.18	- 0.51	0.10	3	0	0.0	0	14.3	6	39	NE	11	9	13	9	5.4	75
LIHUE	115	1013.0	1018.5	82	70	75.7	1.2	83	31+	64	29	0	0	65	70	2.29	- 0.30	0.83	15	0	0.0	0	14.3	6	25	NE	22+	3	10	18	7.3	50
IDAHO																																
BOISE	2838	917.5	1013.3	69	41	55.1	- 3.1	93	16	27	6	1	6	35	52	1.76	0.47	1.07	7	2	4.0	4	8.6	31	39	SW	27	11	7	13	5.8	75
IDAHO FALLS 42NW R	4790			66	36	51.0	- 1.7	87	16	25	4	0	11			0.84	- 0.04	0.24	6				9.5		33A	SW	22					
IDAHO FALLS 46W R	4933	845.8		65	36	50.6	- 2.0	84	19+	23	7	0	10			1.05	- 0.05	0.65	4	2	T	T	10.9		34A	WSW	10					
LEWISTON	1413	962.5		70	45	57.4	- 1.0	90	16	34	23	1	0			0.27	- 1.28	0.10			0.0	0						6	7	18	6.9	
POCATELLO	4444	860.9	1012.8	67	40	53.6	- 1.5	86	19+	27	6	0	5	33	51	1.41	0.28	0.61	6	6	1.5	T	12.1	18	42	SW	2	6	10	15	6.8	54
ILLINOIS																																
CAIRO U	314	1003.5		81	63	71.6	2.6	91	22+	49	29	3	0			3.46	- 0.93	1.10	8	6	0.0	0	8.0	S#	34	SW	8	8	7	16	6.2	61
CHICAGO O HARE	658	990.8	1015.3	75	50	62.7	4.9	89	22+	34	30	0	0	51	65	2.26	- 1.50	1.06	8	5	0.0	0	11.3	22	35*	22	8	4	13	14	6.5	
CHICAGO MIDWAY	610	993.0	1015.8	78	55	66.0	6.0	92	23+	39	14	3	0	49	55	1.74	- 1.99	0.52	9	2	0.0	0	11.1	21	47	SW	8	8	9	14	6.1	77

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F	%	In.	In	In.			In.	In.	M.p.h		M p.h							%
ILLINOIS																																
MOLINE	582	992.7	1014.8	78	55	66.3	5.1	92	18	40	14	3	0	53	65	2.68	- 1.12	0.71	8	7	0.0	0	10.1	18	52	SW	8	8	9	14	6.2	66
PEORIA	652	994.1	1016.4	78	55	66.3	4.8	90	22	40	14	1	0	53	63	1.04	- 3.23	0.56	7	5	0.0	0	9.7	18	38	W	8	12	4	15	5.9	71
ROCKFORD	728	987.4	1014.5	75	51	62.6	3.5	87	22	34	14	0	0	51	66	3.41	- 0.42	1.15	10	6	0.0	0	11.3	18	35*	22	8	8	11	12	6.0	
SPRINGFIELD	588	992.2	1015.2	81	57	68.7	4.8	94	22+	43	29	6	0	54	61	1.82	- 2.06	0.54	10	6	0.0	0	11.9	18	43	W	26	12	7	12	5.4	73
INDIANA																																
EVANSVILLE	381	1001.2	1017.0	80	55	67.7	0.9	92	19	41	15	4	0	56	69	1.88	- 2.31	1.33	6	2	0.0	0	7.6	18	34	SW	26	10	6	15	5.8	69
FORT WAYNE	791	985.6	1016.6	76	52	64.2	3.5	89	23+	40	29+	0	0	51	64	2.55	- 1.18	1.10	7	5	0.0	0	10.3	21	38	SW	9	7	11	13	6.0	74
INDIANAPOLIS	793	987.1	1016.7	77	55	65.6	4.2	89	22+	42	29+	0	0	54	66	1.42	- 2.57	0.56	7	5	0.0	0	9.5	22	40	SW	8	8	8	15	6.0	69
SOUTH BEND	768	987.9	1015.7	75	52	63.5	4.8	90	23+	39	30+	2	0	47	57	1.32	- 2.30	0.97	6	4	0.0	0	11.7	19	44*	24	8	6	13	12	6.1	
IOWA																																
BURLINGTON	694	989.9	1015.4	79	56	67.8	6.0	91	22+	40	14	3	0	53	62	1.05	- 2.98	0.46	7	3	0.0	0	11.3	20	56	SW	8	10	5	16	6.1	65
DES MOINES	948	983.1	1014.1	75	54	64.3	2.0	89	22	41	14	0	0	53	69	2.90	- 1.17	0.92	12	12	0.0	0	13.4	18	65	SW	8	11	6	14	6.1	61
DUBUQUE	1065	989.1		74	52	62.9	4.8	86	22	41	14	0	0			7.13	2.91	2.69	11	8	0.0	0			59*	23	8	7	12	12	6.4	
SIOUX CITY	1095	971.7	1012.6	77	54	65.7	4.3	90	25+	39	13	2	0	51	61	3.19	- 0.04				0.0	0	12.9	14	57	SW	5					
WATERLOO	868	981.4	1013.2	75	51	63.2	3.3	90	22	40	14	1	0	53	70	5.01	1.27	1.94	13	8	0.0	0	10.8	18	39*	19	6	10	11	10	5.5	
KANSAS																																
CONCORDIA	1470	962.7	1012.1	80	55	67.3	4.2	95	25+	37	13	9	0	53	62	2.52	- 1.37	0.99	10	8	0.0	0	13.1	17	46	SW	8	13	9	9	4.9	78
DODGE CITY	2594	925.0	1011.7	83	55	69.0	5.3	99	25+	42	12	14	0	47	53	3.67	0.45	1.45	7	8	0.0	0	16.3	19	44	W	8	9	9	13	5.6	75
GOODLAND	3645	885.8	1011.5	77	44	60.6	2.1	97	25	30	6	7	1	40	54	2.68	0.27	1.39	7	8	0.0	0	14.4	18	58*	27	8	13	7	11	5.4	
TOPEKA	877	978.3	1013.6	80	58	68.9	4.5	95	26	44	13	5	0	55	65	2.09	- 2.29	1.12	7	7	0.0	0	15.4	18	57	S	5	9	8	14	6.0	61
WICHITA	1321	964.8	1012.9	82	59	70.2	4.2	98	26	41	13	7	0	56	64	5.84	1.87	3.74	10	5	0.0	0	12.7	18	56	S	6	12	11	8	5.3	67
KENTUCKY																																
COVINGTON	869	985.1	1016.8	78	53	65.8	3.3	92	19	40	29	1	0	51	62	1.13	- 2.46	0.33	8	3	0.0	0	8.5	21	35*	23	26	7	11	13	6.3	
LEXINGTON	979	982.0	1017.4	79	55	66.9	2.4	90	22+	41	29	2	0	50	57	1.68	- 2.17	1.02	7	2	0.0	0	8.5	24	23*	25	9	10	6	15	5.8	
LOUISVILLE	474	997.8	1016.8	79	55	66.8	2.4	90	19	41	15	1	0	55	67	1.85	- 2.05	1.02	9	5	0.0	0	7.7	18	31	W	12	10	7	14	5.9	70
LOUISIANA																																
ALEXANDRIA	92	1012.6	1017.1	85	60	72.4	- 0.5	93	26	46	14	6	0	63	77	2.28	- 3.26	1.40	5	7	0.0	0	4.9	18	28*	36	28	10	8	13	5.8	
BATON ROUGE	64	1013.8	1016.9	86	66	75.9	1.1	94	27	53	14	7	0	64	71	2.80	- 2.00	1.40	8	6	0.0	0	6.7	13	29*	33	28	12	10	9	5.0	
LAKE CHARLES	14	1014.9	1016.5	84	66	74.8	- 0.8	90	28+	55	14	2	0	65	76	2.12	- 2.49	1.17	6	6	0.0	0	8.6	16	25*	7	31	7	12	12	6.1	
NEW ORLEANS	3	1014.8	1016.9	85	64	74.6	0.2	92	28	52	14	4	0	67	78	1.69	- 2.69	1.50	5	4	0.0	0	7.3	14	23*	33	12	13	9	9	4.9	
NEW ORLEANS AUDUBON	6	1010.1		87	65	75.9	0.2	93	27+	56	14	8	0			1.66	- 3.20	0.55	9	6			4.1		13	NW	28+	12	12	7	4.6	67
SHREVEPORT	252	1007.5	1016.7	85	65	75.1	2.0	94	26	54	14	6	0	63	70	1.41	- 3.38				0.0	0	9.1	18	23*	13	31					
MAINE																																
CARIBOU	624	988.5		63	40	51.8	1.9	85	24	32	21+	0	2			2.81	- 0.22	1.23	12	4	0.0	0						6	10	15	6.9	
PORTLAND	61	1010.3	1014.3	68	42	54.8	1.8	90	24	25	3+	1	4	42	64	1.56	- 1.85	0.82	8	3	0.0	0	10.4	18	34	SW	10	7	16	8	[illegible]	67
MARYLAND																																
BALTIMORE	146	1012.1	1016.9	78	53	65.3	0.9	94	23	44	16+	4	0	49	59	0.43	- 3.55	0.43	1	1	0.0	0	8.5	28	33	W	24	11	13	7	4.9	65
BALTIMORE U	14			79	59	69.0	2.9	94	23	44	3	4	0			0.61	- 3.54	0.61	1													
MASSACHUSETTS																																
BLUE HILL OBS R	629	990.7		72	48	59.9	3.2	92	24+	36	2+	2	0			0.62	- 2.86	0.32	3	0	0.0	0	14.8	SW	52	NW	25					73
BOSTON	15	1010.3	1015.1	70	50	60.3	1.5	93	24+	38	2	2	0	45	61	0.53	- 2.81	0.37	5	1	0.0	0	13.0	24	36	NW	25	11	12	8	4.8	76
NANTUCKET	43	1015.3	1016.0	63	46	54.1	1.5	73	8	33	3	0	0	45	73	1.08	- 1.80	0.55	5	3	0.0	0	13.0	23	34	SW	19	12	9	10	4.8	80
PITTSFIELD	1170			72	44	57.6	3.0	89	23	28	3	0	2			0.92	- 2.95	0.24	10		0.0	0										
WORCESTER	986	978.5	1015.0	71	47	58.9	3.7	89	23	32	2	0	1	41	53	1.18	- 2.61	0.52	5	2	0.0	0	11.1	23	36*	26	25	10	13	8	5.0	
MICHIGAN																																
ALPENA	689	992.4		70	43	56.3	5.7	91	22	29	30	1	4			3.04	0.13	1.54	11	9	0.0	0	8.5	24	36	W	9	10	10	11	5.8	77
DETROIT	619		1016.1	75	53	63.7	4.7	90	22	39	21	1	0	48	58	1.68	- 1.85				0.0	0	11.7	18	45	W	9					
DETROIT M WAYNE CO	633	992.3	1016.5	73	49	60.9	2.5	88	23+	35	21	0	0	50	69	1.72	- 1.82	0.81	5	3	0.0	0	8.6	22				4	14	13	6.3	
DETROIT WILLOW RUN	711	987.8	1016.2	74	49	61.5	2.8	90	23	36	21	1	0	49	67	2.43	- 1.05	1.32	6	3	0.0	0	11.0	21	44*	25	9	3	15	13	6.4	
FLINT	766	988.9	1016.7	73	48	60.3	5.0	87	23	36	21+	0	0	48	63	2.68	- 0.71	1.77	5	2	0.0	0	10.4	22	35*	24	9	5	12	14	6.6	
GRAND RAPIDS	689	990.0	1015.6	74	50	62.0	5.0	88	23	36	29	0	0	50	67	3.96	0.50	1.97	5	5	0.0	0	10.5	25	50	SW	8	4	16	11	6.4	71

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind						No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In.	M p.h.		M p h							%
MICHIGAN																																
LANSING	852	983.8	1015.7	75	49	62.0	4.9	90	22	33	29	1	0	47	59	2.69	- 1.04	1.11	7	5	0.0	0	8.1	23	42	SW	9	5	14	12	6.1	82
MARQUETTE U	677	986.6		66	47	56.5	6.6	98	22	33	14	1	0			3.13	0.17	1.35	9	6	0.0	0	9.3	NW#	33	S	5	9	9	13	6.0	66
MUSKEGON	627	992.8	1015.9	72	49	60.3	4.5	86	22	39	15+	0	0	47	63	1.17	- 1.80	0.49	6	5	0.0	0	10.3	20	43*	22	8	6	13	12	6.1	
SAULT STE MARIE	721	991.5	1014.4	65	43	53.8	4.2	80	23+	31	31+	0	2	41	67	2.45	- 0.32	0.85	12	9	0.0	0	12.0	12	35*	31	27+	7	10	14	6.5	67
MINNESOTA																																
DULUTH	1426	971.7	1013.3	66	43	54.3	5.1	90	22	33	14+	1	0	38	58	5.74	2.45	1.46	12	10	0.0	0	12.6	9	47	W	26+	8	7	16	6.3	66
INTERNATIONAL FALLS	1179	970.2	1011.7	67	42	54.7	4.0	95	21	30	29	1	4	41	63	2.12	- 0.49	0.70	8	6	0.0	0	12.3	27	37*	23	7	9	7	15	6.3	
MINNEAPOLIS	822	979.3	1012.6	73	50	61.5	4.2	93	22	40	31+	2	0	47	61	3.44	0.25	1.04	12	10	0.0	0	12.8	12	61	NW	23	11	8	12	5.7	75
ROCHESTER	1297	976.7	1013.8	72	48	60.2	3.5	92	22	38	31	1	0	49	67	1.91	- 1.74	0.69	9	8	0.0	0	14.6	20	52*	28	23	8	11	12	5.5	
ST CLOUD	1034	974.4		72	48	59.8	4.2	95	21	35	13	2	0			3.62	0.11	1.20	11	8	0.0	0						11	5	15	6.0	
MISSISSIPPI																																
JACKSON	305	1005.1	1017.1	88	62	74.7		99	26	48	15	10	0	61	66	2.18		1.50	7	6	0.0	0	7.9	14	33*	NW	28	10	10	11	5.2	
MERIDIAN	292	1003.9	1017.7	86	59	72.5	0.1	96	26	48	15+	10	0	61	73	0.97	- 2.94	0.40	6	4	0.0	0	6.1	18	20*	36	29	11	11	9	5.1	
VICKSBURG U	234	1007.5		83	65	74.0	0.6	94	26	57	29+	5	0			3.68	- 0.45	2.03	6	6	0.0	0	7.4		18	S	6	11	8	12	5.3	71
MISSOURI																																
COLUMBIA	778	986.2	1014.4	80	59	69.4	5.0	90	18	46	14	1	0	55	63	5.73	1.03	2.34	10	6	0.0	0	10.9	18	49	SW	8	8	9	14	6.0	60
KANSAS CITY	742	979.2	1013.6	80	61	70.1	4.5	90	26+	48	13	6	0	55	61	5.50	1.10	2.00	9	5	0.0	0	10.4	18	34	SW	8+	7	8	16	6.5	68
ST JOSEPH	809	980.0		79	56	67.9	3.8	91	21+	40	14	6	0			3.26	- 1.13	1.32	10	10	0.0	0	11.7	18	43*	21	8	11	8	12	5.7	
ST LOUIS	535	995.3	1015.9	80	59	69.6	5.4	92	22	44	29+	4	0	55	61	2.68	- 1.05	1.56	7	3	0.0	0	10.2	18	32	SW	8+	10	12	9	5.9	68
ST LOUIS RFC	465			80	62	71.0	4.4	92	21+	50	14+	4	0			2.63	- 1.22	1.72	6		0.0	0										
SPRINGFIELD	1265	968.3	1015.5	79	57	67.9	3.4	90	20	41	14	1	0	57	71	2.30	- 2.98	1.07	9	5	0.0	0	10.6	16	29	S	8+	9	9	13	6.0	58
MONTANA																																
BILLINGS	3567	887.8	1010.9	68	46	56.7	- 0.1	91	20	34	3	1	0	38	54	3.91	2.03	1.49	9	1	2.2	T	11.8	4	43	W	4	2	14	15	7.1	52
GLASGOW	2277	936.8		69	45	57.0	1.9	92	20	37	26+	1	0			2.52	1.03	1.49	8	1	0.0	0						4	10	17	7.2	
GREAT FALLS	3662	885.6	1012.4	66	44	54.8	1.8	89	19	33	26	0	0	35	53	3.36	1.26	1.42	11	4	T		14.1	24	34	SW	24+	1	10	20	7.7	64
HAVRE	2582	923.0		67	43	54.7	0.0	90	19	31	26	1	1			2.28	0.75	0.88	11	2	0.0	0	11.6		42	NW	4	5	11	15	7.0	56
HELENA	3893	871.1	1013.1	64	39	51.7	- 1.2	86	19	31	3	0	3	33	53	3.52	1.96	2.06	8	1	10.1	9	9.7	27	33	W	10	4	12	15	7.3	58
KALISPELL	2965	909.9		63	37	49.7	- 2.5	80	20+	24	25	0	9			2.56	0.89	1.47	11	0	8.9	2	7.8					3	10	18	7.4	
MILES CITY	2629		1011.3	71	45	57.7	0.3	99	20	35	12	3	0	38	52	1.42	- 0.31	0.35	12	2	0.0	0	11.5	15	30*	24	13+					
MISSOULA	3190	900.6	1015.2	62	36	48.9	- 3.7	83	20+	26	25+	0	10	36	67	1.22	- 0.65	0.59	11	1	7.5	3	8.0	32	35	NW	20	3	6	22	7.9	46
NEBRASKA																																
GRAND ISLAND	1841	946.3	1012.0	81	53	66.6	6.0	99	25	35	13	8	0	46	52	0.43	- 3.42	0.30	5	2	0.0	0	13.4	18	46*	30	23	11	10	10	5.2	
LINCOLN U	1150			79	57	67.9	5.4	93	25	41	13	7	0			2.72	- 0.76	1.50	6	5	0.0	0	13.0	SE#	44	SW	8	9	7	15	5.8	67
NORFOLK	1544	957.0		78	52	64.6	4.4	97	25	35	13	4	0			2.95	- 0.71	1.52	10	11	0.0	0						8	10	13	5.6	
NORTH PLATTE	2779	912.9	1011.1	75	46	60.9	2.4	93	25+	31	31+	3	2	43	56	2.06	- 0.89	0.79	9	7	0.0	0	12.2	17	50	S	5	11	8	12	5.4	61
OMAHA	978	973.2	1012.7	80	56	68.0	5.0	93	25+	42	13	6	0	51	57	7.46	3.98	3.58	11	8	0.0	0	10.6	18	63	NW	25	10	10	11	5.5	70
OMAHA N OMAHA AP	1323	965.0		77	55	66.1	5.4	91	18	42	13	2	0			5.43	2.05	3.16	11	9	0.0	0						10	10	11	5.9	
SCOTTSBLUFF	3950	876.7	1011.4	73	45	58.8	2.0	93	21+	33	12	4	0	39	54	1.45	- 1.25	0.82	12	7	0.0	0	13.2	13	46*	30	6	7	13	11	6.1	
VALENTINE	2587	921.2		75	47	61.1	4.0	97	21	31	31	3	1			1.49	- 1.18	0.50	6	5	0.0	0	12.8	N#	49	SW	5	10	9	12	5.5	65
NEVADA																																
ELKO	5075	842.3	1013.1	66	34	50.0	- 2.0	85	19	11	3	0	13	30	51	1.15	0.19	0.39	11	3	1.9	T	7.4	24	24*	18	25	3	14	14	7.0	
ELY	6257	807.0	1012.1	64	33	48.6	- 1.7	80	19	18	3	0	15	28	54	1.17	0.32	0.61	9	2	10.8	4	9.5	19	45	S	26	5	12	14	6.6	83
LAS VEGAS	2162	945.5	1011.0	85	57	70.9	- 2.9	100	19	40	3	16	0	26	22	0.05	- 0.03	0.04	3	1	0.0	0	12.2	23	35*	21	5+	20	6	5	3.3	85
RENO	4404	861.9	1014.8	69	35	51.9	- 2.0	86	18	18	2	0	10	29	45	1.79	1.27	0.87	7	1	14.1	7	8.2	29	33	NW	27	9	14	8	5.3	94
WINNEMUCCA	4299	866.1		69	35	51.8	- 1.9	87	19+	22	6+	0	11			0.87	- 0.07	0.38	6	1	0.5	T	8.8	28	37	NW	26+	6	8	17	6.8	61
NEW HAMPSHIRE																																
CONCORD	339	1003.7	1014.5	74	44	58.8	3.3	94	23	25	3	2	4	43	59	1.15	- 2.02	0.65	6	4	0.0	0	8.2	30	37*	31	25	10	13	8	5.3	73
MT WASHINGTON OBS	6262			45	30	37.4	2.4	63	24	14	21	0	21			6.83	0.99				3.6	1	32.8	W#	98Y	W	25					
NEW JERSEY																																
ATLANTIC CITY	58	1015.8	1017.4	76	52	64.0	2.7	94	24+	40	7	4	0	48	61	1.46	- 2.05	1.33	2	0	0.0	0	10.0	7	29*	23	19+	8	16	7	5.3	78
ATLANTIC CITY U	10			70	54	61.9	2.4	90	9	44	2	1	0			1.30	- 1.86	1.14	2				13.4		39*	NW	10					
NEWARK	11	1015.3	1016.7	76	55	65.4	2.9	96	23	41	3	3	0	46	53	0.52	- 3.13	0.40	4	2	0.0	0	11.4	23	29*	25	19+	8	15	8	5.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below			Total	Departure from normal	Greatest in 24 hours	01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M p.h.							%
NEW JERSEY																																
TRENTON U	56	1008.6		76	53	64.2	1.9	94	23	40	3	2	0			0.25	- 3.37	0.10	4	2	0.0	0	9.3	SW#	33	NW	20	15	11	5	4.5	83
NEW MEXICO																																
ALBUQUERQUE	5310	847.0	1010.6	81	50	65.8	0.7	94	24+	34	6	5	0	27	29	0.35	- 0.40	0.16	7	4	0.0	0	9.8	18	52	SW	7	14	11	6	3.9	81
CLAYTON	4969	844.2		78	47	62.7	2.9	95	23	35	6	3	0			0.88	- 1.86	0.32	9	13	0.0	0						13	5	13	5.3	
RATON	6379	805.0		74	42	58.1	2.7	88	23	28	9	0	3			1.25	- 1.04	0.66	7	12	0.0	0						10	9	12	5.7	
ROSWELL	3619	891.2		88	51	69.8	1.8	101	23	34	9	16	0			0.30	- 0.98	0.30	2	2	0.0	0	10.9		42	SW	5	14	13	4	4.1	75
SILVER CITY	5373	834.9		81	48	64.7	0.0	94	25+	31	8	3	1			0.11	- 0.17	0.06	2	3	0.0	0						17	11	3	3.2	
NEW YORK																																
ALBANY	277	1011.9	1015.7	75	48	61.7	3.8	93	23	36	21	2	0	45	57	1.31	- 2.16	0.81	9	3	0.0	0	9.3	17	31	SW	9	3	18	10	6.4	64
BINGHAMTON	1590	957.0	1015.8	69	48	58.4	3.3	86	23	36	30+	0	0	45	64	2.01	- 1.48	1.46	12	2	0.0	0	10.7	32	36	NW	19	2	17	12	6.9	66
BUFFALO	705	987.8	1015.9	69	49	59.2	4.4	84	24+	38	15	0	0	47	66	2.91	- 0.04	1.13	8	4	0.0	0	11.6	24	43	SW	9	8	10	13	6.2	69
NEW YORK U	132	1005.6		76	55	65.4	3.0	94	23	43	3+	2	0			0.57	- 3.10	0.30	3	3	0.0	0	9.2	SW#	27	NW	20	18	9	4	4.0	74
NEW YORK LA GUARDIA	19	1014.0	1016.3	75	56	65.6	3.5	94	23	44	2	2	0	48	56	0.43	- 3.15	0.34	3	2	0.0	0	11.9	5	30	NW	25	8	18	5	5.3	
ROCHESTER	543	997.1	1016.3	72	49	60.3	3.6	88	24+	38	15	0	0	46	61	2.77	0.00	1.35	8	4	0.0	0	10.4	25	56	SW	9	8	14	9	5.7	74
SCHENECTADY	217			75	49	61.8	2.8	92	23	37	3	2	0			1.92	- 1.36	0.94	7	3	0.0	0	4.1		35	WSW	9	23	7	1	2.5	
SYRACUSE	417	993.6	1015.3	74	50	61.6	3.9	90	23	37	21	1	0	46	59	2.31	- 0.96	0.88	13	3	0.0	0	10.5	27	50	NW	25	2	20	9	6.3	70
NORTH CAROLINA																																
ASHEVILLE U	2203	939.5		78	53	65.3	0.9	90	8	45	16+	1	0			0.94	- 1.93	0.38	9	1	0.0	0	6.7	S#	25	E	2	9	11	11	5.5	66
CAPE HATTERAS R	7	1015.8	1016.6	74	59	66.6	- 1.4	86	10	46	17	0	0	59	78	2.63	- 1.35	1.42	8	4	0.0	0	11.5	5	26	NE	4	8	8	15	6.4	67
CHARLOTTE	735	989.7	1017.6	82	58	69.8	0.8	95	20	47	15+	5	0	54	62	0.89	- 2.22	0.76	5	2	0.0	0	8.1	4	25	NE	3	8	11	12	5.7	72
GREENSBORO	891	986.3	1018.0	80	55	67.6	0.7	94	20	44	3	2	0	53	64	0.56	- 2.73	0.18	5	2	0.0	0	8.3	4	23	W	10+	7	10	14	6.3	62
RALEIGH	433	1003.5	1017.2	80	56	68.1	0.5	93	20	44	16	3	0	54	66	0.92	- 2.60	0.37	5	5	0.0	0	8.7	2	23*	31	12+	7	10	14	6.1	67
WILMINGTON	30	1014.5	1017.4	82	61	71.3	0.8	96	28	51	6	5	0	59	70	5.11	1.59	2.97	5	4	0.0	0	10.0	23	43	E	3	10	10	11	5.8	68
WINSTON SALEM	967	982.9	1017.7	81	58	69.5	1.7	94	20	47	3	4	0	55	63	0.71	- 3.30	0.40	5	3	0.0	0	8.2	24	21*	33	13	8	9	14	6.2	
NORTH DAKOTA																																
BISMARCK	1647	951.6	1011.8	70	43	56.8	0.9	91	20	27	31	1	2	38	54	0.90	- 1.07	0.34	8	6	0.0	0	12.4	32	43	E	2	6	10	15	6.5	71
FARGO	900	977.4	1011.6	75	47	61.1	5.7	98	21	31	13	2	2	43	54	0.87	- 1.16	0.39	9	4	0.0	0	12.2	36	41	SE	3	13	5	13	5.4	74
WILLISTON	1899	943.8		71	44	57.4	2.7	98	20	29	12	1	1			1.10	- 0.33	0.53	9	1	0.0	0	13.5	NW#	43	SE	3+	6	13	12	6.4	65
OHIO																																
AKRON	1209	979.2	1017.4	73	50	61.3	1.6	87	19	33	30	0	0	48	64	3.29	- 0.56	1.16	11	10	0.0	0	9.3	24	35*	27	9	5	14	12	6.4	
CINCINNATI OBS	761			79	56	67.4	3.2	91	19	44	29	2	0			1.06	- 2.74	0.31	8	4	0.0	0	5.4	S#	19	SW	23					60
CINCINNATI U	553	993.9		80	58	68.6	2.8	94	19	46	29	3	0			0.68	- 3.13	0.24	7	4	0.0	0										
CLEVELAND	777	988.7	1016.6	71	51	60.7	3.2	87	19	35	15	0	0	49	67	3.02	- 0.50	1.36	9	6	0.0	0	10.3	20	37	W	9	5	14	12	6.4	75
COLUMBUS	812	987.7	1017.5	76	51	63.4	1.9	92	19	39	30+	1	0	52	69	1.95	- 2.05	0.68	6	8			9.2	18	54	NW	24	5	9	17	6.8	58
COLUMBUS U	724			77	56	66.1	3.0	91	19	46	29	1	0			2.55	- 0.91	1.17	7	5	0.0	0										
DAYTON	997	984.5	1017.0	77	54	65.4	3.8	90	19	43	15	1	0	50	60	1.55	- 2.18	0.68	6	6	0.0	0	10.7	20	39	W	24	8	8	15	6.4	69
MANSFIELD	1296			73	51	61.9	3.9	88	19	37	15	0	0			4.16	0.44	1.72	10	8	0.0	0						5	11	15	6.5	
TOLEDO	676	991.1	1016.3	76	50	62.6	4.3	92	19	32	21	3	1	47	59	0.96	- 2.08	0.50	8	4	0.0	0	10.5	22	34	SW	9	6	15	10	6.1	73
YOUNGSTOWN	1178	974.6	1017.2	72	50	60.9	3.0	88	19	35	30+	0	0	47	62	2.96	- 1.11	1.65	9	7	0.0	0	9.9	23	29*	24	9	7	12	12	6.1	
OKLAHOMA																																
OKLAHOMA CITY	1280	970.6	1013.8	81	59	70.0	1.6	92	3	46	13	4	0	59	71	5.21	0.02	2.58	10	10	0.0	0	14.6	16	52	NE	10	8	8	15	6.0	54
TULSA	676	990.4	1014.7	82	61	71.7	3.9	93	26+	46	13	5	0	60	69	4.77	- 0.49	2.29	10	8	0.0	0	12.6	18	38	S	8	9	7	15	6.2	55
OREGON																																
ASTORIA	8	1018.7	1019.4	57	42	49.5	- 3.8	74	26	35	23+	0	0	44	80	2.27	- 0.93	0.82	15	0	0.0	0	9.1	25	25*	24	16	3	9	19	7.6	
BURNS U	4151	871.5		65	34	49.4	- 4.0	80	19+	19	3	0	11			0.78	- 0.11	0.61	6	1	0.9	1						7	10	14	6.0	
EUGENE	361	1005.6		65	41	53.2	- 2.9	82	30	31	3	0	1			0.90	- 1.24	0.44	8	0	0.0	0	6.3		24*	1	25	3	8	20	7.5	
MEACHAM	4050			55	35	45.2	- 2.8	74	16	24	2	0	13			1.04	- 1.41	0.35	11	1	3.1	1						4	12	15	6.8	
MEDFORD	1298	969.7	1017.5	70	40	54.9	- 2.6	88	31	30	4	0	4	40	63	0.82	- 0.65	0.50	6	1	T	T	5.8	30	23*	32	16	7	10	14	6.2	
PENDLETON	1482	962.0	1015.7	70	44	56.8	- 2.8	87	31	33	14	0	0	34	45	0.03	- 1.09	0.02	2	0	0.0	0	10.3	26	30*	26	4	8	11	12	5.9	
PORTLAND	21	1013.1	1018.8	63	42	52.6	- 4.8	84	30	32	2+	0	2	42	70	1.04	- 0.95	0.26	11	1	0.0	0	7.3	32	26	S	20	4	10	17	7.4	52
PORTLAND U	30			66	46	56.1	- 3.0	88	30	36	2	0	0			0.93	- 1.12	0.44	10		0.0	0										
ROSEBURG	505	1000.1		68	42	55.3	- 1.2	86	30	31	2	0	1			0.97	- 0.88	0.39	7	1	T		5.2	N#	22	N	25	3	14	14	6.9	56
SALEM	195	1012.1	1019.5	66	41	53.7	- 2.6	85	30	32	25+	0	3	44	70	0.59	- 1.52	0.20	7	0	T		6.9	18	21*	23	20+	3	9	19	7.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ☉	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max. 90 F. or above	Temperature: No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0 3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F.	F	F.	F.	F.		F.				F	%	In	In.	In.			In	In	M.p.h.		M p h							%
OREGON																																
SEXTON SUMMIT R	3836	884.5		57	36	46.8	- 3.2	75	31+	23	6	0	7			0.65	- 1.54	0.21	6	0	5.8	2	9.6					5	12	14	6.6	
PACIFIC AREA																																
CANTON ISLAND	11	1008.8	1009.1	88	77	82.6	- 1.3	89	21+	74	9	0	0	72	72	0.75	- 3.60	0.59	5	0	0.0	0	13.3	7	22*	6	9+	5	18	8	5.9	
ENIWETOK	16	1009.6		88	78	83.1	0.7	91	31	74	29+	1	0			2.73	- 1.84	0.70	15	1	0.0	0	11.8									
TAGUAC GUAM R	361	996.5		84	74	79.3	- 1.1	88	31	71	25	0	0			20.69	16.50	7.50	27	4	0.0	0	8.3		33	E	16					53
JOHNSTON	7	1012.4	1013.1	81	76	78.6	- 0.6	83	31+	72	30+	0	0	72	80	3.57	2.58	1.55	11	1	0.0	0	13.9	9	30	E	8	2	10	19	8.0	47
KOROR R	94	1005.6	1008.4	88	76	82.1	0.8	91	3+	72	11	5	0	77	88	18.32	3.69	5.13	24	11	0.0	0	6.8	24	26	SW	18	0	0	31	9.8	59
KWAJALEIN	8	1009.6	1009.6	86	76	81.0	- 0.1	89	22	72	6	0	0	76	86	24.18	16.00	4.58	23	1	0.0	0	11.7	6	32*	11	13	1	10	20	7.7	
PONAPE R	123	1004.5	1008.9	87	74	80.3	- 0.1	91	21+	69	30	2	0	75	86	12.69	- 7.62	2.34	23	2	0.0	0	5.5	6	22	SE	23+	1	7	23	8.5	35
TRUK MOEN ISLAND	5	1008.0	1008.3	87	76	81.1	0.3	89	23+	72	13	0	0	76	83	18.45	4.33	4.41	24	4	0.0	0	8.8	4	34	SE	14	0	3	28	9.4	42
WAKE	11	1012.4	1012.8	85	76	80.2	0.4	88	28+	72	19+	0	0	69	70	0.42	- 1.62	0.13	9	0	0.0	0	9.1	7	21*	6	12+	2	16	13	6.5	
YAP R	53	1005.6	1007.6	87	76	81.1	- 0.9	90	25	73	23+	1	0	77	89	18.23	8.71	5.34	27	7	0.0	0	7.1	4	29	SW	19	0	2	29	9.5	37
PENNSYLVANIA																																
ALLENTOWN	376	1002.7	1017.0	76	49	62.2	1.8	92	23	35	3	2	0	46	58	0.09	- 3.99	0.04	3	3	0.0	0	10.3	23	58*	30	10	13	11	7	4.9	
ERIE	732	990.5	1016.7	70	51	60.1	3.7	88	23	37	30	0	0	46	63	3.75	0.21	1.22	10	5	0.0	0	14.2	18	37*	25	9	9	13	9	5.5	
HARRISBURG	335	1003.3	1017.2	78	51	64.3	1.6	94	19	38	3	3	0	47	54	0.51	- 3.39	0.34	6	5	0.0	0	9.0	27	37	W	9	7	15	9	5.8	74
PHILADELPHIA	5	1012.5	1017.0	76	54	65.1	2.5	91	23	43	3	2	0	49	58	0.47	- 3.27	0.48	3	0	0.0	0	9.5	23	31	W	10	9	17	5	5.1	73
PITTSBURGH	1137	986.5	1017.1	74	51	62.7	2.9	89	19	39	15	0	0	48	60	1.77	- 2.14	0.67	9	4	0.0	0	10.0	23	35*	26	9	4	14	13	6.6	70
PITTSBURGH U	749			75	54	64.8	1.8	91	19	44	30+	1	0			2.47	- 1.28	1.25	7		0.0	0										65
READING U	266	1004.5		77	54	65.2	1.9	93	23	38	3	3	0			0.85	- 2.94	0.28	6	3	0.0	0	10.8	W#	47	W	19	14	9	8	4.6	72
SCRANTON	940	982.6	1016.5	74	50	62.0	2.4	91	23	35	3	1	0	45	55	0.98	- 2.97	0.46	7	3	0.0	0	8.4	23	34	SW	19	7	15	9	5.9	67
WILLIAMSPORT	527	998.3	1017.1	77	48	62.5	2.1	94	23	37	3	4	0	45	57	0.80	- 3.28	0.59	10	3	0.0	0	9.0	27	30*	27	9	6	17	8	6.0	
RHODE ISLAND																																
BLOCK ISLAND	110	1011.1		63	47	54.9	1.0	75	23+	34	4	0	0			1.41	- 1.60	0.90	5	1	0.0	0						9	15	7	5.0	
PROVIDENCE	55	1009.2	1015.3	73	48	60.3	2.8	94	23	33	4+	2	0	45	61	0.71	- 2.64	0.38	4	1	0.0	0	11.8	22	35*	23	19	12	10	9	4.9	75
SOUTH CAROLINA																																
CHARLESTON	41	1014.7	1017.2	84	62	73.1	0.2	97	28	52	16+	8	0	61	70	4.77	1.16	3.11	4	2	0.0	0	9.1	18	44Y	N	3	9	12	10	5.6	67
CHARLESTON U	9			80	66	73.1	- 0.2	92	28	57	3	1	0			4.11	1.02	2.70	3		0.0	0	10.7		45	NE	3					
COLUMBIA	217	1004.4	1017.1	85	60	72.4	0.2	98	28+	49	16+	13	0	56	61	2.63	- 0.91	2.55	3	0	0.0	0	6.4	24	23*	18	22	10	11	10	5.2	67
FLORENCE	146	1011.2	1017.0	84	60	71.9	0.0	100	28	50	16+	13	0	57	65	1.97	- 0.92	1.45	6	4	0.0	0	8.7	20	29*	26	28	12	10	9	5.2	
GNVLE SPARTANBURG	957	980.7	1017.7	83	60	71.3	1.1	94	28	52	16+	8	0	55	61	1.59	- 1.63	1.43	5	3	0.0	0	8.6	4	29	W	12	9	10	12	5.5	61
SOUTH DAKOTA																																
HURON	1282	964.9	1011.6	76	45	60.4	2.9	94	21	27	13	2	2	45	59	1.29	- 1.07	0.56	9	8	0.0	0	12.3	15	51	SW	6	10	10	11	5.6	70
RAPID CITY	3165	898.8	1012.1	70	47	58.5	2.8	92	20	37	24+	3	0	39	55	2.52	- 0.14	0.93	12	6	0.0	0	13.8	14	47	SW	16	6	12	13	6.4	56
SIOUX FALLS	1420	961.1	1012.3	76	47	61.6	3.3	94	25	30	13	5	1	47	60	1.29	- 2.09	0.71	6	6	0.0	0	11.6	17	44*	26	6	11	8	12	5.4	
TENNESSEE																																
BRISTOL	1507	963.7	1017.8	78	53	65.9	0.2	88	20	44	15+	0	0	54	68	2.27	- 1.18	1.00	7	5	0.0	0	4.4	27	23*	28	23+	8	9	14	6.1	
CHATTANOOGA	670	1001.6	1017.9	82	58	69.9	- 0.2	92	27+	45	16+	6	0	59	73	4.28	0.76	3.46	7	6	0.0	0	6.0	18	24	NW	13+	10	5	16	6.1	66
KNOXVILLE	950	982.3	1018.1	79	55	66.9	- 0.8	87	23+	44	15+	0	0	55	67	3.96	0.46	1.37	11	6	0.0	0	6.8	24	27	SW	23	10	7	14	6.1	64
MEMPHIS	263	1002.8	1017.3	82	62	71.9	1.6	94	27	50	29+	7	0	60	69	3.28	- 0.95	1.07	7	5	0.0	0	7.8	18	26	N	28	10	7	14	5.9	80
MEMPHIS U	271			81	64	72.9	1.9	93	27	50	29	7	0			2.10	- 1.93	0.74	10	0	0.0	0										
NASHVILLE	577	997.1	1017.0	81	58	69.7	1.1	92	22	47	15	5	0	59	71	5.04	1.32	1.72	8	6	0.0	0	7.3	16	29	NW	28	12	4	15	5.7	62
OAK RIDGE	905	985.9		80	55	67.6	1.1	89	27+	43	15	0	0			2.84	- 0.89	0.74	9	7	0.0	0	4.6		40Y		28	11	10	10	5.3	
TEXAS																																
ABILENE	1759	952.1	1012.4	87	64	75.3	3.6	94	7	48	13	10	0	55	53	1.53	- 2.80	0.59	8	6	0.0	0	12.6	18	33	SE	7+	7	14	10	5.7	78
AMARILLO	3607	887.1	1010.6	84	54	68.9	2.4	99	23	42	6	9	0	40	46	1.69	- 1.68	0.94	8	4	0.0	0	16.7	21	47	W	8+	13	8	10	5.1	67
AUSTIN	597	992.9	1014.5	87	67	76.6	1.5	95	2	57	14	9	0	65	73	1.87	- 1.84	0.52	8	5	0.0	0	9.0	18	33	N	30	4	11	16	7.1	38
BROWNSVILLE	16	1010.7	1013.2	88	73	80.3	1.3	95	2	64	18	7	0	71	77	3.12	0.76	1.20	6	4	0.0	0	13.9	14	34	SE	30	4	9	18	6.9	51
CORPUS CHRISTI	43	1013.1	1014.2	88	70	78.8	1.3	98	2	62	18+	11	0	71	80	4.39	1.40	2.00	8	5	0.0	0	12.5	14	34	N	11	5	7	19	7.3	41
DALLAS	481	996.4	1014.7	84	66	74.7	1.8	93	26	52	13	4	0	64	72	3.39	- 1.44	1.66	9	5	0.0	0	12.9	16	30	S	5+	6	9	16	6.8	49
DEL RIO	1026	978.0	1012.0	90	69	79.2		101	3	58	2	16	0	62	63	2.28		1.86	7	10	0.0	0	11.8	12	25	12	4+	5	8	18	6.9	
EL PASO	3918	879.4	1009.3	89	59	73.9	2.0	100	24	44	6	14	0	32	24	0.02	- 0.38	0.02	1	1	0.0	0	9.9	25	49	SW	5	23	6	2	2.7	91
FORT WORTH	544	994.3	1014.9	83	63	73.2	0.5	92	26	49	13	2	0	63	74	2.85	- 1.74	1.26	10	6	0.0	0	10.5	16	40*	29	1	6	10	15	6.6	

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 90 F or above	No of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	F.	F.	F.	F	F		F.				F	%	In	In	In.			In	In	M p h		M p.h							%
TEXAS																																
GALVESTON U	7			80	73	76.7	0.9	84	28+	64	31	0	0			1.72	- 1.07	0.54	6		0.0	0	11.9	SE#	36	S	30					76
HOUSTON U	41			85	71	78.3	2.1	96	2	62	14	4	0			1.89	- 2.54	0.66	8		0.0	0										
HOUSTON	50	1012.4	1015.2	84	67	75.8	- 0.2	92	2	56	14	3	0	67	78	2.25	- 2.07	0.93	6	6	0.0	0	10.7	14	26*	16	30+	6	8	17	6.9	62
LAREDO	500	997.1	1012.4	93	72	82.4	1.6	103	3	65	12	22	0	65	63	1.05	- 1.74	0.39	7	5	0.0	0	13.1	14	31*	13	30+	3	11	17	7.0	
LUBBOCK	3243	901.6	1011.5	85	57	71.3	3.1	98	24	45	11	8	0	45	47	1.67	- 1.51	1.14	6	8	0.0	0	16.6	18	46*	2	12	9	13	9	5.1	
MIDLAND	2854	913.3	1010.2	90	61	75.7	2.3	102	24	45	11	19	0	47	45	2.14	0.06	2.08	2	4	0.0	0	13.3	18	33*	19	5	11	10	10	5.1	
PORT ARTHUR	16	1014.1	1015.6	85	68	76.6	1.9	91	28+	56	14	4	0	68	78	6.02	1.08	2.69	6	8	0.0	0	10.1	13	32	NW	31	8	12	11	5.8	63
SAN ANGELO	1903	945.5	1011.5	90	65	77.3	3.0	97	4	51	13	19	0	55	52	0.41	- 2.79	0.39	4	4	0.0	0	11.6	16	32*	16	7	8	11	12	6.0	
SAN ANTONIO	792	989.6	1014.2	89	66	77.6	2.3	99	2	48	2	21	0	64	69	1.79	- 1.66	0.85	11	5	0.0	0	10.0	16	26	SE	29+	4	14	13	6.8	55
VICTORIA	104	1010.0		89	71	79.8	3.6	101	2	62	15	11	0			3.09	- 1.03	1.50	9	8	0.0	0	10.4		42Y		30	3	8	20	7.4	
WACO	500	993.5	1014.3	85	66	75.5	1.2	92	26+	51	13	6	0	62	67	1.48	- 3.09	0.77	5	4	0.0	0	11.3	16	25*	34	12	9	7	15	6.5	
WICHITA FALLS	994	976.7	1013.2	85	62	73.1	0.9	95	26	48	13	9	0	60	68	8.43	3.83	3.39	11	11	0.0	0	13.3	14	48*	23	1	11	9	11	5.5	
UTAH																																
MILFORD	5028	842.1		71	37	54.3	- 2.2	88	19	27	3	0	7			0.62	- 0.07	0.18	8	1	3.2	T						13	8	10	5.0	
SALT LAKE CITY	4220	865.6	1012.9	69	42	55.8	- 3.1	89	20	28	3	0	4	34	50	2.77	1.37	0.90	8	7	5.3	3	9.9	16	35	SW	27	7	7	17	6.8	63
WENDOVER	4237	868.0		69	49	58.7	- 2.7	89	20	31	3	0	1			1.48	0.82	0.85	8	3	T	T						9	10	12	5.8	
VERMONT																																
BURLINGTON	331	999.2	1013.8	72	46	58.6	4.8	90	23	29	21	1	2	43	60	4.67	1.68	1.34	15	3	0.0	0	9.1	18	29	W	9	6	7	18	7.0	72
VIRGINIA																																
LYNCHBURG	947	992.4		78	54	66.0	0.7	90	20	43	3	1	0			1.64	- 1.57	0.69	7	3	0.0	0	6.5		29	W	12	8	12	11	5.8	74
NORFOLK	26	1016.3	1017.7	76	57	66.4	- 1.1	93	23	38	7	4	0	54	69	1.56	- 1.80	0.55	9	4	0.0	0	11.5	4	39	E	2	9	9	13	6.3	70
RICHMOND	162	1011.2	1017.5	79	54	66.4	- 0.6	92	23+	43	16+	4	0	52	65	1.14	- 2.58	0.48	8	3	0.0	0	8.3	23	25	NW	17	8	13	10	5.5	67
ROANOKE	1174	976.3	1017.9	79	55	67.4	1.7	92	22+	44	30+	3	0	51	59	1.79	- 2.00	1.04	9	5	0.0	0	8.0	14	29*	29	10	8	11	12	5.8	
WASHINGTON																																
OLYMPIA	190	1010.9	1018.3	63	37	49.9	- 5.2	82	30	26	2	0	11	42	75	0.98	- 1.03	0.36	7	0	0.0	0	8.1	20	30*	24	4	4	7	20	7.6	
SEATTLE TACOMA	400	1004.0	1018.3	63	44	53.2	- 2.3	90	31	35	2	1	0	41	67	0.91	- 0.82	0.26	9	1	0.0	0	9.2	24	26*	23	31	3	10	18	7.1	
SEATTLE U	14			64	48	55.7	- 1.7	86	31	40	2	0	0			1.07	- 0.52	0.51	10		0.0	0			39	SW	21					63
SPOKANE	2356	945.4	1014.1	65	41	52.9	- 3.3	83	16	31	25	0	3	32	48	0.45	- 0.76	0.15	7	1	0.0	0	11.9	20	41	SW	20	6	11	14	6.4	59
STAMPEDE PASS R	3958	879.4		45	32	38.7	- 5.2	64	31	23	13	0	18			3.69	- 0.56	1.15	14	0	18.3	176						5	3	23	7.9	
TATOOSH ISLAND R	101	1015.4	1018.4	52	44	48.0	- 3.1	57	26	39	13+	0	0	43	84	1.51	- 1.49	0.34	15	0	0.0	0	13.4	27	47	NW	4	7	8	16	6.7	50
WALLA WALLA U	949			69	48	58.3	- 2.7	86	31	38	2	0	0			0.23	- 1.26		4		0.0	0										
YAKIMA	1061	976.4	1015.4	69	38	53.6	- 4.9	84	31	26	23+	0	7	31	42	0.03	- 0.51	0.03	1	0	0.0	0	9.5	30	29*	22	20+	10	12	9	5.4	
WEST INDIES																																
SAN JUAN P.R.	5	1013.2	1015.9	88	74	80.9	2.2	93	6	70	25+	6	0	70	72	3.96	- 3.16	1.05	13	3	0.0	0	8.9	7	32	E	23	6	17	8	5.5	86
SWAN ISLAND	28	1011.4														2.01	- 1.29	1.09	8		0.0	0						8	12	11	5.9	
WEST VIRGINIA																																
BECKLEY	2504	930.8	1018.3	73	50	61.1		84	19	37	30	0	0	48	64	1.31		0.67	9	5	0.0	0	9.4	24	25*	30	10	5	9	17	7.1	
CHARLESTON	939	982.2	1017.4	81	53	67.0	2.2	92	19	39	1	4	0	52	62	0.95	- 2.76	0.43	7	3	0.0	0	6.2	22	23*	22	24	6	12	13	6.3	
ELKINS	1970	949.0	1018.1	74	45	59.4	0.1	83	23+	32	29	0	1	48	68	1.47	- 3.10	0.61	8	5	0.0	0	7.0	26	31*	14	25	5	11	15	6.6	
HUNTINGTON	827	987.9	1017.8	79	53	66.0	1.4	91	19	40	15	1	0	53	65	1.25	- 2.64	0.37	7	3	0.0	0	5.9	23	23*	24	23	7	10	14	6.4	
PARKERSBURG U	615			78	53	65.5	1.5	90	19	42	29+	1	0			1.10	- 2.60	0.65	8	6	0.0	0	6.5		32	NW	23					66
WISCONSIN																																
GREEN BAY	682	991.5	1014.2	71	48	59.5	4.7	86	22	33	14	0	0	49	71	4.14	1.08	1.23	14	11	0.0	0	10.6	22	52	W	23	11	8	12	5.6	67
LA CROSSE	652	987.7	1013.6	74	53	63.8	4.6	90	22	42	29+	1	0	51	65	3.72	- 0.04	1.11	12	9	0.0	0	12.1	18	44*	30	23+	9	10	12	5.7	
MADISON	858	979.2	1014.4	76	50	62.6	6.5	88	22	32	29+	0	2	49	62	3.87	0.53	1.33	12	12	0.0	0	10.2	18	47	SW	8	4	11	16	6.8	72
MILWAUKEE	672	990.5	1015.4	71	49	60.3	6.9	88	22	37	21	0	0	48	66	2.57	- 0.59	0.96	11	8	0.0	0	11.6	20	47	W	7	8	14	9	5.6	77
WYOMING																																
CASPER	5319	834.7	1010.9	68	41	54.1	1.0	89	20	30	3	0	4	32	51	2.17	0.14	1.20	9	6	T		12.5	24	49*	24	3	5	10	16	6.8	
CHEYENNE	6126	811.7	1011.4	67	42	54.6	1.7	86	25+	29	12	0	2	31	46	0.84	- 1.68	0.35	10	4	0.5	T	14.0	29	43	N	11	7	14	10	6.2	50
LANDER	5563	832.9	1010.5	67	40	53.5	0.6	87	20	29	4	0	4	31	48	3.42	0.77	2.75	8	5	1.5	T	9.3	24	43	SW	24	3	14	14	7.1	63
SHERIDAN	3942	881.5	1012.0	66	42	54.3	0.7	93	20	29	12	1	3	39	61	1.76	- 0.81	0.79	10	1	0.7	1	11.5	30	56	W	13	1	15	15	7.5	57

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

- * Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
- A Maximum hourly average.
- B Number of days maximum 70 F. or above for Alaskan Stations.
- Y Peak Gust.
- # Wind direction to 8 compass points only.
- + And also on an earlier date or dates.
- Ø Station pressures apply to elevations shown in the "Elevation - Station Pressure" table of the annual issue of this publication.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm. or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C.	C.	C.	C.	C.		C				C.	%	Mm.	Mm	Mm			Mm	Mm	M p.s.		M p s							%
ALABAMA																																
BIRMINGHAM	186	992.8	1017.9	28.3	15.6	22.1	-0.1	34.4	27	7.8	15	8	0	15.6	70	81	- 6	50	5	4	0	0	2.8	3	13.0	N	2	9	10	12	5.6	82
HUNTSVILLE	184	996.0	1017.7	28.9	15.6	22.1	0.7	35.0	27	8.3	15	9	0	14.4	65	54	- 32	32	7	6	0	0	2.5	16	11.6*	9	2	9	10	12	5.7	
MOBILE	64	1014.6	1016.7	30.0	17.8	23.8	-0.4	36.1	27	12.8	15	8	0	17.2	71	110	- 14	83	5	4	0	0	3.8	18	15.2*	17	13	13	10	8	5.0	
MONTGOMERY	59	1009.2	1017.4	28.9	16.1	22.7	0.3	35.0	28	11.1	15	9	0	16.7	71	49	- 39	38	4	5	0	0	2.9	36	8.5	W	28+	11	10	10	5.3	68
ALASKA																																
ANCHORAGE	27	1010.0	1015.3	10.0	0.0	5.1	-2.6	23.9	31	- 8.3	10	B 2	13	- 2.8	59	25	11	12	8	0	10	T	4.1	18	14.8*	35	9	8	8	15	6.2	60
ANNETTE	34	1012.9	1017.0	12.8	4.4	8.6	-1.0	26.1	28	0.0	13+	3	2	3.3	74	126	- 54	46	15	0	127	152	3.4	20	13.0*	18	11	2	12	17	7.4	
BARROW	7	1016.3	1017.2	- 3.9	-11.7	- 7.9	-0.4	4.4	31+	-25.6	5	0	30	-10.0	82	10	7	5	7	0	104	203	4.7	21	11.2*	19	29	4	8	19	7.4	
BARTER ISLAND	12	1016.8	1018.7	- 2.8	- 9.4	- 6.2	0.1	11.1	29	-26.7	1	0	30	- 8.3	84	10	4	4	9	0	109	305	4.5	26	15.6*	26	11	7	5	19	7.3	
BETHEL	38	1017.7	1018.6	3.3	- 4.4	- 0.6	-4.4	17.2	31	-14.4	1	0	28	- 2.8	87	18	- 6	6	11	0	145	178	5.6	32	13.9*	2	2	6	6	19	7.1	
COLD BAY	29	1016.1	1020.0	6.7	0.0	3.4	-0.8	18.3	31	- 5.6	1	0	16	0.0	81	29	- 29	11	12	0	30	25	7.2	33	20.1*	30	2	2	5	24	8.3	
CORDOVA	12	1011.9	1013.6	10.0	- 0.6	4.7	-1.8	24.4	30	- 5.0	9+	3	19	1.1	78	138	10	39	15	0	251	102	3.1	12	14.3*	11	3	6	10	15	6.9	
FAIRBANKS	133	999.1	1016.6	8.3	- 1.1	3.7	-4.7	27.2	31	-18.3	9	3	18	- 4.4	58	25	7	14	10	0	119	102	3.6	34	10.7*	22	13	6	10	15	6.7	
JUNEAU	5	1014.4	1015.4	12.2	2.2	7.3	-0.3	26.1	29	- 2.8	3	4	10	2.8	76	110	28	24	17	0	30	25	4.6	12	14.8*	11	10	4	6	21	7.8	45
KING SALMON	13	1015.0	1016.9	8.3	- 1.7	3.4	-2.8	23.9	31	- 7.8	10	2	23	- 1.7	72	47	23	14	12	0	56	T	5.5	23	19.2*	16	2	9	6	16	6.4	
KOTZEBUE	3	1016.3	1016.8	0.6	- 8.9	- 4.2	-3.6	6.7	30	-24.4	1	0	28	- 6.1	82	17	8	6	9	0	305	584	5.1	16	14.3*	24	14+	10	6	15	6.1	
MC GRATH	102	1003.9	1016.9	6.7	- 3.3	1.8	-4.9	20.0	31	-13.9	9	0	26	- 3.9	68	22	-	8	13	0	114	660	3.6	36	13.0*	23	13	7	6	18	6.9	
NOME	4	1016.2	1016.7	1.1	- 5.6	- 2.2	-3.8	8.3	25	-23.3	1	0	29	- 4.4	84	11	- 6	5	6	0	81	305	5.9	23	19.2*	4	24	5	10	16	7.0	39
ST. PAUL ISLAND	7	1018.4	1019.5	3.3	- 1.1	1.3	-0.3	6.7	17	- 7.8	9	0	18	0.0	90	47	14	13	12	0	41	51	6.8	16	16.5*	33	25+	4	2	25	8.3	
SHEMYA	37	1023.8	1024.3	4.4	1.7	3.2	-0.1	7.2	16	- 2.2	1	0	5	0.6	85	30	- 30	15	7	0	5	51	7.8	24	20.6*	20	12	2	4	25	9.0	
YAKUTAT	9	1014.2	1015.3	9.4	0.6	5.1	-1.9	25.0	30+	- 5.0	1	2	12	1.1	78	298	96	66	16	1	325	229	3.2	9	13.0*	18	9	5	5	21	7.6	
ARIZONA																																
FLAGSTAFF	2131	789.5	1013.4	18.9	0.6	9.7	-0.8	26.1	21+	- 6.7	8	0	18	- 4.4	41	21	8	11	6	0	97	76	3.8	18	13.0*	19	2	17	9	5	4.2	
PHOENIX	340	971.7	1010.3	32.8	13.3	23.2	-0.7	38.9	19	6.7	8+	21	0	1.7	25	T	- 3	T	0	1	0	0	3.0	27	18.3	WNW	25	20	7	4	3.2	94
PRESCOTT	1528	846.1	1012.4	24.4	6.7	15.3	-0.9	31.7	24+	- 3.3	8	0	5	- 5.0	30	6	- 1	6	2	0	T		5.0	19	19.2	SW	2	20	6	5	3.4	91
TUCSON	788	923.6	1010.2	31.7	13.9	22.9	-0.2	37.8	24	5.0	8	18	0	- 6.7	15	0	- 3	0	0	0	0	0	3.7	16	13.4	SW	6	19	10	2	2.8	92
WINSLOW	1487	850.1	1012.2	27.2	6.7	17.0	-1.2	35.0	24	- 5.0	8	7	3	- 5.6	25	1	- 7	1	1	3	0	0	4.6	22	19.2*	22	2	16	11	4	3.9	
YUMA	61	1005.6	1010.7	32.8	16.1	24.3	-2.1	38.3	31+	8.3	5	21	0	2.2	26	T	-	T	0	2	0	0	3.4	30	16.1	W	4	22	5	4	2.4	95
ARKANSAS																																
FORT SMITH	137	999.2	1016.1	28.9	15.0	21.8	0.8	35.0	27+	6.1	13	10	0	15.0	70	131	- 3	73	10	6	0	0	3.3	9	11.2	SE	1	6	10	15	6.6	53
LITTLE ROCK	78	1003.6	1016.7	28.9	16.1	22.4	1.0	36.7	26	8.9	14	8	0	16.1	70	36	- 99	25	5	1	0	0	3.4	25	12.5	W	10	8	11	12	6.0	70
TEXARKANA	110	1002.6	1016.2	28.9	17.8	23.3	1.3	34.4	26	11.1	14	6	0	17.8	77	69	- 56	56	6	4	0	0	2.6	18								
CALIFORNIA																																
BAKERSFIELD	151	997.5	1015.0	27.2	12.2	19.8	-1.6	35.6	12	5.0	2	4	0	3.9	39	5	- 1	4	3	0	0	0	3.5	34	13.9*	33	26	16	9	6	3.3	
BISHOP	1252	871.6		25.6	5.6	15.6	-1.4	32.8	21+	- 3.9	3	5	5			21	15	10	4	1	58	51						13	11	7	4.4	
BLUE CANYON	1609	837.7		12.8	3.3	8.0	-3.2	20.6	31	- 5.6	6	0	7			134	55	40	11	0	663	533	3.2		13.0*	18	16	11	12	8	4.8	
BURBANK	213	989.3	1015.1	23.3	10.0	16.4	-1.6	29.4	10	4.4	7	0	0	7.8	62	1	- 4	1	2	0	0	0	3.6	19	10.3*	15	6	17	7	7	3.8	
EUREKA U	13	1017.3		12.8	7.8	10.2	-1.4	17.8	31	2.8	6	0	0			40	- 15	12	8	1	0	0	3.7	N	13.0	N	21	1	9	21	7.7	51
FRESNO	99	1002.8	1014.7	26.7	10.0	18.3	-1.8	35.6	31	3.3	3	4	0	5.6	48	9	1	9	2	0	0	0	3.8	30	11.6	NW	20+	19	6	6	3.4	85
LONG BEACH	10	1014.6	1016.1	20.6	10.0	15.3	-2.2	26.1	10+	4.4	7	0	0	8.9	71	1	- 2	1	1	0	0	0	3.2	28	11.2*	23	4	13	14	4	4.4	
LOS ANGELES	30	1012.8	1016.4	18.3	11.1	14.7	-1.9	22.2	25+	7.2	7	0	0	8.9	73	T	- 3	T	1	0	0	0	4.8	27	13.0*	27	4	14	12	5	4.5	
LOS ANGELES U	95			21.1	11.7	16.5	-1.7	28.3	25	7.8	7	0	0			T	- 4	T	1	0	0	0	2.9	W	14.3	SW	4	15	11	5	3.9	74
MT SHASTA R	1080	892.2		17.8	2.8	10.3	-1.8	25.0	31+	- 4.4	2	0	7			51	1	19	9	3	69	25						15	7	9	4.8	
OAKLAND	1	1017.2	1017.6	15.6	10.0	12.9	-2.5	18.3	21+	6.7	15	0	0	8.3	75	6	- 10	3	6	1	0	0	4.9	29	16.5*	30	5	13	10	8	5.0	
POINT ARGUELLO R	112	1003.7		14.4	7.2	10.8	-2.2	19.4	16	4.4	4+	0	0			5		4	3	0	0	0	3.9		11.2*	31	2	6	7	18	7.2	
RED BLUFF	104	1002.0	1014.7	26.1	10.6	18.3	-1.8	33.3	30	2.8	4	4	0	3.3	41	11	- 18	6	3	0	0	0	3.5	17	13.4	S	16	14	9	8	4.4	85
SACRAMENTO	5	1014.4	1015.8	26.1	8.3	17.2	-0.6	32.8	11	2.8	2	3	0	7.2	60	6	- 9	4	4	1	0	0	4.2	22	12.1	SW	19	19	9	3	3.7	87
SACRAMENTO U	7			24.4	9.4	17.1	-0.8	32.2	11	4.4	6+	1	0			5	- 11	3	5	0	0	0										
SANDBERG R	1377	862.2		18.3	6.1	12.3	-1.4	28.3	18	- 3.3	2	0	7			17	9	9	3	0	178	76	5.9		16.1*	35	29	18	4	9	3.6	
SAN DIEGO	4	1013.0	1016.1	19.4	12.8	16.1	-1.7	25.0	25	9.4	7	0	0	10.0	70	4	0	3	4	0	0	0	3.7	29	11.6	NW	25	9	14	8	5.3	64
SAN FRANCISCO	2	1017.2	1017.9	17.8	8.9	13.2	-1.4	21.1	21	6.1	15+	0	0	7.8	74	8	- 4	3	7	0	0	0	6.4	26	21.0	S	16	12	12	7	4.9	
SAN FRANCISCO U	16			14.4	8.9	11.9	-2.2	18.9	21	6.7	6	0	0			6	- 10	5	4	0	0	0	4.6	W	15.6	W	5					74
SANTA CATALINA	478	960.0		18.3	9.4	13.8	-1.2	26.1	10	6.1	7	0	0			1	- 8	1	3	0	0	0						20	3	8	3.7	
SANTA MARIA	73	1009.3	1017.9	18.3	6.1	11.9	-2.3	23.3	9	- 0.6	2	0	1	7.2	79	7	1	6	3	0	0	0	4.2	30	13.9*	29	2+	11	13	7	5.0	
STOCKTON	9	1014.5	1016.2	26.1	8.9	17.5	-1.5	33.9	12	3.3	4	3	0	6.1	55	12	1	4	5	1	0	0	4.0	27	11.2*	25	4	17	9	5	3.8	
COLORADO																																
ALAMOSA	2297	770.9		20.6	1.1	10.8	0.4	27.8	24	- 6.7	9	0	14			13	- 6	9	3	7	0	0						9	18	4	4.7	
COLORADO SPRINGS	1882	809.6	1011.3	22.2	6.1	14.2	1.4	33.3	25	- 2.2	12	1	1	- 2.8	39	65	10	38	8	9	0	0	5.4	36	18.3*	22	5	9	10	12	5.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No of days		Snow, Sleet		Wind		Fastest mile (1.6 kilometers)			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb	C.	C.	C.	C.	C.		C.				C.	%	Mm	Mm.	Mm			Mm	Mm	M.p.s		M.p.s							%
COLORADO																																
DENVER	1610	835.7	1010.4	23.3	6.1	14.9	1.4	32.8	25+	- 2.8	4	2	3	0.0	44	64	- 4	43	6	4	25	25	3.8	18	19.2	SW	5	8	14	9	5.7	65
GRAND JUNCTION	1478	857.0	1010.3	25.0	8.9	16.8	0.1	33.3	16	0.6	8+	5	0	- 3.9	30	10	- 5	4	6	1	T	T	4.0	14	16.1	SW	5	9	12	10	5.5	73
PUEBLO	1414	854.3	1010.6	25.6	6.7	16.3	0.4	34.4	25+	- 0.6	7	8	2	- 1.1	36	48	2	41	6	7	0	0	5.8	24	27.3	SW	5	10	10	11	5.2	72
CONNECTICUT																																
BRIDGEPORT	2	1015.9	1016.8	21.7	10.0	15.8	0.9	30.6	23	2.8	2	0	0	8.3	66	25	- 69	15	4	2	0	0	6.2	25	16.1*	30	10	12	10	9	5.0	
HARTFORD	52	1009.3	1015.3	25.6	8.3	17.0	1.5	35.6	23	- 1.1	3	3	3	7.2	55	22	- 65	15	4	1	0	0	4.2	18	14.8	NW	10	7	13	11	6.0	75
NEW HAVEN	2	1015.3		21.1	8.9	15.1	1.1	28.3	24	1.1	4+	0	0			21	- 73	11	4	1	0	0	3.7		13.0	W	25	12	9	10	5.2	79
DELAWARE																																
WILMINGTON	24	1013.9	1017.3	24.4	11.7	17.9	0.9	33.3	23	6.1	3+	2	0	8.9	58	6	- 84	4	2	1	0	0	4.6	22	10.7*	23	19+	11	11	9	5.3	
DIST.OF COLUMBIA																																
WASHINGTON U	22			26.1	13.9	19.9		34.4	23	6.7	3+	4	0			44		33	2													
WASH NATL AP	4	1012.2	1016.8	26.7	13.9	20.1	1.3	34.4	23	6.7	2	6	0	10.0	56	37	- 68	30	3	2	0	0	4.1	18	13.9	WNW	10	10	11	10	5.4	70
FLORIDA																																
APALACHICOLA U	4	1015.1		27.2	19.4	23.4	-0.4	31.1	21	15.0	15+	0	0			53	- 20	40	3	5	0	0	3.5					15	12	4	3.6	75
DAYTONA BEACH	9	1016.0	1017.8	28.9	18.9	23.8	0.3	33.3	29	15.6	18	3	0	18.3	74	66	- 7	36	5	4	0	0	4.0	10	16.5*	1	2	6	18	7	5.7	
FORT MYERS	4	1015.6		31.7	18.9	25.4	0.2	35.0	31	16.1	8	15	0			13	- 85	6	5	5	0	0	4.3		11.2*	6	23	7	16	8	5.4	
JACKSONVILLE	7	1015.3	1017.1	28.9	18.3	23.6	-0.7	35.0	28	13.3	15	10	0	17.8	73	122	34	58	4	6	0	0	4.2	24	22.8	E	2	12	13	6	5.1	74
KEY WEST	2	1015.1	1016.2	29.4	24.4	26.9	0.8	32.2	30	21.7	15	1	0	20.6	70	24	- 45	18	9	6	0	0	5.1	12	10.7	S	1	7	14	10	5.8	76
LAKELAND U	65			30.0	19.4	24.6	-0.3	33.3	31	16.7	4	5	0			72	- 18	68	4	3	0	0	3.4					7	16	8	5.4	66
MIAMI BEACH	3			27.2	23.3	25.5	-0.2	32.8	3	18.9	5+	1	0			59	- 56	23	11	0	0	0	6.4					9	13	9	5.4	64
MIAMI	2	1015.3	1016.5	28.9	22.2	25.3	0.0	32.2	3	18.3	10+	1	0	20.0	73	119	- 45	53	10	5	0	0	3.5	6	9.8*	24	3	5	16	10	6.3	
ORLANDO	32	1012.8	1017.4	31.1	18.9	25.1	-0.3	34.4	31+	16.7	8	13	0	17.8	68	70	- 21	38	5	4	0	0	4.1	6	11.2*	28	3	10	13	8	5.4	
PENSACOLA	4			28.9	18.3	23.6	-0.6	35.6	26	12.2	15	5	0			42	- 74	17	4	3	0	0	3.4	34	14.3	SE	2					80
TALLAHASSEE	18	1014.8	1017.6	30.0	16.1	23.1	-0.8	35.0	21	11.1	15+	10	0	16.7	70	67	- 37	25	6	8	0	0	3.8	18	10.3*	22	2	9	16	6	5.4	
TAMPA	6	1015.1	1016.8	31.1	18.9	24.8	-0.1	33.3	31+	15.6	15+	12	0	17.8	68	91	19	80	5	2	0	0	5.0	9	12.1*	10	23+	10	9	12	5.8	82
WEST PALM BEACH	5	1015.6	1016.8	29.4	20.0	24.7	-0.7	32.8	3	15.6	9	1	0	20.0	76	146	16	71	12	4	0	0	4.3	7	13.0*	18	1	5	14	12	6.5	
GEORGIA																																
ATHENS	245	988.9	1017.6	28.3	14.4	21.4	0.3	35.0	20	7.8	15	8	0	13.9	66	121	29	113	4	5	0	0	3.4	5	13.9*	29	12	9	13	9	5.6	
ATLANTA	306	976.3	1017.9	26.1	15.0	20.5	-0.4	31.7	28+	7.8	15	0	0	13.9	69	66	- 14	60	3	2	0	0	3.2	27	12.1	NE	2	9	13	9	5.5	75
AUGUSTA	44	1010.3	1017.1	30.6	15.0	22.7	0.7	37.2	28	9.4	15	14	0	13.9	64	108	33	101	3	3	0	0	3.3	4	17.9*	17	21	5	14	12	5.7	
COLUMBUS	117	1003.1		28.9	15.0	22.0	-0.3	35.0	26	10.0	16	8	0			92	3	58	4	3	0	0	3.4		11.2*	9	2	11	9	11	5.6	
MACON	109	1004.0	1017.6	29.4	16.1	22.8	-0.5	35.6	28+	10.6	16+	11	0	14.4	63	90	3	77	4	2	0	0	3.1	27	10.3	NE	2	8	12	11	5.5	72
ROME	194	994.9		27.8	12.8	20.3	-0.1	33.9	27	6.7	15	6	0			122	26	110	8	5	0	0						11	7	13	5.5	
SAVANNAH	15	1014.8	1017.4	29.4	16.7	22.9	-0.1	35.6	28+	11.7	7	11	0	16.7	71	118	23	97	5	6	0	0	4.4	24	13.0	E	2	11	11	9	5.6	75
THOMASVILLE U	86			29.4	17.2	23.1	-1.0	35.0	27	11.7	15	8	0			171	74	134	6	4	0	0										
HAWAII																																
HILO	9	1016.0	1017.8	26.1	18.3	22.2	-0.6	27.8	22+	16.7	30	0	0	18.3	82	635	398	210	27	0	0	0	3.9	25	11.6*	11	6	0	6	25	8.6	21
HONOLULU	2	1016.6	1017.0	28.3	21.1	24.7	0.3	29.4	31+	18.3	30+	0	0	16.1	60	5	- 20	3	6	0	0	0	5.1	6	13.0	NE	22	7	10	14	6.3	62
KAHULUI	13	1013.7	1016.5	27.2	18.9	23.1	-0.9	30.0	31	14.4	17	0	0	17.8	74	5	- 13	3	3	0	0	0	6.4	6	17.4	NE	11	9	13	9	5.4	75
LIHUE	35	1013.0	1018.5	27.8	21.1	24.3	0.7	28.3	31+	17.8	29	0	0	18.3	70	58	- 8	21	15	0	0	0	6.4	6	11.2	NE	22+	3	10	18	7.3	50
IDAHO																																
BOISE	865	917.5	1013.3	20.6	5.0	12.8	-1.7	33.9	16	- 2.8	6	1	6	1.7	52	45	12	27	7	2	102	102	3.8	31	17.4	SW	27	11	7	13	5.8	75
IDAHO FALLS 42NW R	1460			18.9	2.2	10.6	-0.9	30.6	16	- 3.9	4	0	11			21	- 1	6	6				4.2		14.8A	SW	22					
IDAHO FALLS 46W R	1504	845.8		18.3	2.2	10.3	-1.1	28.9	19+	- 5.0	7	0	10			27	- 1	17	4	2	T	T	4.9		15.2A	WSW	10					
LEWISTON	431	962.5		21.1	7.2	14.1	-0.6	32.2	16	1.1	23	1	0			7	- 33	3			0	0						6	7	18	6.9	
POCATELLO	1355	860.9	1012.8	19.4	4.4	12.0	-0.8	30.0	19+	- 2.8	6	0	5	0.6	51	36	7	15	6	6	38	T	5.4	18	18.8	SW	2	6	10	15	6.8	54
ILLINOIS																																
CAIRO U	96	1003.5		27.2	17.2	22.0	1.4	32.8	22+	9.4	29	3	0			88	- 24	28	8	6	0	0	3.6	S#	15.2	SW	8	8	7	16	6.2	61
CHICAGO O HARE	201	990.8	1015.3	23.9	10.0	17.1	2.7	31.7	22+	1.1	30	0	0	10.6	65	57	- 38	27	8	5	0	0	5.1	22	15.6*	22	8	4	13	14	6.5	
CHICAGO MIDWAY	186	993.0	1015.8	25.6	12.8	18.9	3.3	33.3	23+	3.9	14	3	0	9.4	55	44	- 51	13	9	2	0	0	5.0	21	21.0	SW	8	8	9	14	6.1	77
MOLINE	177	992.7	1014.8	25.6	12.8	19.1	2.8	33.3	18	4.4	14	3	0	11.7	65	68	- 28	18	8	7	0	0	4.5	18	23.2	SW	8	8	9	14	6.2	66
PEORIA	199	994.1	1016.4	25.6	12.8	19.1	2.7	32.2	22	4.4	14	1	0	11.7	63	26	- 82	14	7	5	0	0	4.3	18	17.0	W	8	12	4	15	5.9	71
ROCKFORD	222	987.4	1014.5	23.9	10.6	17.0	1.9	30.6	22	1.1	14	0	0	10.6	66	87	- 11	29	10	6	0	0	5.1	18	15.6*	22	8	8	11	12	6.0	
SPRINGFIELD	179	992.2	1015.2	27.2	13.9	20.4	2.7	34.4	22+	6.1	29	6	0	12.2	61	46	- 52	14	10	6	0	0	5.3	18	19.2	W	26	12	7	12	5.4	73

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind						No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow Sleet				Fastest mile 1.6 kilometers							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy 4-7	Cloudy 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C	%	Mm.	Mm	Mm			Mm	Mm	M p s		M p s							%
INDIANA																																
EVANSVILLE	116	1001.2	1017.0	26.7	12.8	19.8	0.5	33.3	19	5.0	15	4	0	13.3	69	48	- 59	34	5	2	0	0	3.4	18	15.2	SW	26	10	6	15	5.8	69
FORT WAYNE	241	985.6	1016.6	24.4	11.1	17.9	1.9	31.7	23+	4.4	29+	0	0	10.6	64	65	- 30	28	7	5	0	0	4.6	21	17.0	SW	9	7	11	13	6.0	74
INDIANAPOLIS	242	987.1	1016.7	25.0	12.8	18.7	2.3	31.7	22+	5.6	29+	0	0	12.2	66	36	- 65	14	7	5	0	0	4.2	22	17.9	SW	8	8	8	15	6.0	69
SOUTH BEND	234	987.9	1015.7	23.9	11.1	17.5	2.7	32.2	23+	3.9	30+	2	0	8.3	57	34	- 58	25	6	4	0	0	5.2	19	19.7*	24	8	6	13	12	6.1	
IOWA																																
BURLINGTON	212	989.9	1015.4	26.1	13.3	19.9	3.3	32.8	22+	4.4	14	3	0	11.7	62	27	- 76	12	7	3	0	0	5.1	20	25.0	SW	8	10	5	16	6.1	65
DES MOINES	289	983.1	1014.1	23.9	12.2	17.9	1.1	31.7	22	5.0	14	0	0	11.7	69	74	- 30	23	12	12	0	0	6.0	18	29.1	SW	8	11	6	14	6.1	61
DUBUQUE	325	989.1		23.3	11.1	17.2	2.7	30.0	22	5.0	14	0	0			181	74	68	11	8	0	0			26.4*	23	8	7	12	12	6.4	
SIOUX CITY	334	971.7	1012.6	25.0	12.2	18.7	2.4	32.2	25+	3.9	13	2	0	10.6	61	81	- 1				0	0	5.8	14	25.5	SW	5					
WATERLOO	265	981.4	1013.2	23.9	10.6	17.3	1.8	32.2	22	4.4	14	1	0	11.7	70	127	32	49	13	8	0	0	4.8	18	17.4*	19	6	10	11	10	5.5	
KANSAS																																
CONCORDIA	448	962.7	1012.1	26.7	12.8	19.6	2.3	35.0	25+	2.8	13	9	0	11.7	62	64	- 35	25	10	8	0	0	5.9	17	20.6	SW	8	13	9	9	4.9	78
DODGE CITY	791	925.0	1011.7	28.3	12.8	20.6	2.9	37.2	25+	5.6	12	14	0	8.3	53	93	11	37	7	8	0	0	7.3	19	19.7	W	8	9	9	13	5.6	75
GOODLAND	1111	885.8	1011.5	25.0	6.7	15.9	1.2	36.1	25	- 1.1	6	7	1	4.4	54	68	7	35	7	8	0	0	6.4	18	25.9*	27	8	13	7	11	5.4	
TOPEKA	267	978.3	1013.6	26.7	14.4	20.5	2.5	35.0	26	6.7	13	5	0	12.8	65	53	- 58	28	7	7	0	0	6.9	18	25.5	S	5	9	8	14	6.0	61
WICHITA	403	964.8	1012.9	27.8	15.0	21.2	2.3	36.7	26	5.0	13	7	0	13.3	64	148	47	95	10	5	0	0	5.7	18	25.0	S	6	12	11	8	5.3	67
KENTUCKY																																
COVINGTON	265	985.1	1016.8	25.6	11.7	18.8	1.8	33.3	19	4.4	29	1	0	10.6	62	29	- 62	8	8	3	0	0	3.8	21	15.6*	23	26	7	11	13	6.3	
LEXINGTON	298	982.0	1017.4	26.1	12.8	19.4	1.3	32.2	22+	5.0	29	2	0	10.0	57	43	- 55	26	7	2	0	0	3.8	24	10.3*	25	9	10	6	15	5.8	
LOUISVILLE	144	997.8	1016.8	26.1	12.8	19.3	1.3	32.2	19	5.0	15	1	0	12.8	67	47	- 52	26	9	5	0	0	3.4	18	13.9	W	12	10	7	14	5.9	70
LOUISIANA																																
ALEXANDRIA	28	1012.6	1017.1	29.4	15.6	22.4	-0.3	33.9	26	7.8	14	6	0	17.2	77	58	- 83	36	5	7	0	0	2.2	18	12.5*	36	28	10	8	13	5.8	
BATON ROUGE	20	1013.8	1016.9	30.0	18.9	24.4	0.6	34.4	27	11.7	14	7	0	17.8	71	71	- 51	36	8	6	0	0	3.0	13	13.0*	33	28	12	10	9	5.0	
LAKE CHARLES	4	1014.9	1016.5	28.9	18.9	23.8	-0.4	32.2	28+	12.8	14	2	0	18.3	76	54	- 63	30	6	6	0	0	3.8	16	11.2*	7	31	7	12	12	6.1	
NEW ORLEANS	1	1014.8	1016.9	29.4	17.8	23.7	0.1	33.3	28	11.1	14	4	0	19.4	78	43	- 68	38	5	4	0	0	3.3	14	10.3*	33	12	13	9	9	4.9	
NEW ORLEANS AUDUBON	2	1010.1		30.6	18.3	24.4	0.1	33.9	27+	13.3	14	8	0			42	- 81	14	9	6			1.8		5.8	NW	28+	12	12	7	4.6	67
SHREVEPORT	77	1007.5	1016.7	29.4	18.3	23.9	1.1	34.4	26	12.2	14	6	0	17.2	70	36	- 86				0	0	4.1	18	10.3*	13	31					
MAINE																																
CARIBOU	190	988.5		17.2	4.4	11.0	1.1	29.4	24	0.0	21+	0	2			71	- 6	31	12	4	0	0						6	10	15	6.9	
PORTLAND	19	1010.3	1014.3	20.0	5.6	12.7	1.0	32.2	24	- 3.9	3+	1	4	5.6	64	40	- 47	21	8	3	0	0	4.6	18	15.2	SW	10	7	16	8	5.3	67
MARYLAND																																
BALTIMORE	45	1012.1	1016.9	25.6	11.7	18.5	0.5	34.4	23	6.7	16+	4	0	9.4	59	11	- 90	11	1	1	0	0	3.8	28	14.8	W	24	11	13	7	4.9	66
BALTIMORE U	4			26.1	15.0	20.6	1.6	34.4	23	6.7	3	4	0			15	- 90	15	1													
MASSACHUSETTS																																
BLUE HILL OBS R	192	990.7		22.2	8.9	15.5	1.8	33.3	24+	2.2	2+	2	0			16	- 73	8	3	0	0	0	6.6	SW	23.2	NW	25					73
BOSTON	5	1010.3	1015.1	21.1	10.0	15.7	0.8	33.9	24+	3.3	2	2	0	7.2	61	13	- 71	9	5	1	0	0	5.8	24	16.1	NW	25	11	12	8	4.8	76
NANTUCKET	13	1015.3	1016.0	17.2	7.8	12.3	0.8	22.8	8	0.6	3	0	0	7.2	73	27	- 46	14	5	3	0	0	5.8	23	15.2	SW	19	12	9	10	4.8	80
PITTSFIELD	357			22.2	6.7	14.2	1.7	31.7	23	- 2.2	3	0	2			23	- 75	6	10		0	0										
WORCESTER	301	978.5	1015.0	21.7	8.3	14.9	2.1	31.7	23	0.0	2	0	1	5.0	53	30	- 66	13	5	2	0	0	5.0	23	16.1*	26	25	10	13	8	5.0	
MICHIGAN																																
ALPENA	210	992.4		21.1	6.1	13.5	3.2	32.8	22	- 1.7	30	1	4			77	3	39	11	9	0	0	3.8	24	16.1	W	9	10	10	11	5.8	77
DETROIT	189		1016.1	23.9	11.7	17.6	2.6	32.2	22	3.9	21	1	0	8.9	58	43	- 47				0	0	5.2	18	20.1	W	9					
DETROIT M WAYNE CO	193	992.3	1016.5	22.8	9.4	16.1	1.4	31.1	23+	1.7	21	0	0	10.0	69	44	- 46	21	5	3	0	0	3.8	22				4	14	13	6.3	
DETROIT WILLOW RUN	217	987.8	1016.2	23.3	9.4	16.4	1.6	32.2	23	2.2	21	1	0	9.4	67	62	- 27	34	6	3	0	0	4.9	21	19.7*	25	9	3	15	13	6.4	
FLINT	233	988.9	1016.7	22.8	8.9	15.7	2.8	30.6	23	2.2	21+	0	0	8.9	63	68	- 18	45	5	2	0	0	4.6	22	15.6*	24	9	5	12	14	6.6	
GRAND RAPIDS	210	990.0	1015.6	23.3	10.0	16.7	2.8	31.1	23	2.2	29	0	0	10.0	67	101	13	50	5	5	0	0	4.7	25	22.4	SW	8	4	16	11	6.4	71
LANSING	260	983.8	1015.7	23.9	9.4	16.7	2.7	32.2	22	0.6	29	1	0	8.3	59	68	- 26	28	7	5	0	0	3.6	23	18.8	SW	9	5	14	12	6.1	82
MARQUETTE U	206	986.6		18.9	8.3	13.6	3.7	36.7	22	0.6	14	1	0			80	4	34	9	6	0	0	4.2	NW	14.8	S	5	9	9	13	6.0	66
MUSKEGON	191	992.8	1015.9	22.2	9.4	15.7	2.5	30.0	22	3.9	15+	0	0	8.3	63	30	- 46	12	6	5	0	0	4.6	20	19.2*	22	8	6	13	12	6.1	
SAULT STE MARIE	220	991.5	1014.4	18.3	6.1	12.1	2.3	26.7	23+	- 0.6	31+	0	2	5.0	67	62	- 8	22	12	9	0	0	5.4	12	15.6*	31	27+	7	10	14	6.5	67
MINNESOTA																																
DULUTH	435	971.7	1013.3	18.9	6.1	12.4	2.8	32.2	22	0.6	14+	1	0	3.3	58	146	62	37	12	10	0	0	5.6	9	21.0	W	26+	8	7	16	6.3	66
INTERNATIONAL FALLS	359	970.2	1011.7	19.4	5.6	12.6	2.2	35.0	21	- 1.1	29	1	4	5.0	63	54	- 12	18	8	6	0	0	5.5	27	16.5*	23	7	9	7	15	6.3	
MINNEAPOLIS	251	979.3	1012.6	22.8	10.0	16.4	2.3	33.9	22	4.4	31+	2	0	8.3	61	87	6	26	12	10	0	0	5.7	12	27.3	NW	23	11	8	12	5.7	75

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days				Precipitation			No. of days		Snow, Sleet		Wind					No. of days (sunrise to sunset)				
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Fastest mile (1.6 kilometers) Speed	Fastest mile Direction	Fastest mile Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C	%	Mm	Mm.	Mm			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	976.7	1013.8	22.2	8.9	15.7	1.9	33.3	22	3.3	31	1	0	9.4	67	49	- 44	18	9	8	0	0	6.5	20	23.2*	28	23	8	11	12	5.5	
ST CLOUD	315	974.4		22.2	8.9	15.4	2.3	35.0	21	1.7	13	2	0			92	3	30	11	8	0	0						11	5	15	6.0	
MISSISSIPPI																																
JACKSON	93	1005.1	1017.1	31.1	16.7	23.7		37.2	26	8.9	15	10	0	16.1	66	55		38	7	6	0	0	3.5	14	14.8*	NW	28	10	10	11	5.2	
MERIDIAN	89	1003.9	1017.7	30.0	15.0	22.5	0.1	35.6	26	8.9	15+	10	0	16.1	73	25	- 75	10	6	4	0	0	2.7	18	8.9*	36	29	11	11	9	5.1	
VICKSBURG U	71	1007.5		28.3	18.3	23.3	0.3	34.4	26	13.9	29+	5	0			93	- 11	52	6	6	0	0	3.3		8.0	S	6	11	8	12	5.3	71
MISSOURI																																
COLUMBIA	237	986.2	1014.4	26.7	15.0	20.8	2.8	32.2	18	7.8	14	1	0	12.8	63	146	26	59	10	6	0	0	4.9	18	21.9	SW	8	8	9	14	6.0	60
KANSAS CITY	226	979.2	1013.6	26.7	16.1	21.2	2.5	32.2	26+	8.9	13	6	0	12.8	61	140	28	51	9	5	0	0	4.6	18	15.2	SW	8+	7	8	16	6.5	68
ST JOSEPH	247	980.0		26.1	13.3	19.9	2.1	32.8	21+	4.4	14	6	0			83	- 29	34	10	10	0	0	5.2	18	19.2*	21	8	11	8	12	5.7	
ST LOUIS	163	995.3	1015.9	26.7	15.0	20.9	3.0	33.3	22	6.7	29+	4	0	12.8	61	68	- 27	40	7	3	0	0	4.6	18	14.3	SW	8+	10	12	9	5.9	68
ST LOUIS RFC	142			26.7	16.7	21.7	2.4	33.3	21+	10.0	14+	4	0			67	- 31	44	6		0	0										
SPRINGFIELD	386	968.3	1015.5	26.1	13.9	19.9	1.9	32.2	20	5.0	14	1	0	13.9	71	58	- 76	27	9	5	0	0	4.7	16	13.0	S	8+	9	9	13	6.0	58
MONTANA																																
BILLINGS	1087	887.8	1010.9	20.0	7.8	13.7	-0.1	32.8	20	1.1	3	1	0	3.3	54	99	52	38	9	1	56	T	5.3	4	19.2	W	4	2	14	15	7.1	52
GLASGOW	694	936.8		20.6	7.2	13.9	1.1	33.3	20	2.8	26+	1	0			64	26	38	8	1	0	0						4	10	17	7.2	
GREAT FALLS	1116	885.6	1012.4	18.9	6.7	12.7	1.0	31.7	19	0.6	26	0	0	1.7	53	85	32	36	11	4	T		6.3	24	15.2	SW	24+	1	10	20	7.7	64
HAVRE	787	923.0		19.4	6.1	12.6	0.0	32.2	19	- 0.6	26	1	1			58	19	22	11	2	0	0	5.2		18.8	NW	4	5	11	15	7.0	56
HELENA	1187	871.1	1013.1	17.8	3.9	10.9	-0.7	30.0	19	- 0.6	3	0	3	0.6	53	89	50	52	8	1	257	229	4.3	27	14.8	W	10	4	12	15	7.3	58
KALISPELL	904	909.9		17.2	2.8	9.8	-1.4	26.7	20+	- 4.4	25	0	9			65	23	37	11	0	226	51	3.5					3	10	18	7.4	
MILES CITY	801		1011.3	21.7	7.2	14.3	0.2	37.2	20	1.7	12	3	0	3.3	52	36	- 8	9	12	2	0	0	5.1	15	13.4*	24	13+					
MISSOULA	972	900.6	1015.2	16.7	2.2	9.4	-2.1	28.3	20+	- 3.3	25+	0	10	2.2	67	31	- 17	15	11	1	191	76	3.6	32	15.6	NW	20	3	6	22	7.9	46
NEBRASKA																																
GRAND ISLAND	561	946.3	1012.0	27.2	11.7	19.2	3.3	37.2	25	1.7	13	8	0	7.8	52	11	- 87	8	5	2	0	0	6.0	18	20.6*	30	23	11	10	10	5.2	
LINCOLN U	351			26.1	13.9	19.9	3.0	33.9	25	5.0	13	7	0			69	- 19	38	6	5	0	0	5.8	SE	19.7	SW	8	9	7	15	5.8	67
NORFOLK	471	957.0		25.6	11.1	18.1	2.4	36.1	25	1.7	13	4	0			75	- 18	39	10	11	0	0						8	10	13	5.6	
NORTH PLATTE	847	912.9	1011.1	23.9	7.8	16.1	1.3	33.9	25+	- 0.6	31+	3	2	6.1	56	52	- 23	20	9	7	0	0	5.5	17	22.4	S	5	11	8	12	5.4	61
OMAHA	298	973.2	1012.7	26.7	13.3	20.0	2.8	33.9	25+	5.6	13	6	0	10.6	57	189	101	91	11	8	0	0	4.7	18	28.2	NW	25	10	10	11	5.5	70
OMAHA N OMAHA AP	403	965.0		25.0	12.8	18.9	3.0	32.8	18	5.6	13	2	0			138	52	80	11	9	0	0						10	10	11	5.9	
SCOTTSBLUFF	1204	876.7	1011.4	22.8	7.2	14.9	1.1	33.9	21+	0.6	12	4	0	3.9	54	37	- 32	21	12	7	0	0	5.9	13	20.6*	30	6	7	13	11	6.1	
VALENTINE	789	921.2		23.9	8.3	16.2	2.2	36.1	21	- 0.6	31	3	1			38	- 30	13	6	5	0	0	5.7	N	21.9	SW	5	10	9	12	5.5	65
NEVADA																																
ELKO	1547	842.3	1013.1	18.9	1.1	10.0	-1.1	29.4	19	-11.7	3	0	13	- 1.1	51	29	5	10	11	3	48	T	3.3	24	10.7*	18	25	3	14	14	7.0	
ELY	1907	807.0	1012.1	17.8	0.6	9.2	-0.9	26.7	19	- 7.8	3	0	15	- 2.2	54	30	8	15	9	2	274	102	4.2	19	20.1	3	26	5	12	14	6.6	83
LAS VEGAS	659	945.5	1011.0	29.4	13.9	21.6	-1.6	37.8	19	4.4	3	16	0	- 3.3	22	1	- 1	1	3	1	0	0	5.5	23	15.6*	21	5+	20	6	5	3.3	85
RENO	1342	861.9	1014.8	20.6	1.7	11.1	-1.1	30.0	18	- 7.8	2	0	10	- 1.7	45	45	32	22	7	1	358	178	3.7	29	14.8	NW	27	9	14	8	5.3	94
WINNEMUCCA	1310	866.1		20.6	1.7	11.0	-1.1	30.6	19+	- 5.6	6+	0	11			22	- 2	10	6	1	13	T	3.9	28	16.5	NW	26+	6	8	17	6.8	61
NEW HAMPSHIRE																																
CONCORD	103	1003.7	1014.5	23.3	6.7	14.9	1.8	34.4	23	- 3.9	3	2	4	6.1	59	29	- 51	17	6	4	0	0	3.7	30	16.5*	31	25	10	13	8	5.3	73
MT WASHINGTON OBS	1909			7.2	- 1.1	3.0	1.3	17.2	24	-10.0	21	0	21			173	25				91	25	14.7	W	43.8	W	25					
NEW JERSEY																																
ATLANTIC CITY	18	1015.8	1017.4	24.4	11.1	17.8	1.5	34.4	24+	4.4	7	4	0	8.9	61	37	- 52	34	2	0	0	0	4.5	7	13.0*	23	19+	8	16	7	5.3	78
ATLANTIC CITY U	3			21.1	12.2	16.6	1.3	32.2	9	6.7	2	1	0			33	- 47	29	2				6.0		17.4*	NW	10					
NEWARK	3	1015.3	1016.7	24.4	12.8	18.6	1.6	35.6	23	5.0	3	3	0	7.8	53	13	- 80	10	4	2	0	0	5.1	23	13.0*	25	19+	8	15	8	5.3	
TRENTON U	17	1008.6		24.4	11.7	17.9	1.1	34.4	23	4.4	3	2	0			6	- 86	3	4	2	0	0	4.2	SW	14.8	NW	20	15	11	5	4.5	83
NEW MEXICO																																
ALBUQUERQUE	1618	847.0	1010.6	27.2	10.0	18.8	0.4	34.4	24+	1.1	6	5	0	- 2.8	29	9	- 10	4	7	4	0	0	4.4	18	23.2	SW	7	14	11	6	3.9	81
CLAYTON	1515	844.2		25.6	8.3	17.1	1.6	35.0	23	1.7	6	3	0			22	- 47	8	9	13	0	0						13	5	13	5.3	
RATON	1944	805.0		23.3	5.6	14.5	1.5	31.1	23	- 2.2	9	0	3			32	- 26	17	7	12	0	0						10	9	12	5.7	
ROSWELL	1103	891.2		31.1	10.6	21.0	1.0	38.3	23	1.1	9	16	0			8	- 25	8	2	2	0	0	4.9		18.8	SW	5	14	13	4	4.1	75
SILVER CITY	1638	834.9		27.2	8.9	18.2	0.0	34.4	25+	- 0.6	8	3	1			3	- 4	2	2	3	0	0						17	11	3	3.2	
NEW YORK																																
ALBANY	84	1011.9	1015.7	23.9	8.9	16.5	2.1	33.9	23	2.2	21	2	0	7.2	57	33	- 55	21	9	3	0	0	4.2	17	13.9	SW	9	3	18	10	6.4	64
BINGHAMTON	485	957.0	1015.8	20.6	8.9	14.7	1.8	30.0	23	2.2	30+	0	0	7.2	64	51	- 38	37	12	2	0	0	4.8	32	16.1	NW	19	2	17	12	6.9	66

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm	Mm.	Mm			Mm.	Mm	M p.s.		M p.s							%
NEW YORK																																
BUFFALO	215	987.8	1015.9	20.6	9.4	15.1	2.4	28.9	24+	3.3	15	0	0	8.3	66	74	- 1	29	8	4	0	0	5.2	24	19.2	SW	9	8	10	13	6.2	69
NEW YORK U	40	1005.6		24.4	12.8	18.6	1.7	34.4	23	6.1	3+	2	0			14	- 79	8	3	3	0	0	4.1	SW	12.1	NW	20	18	9	4	4.0	74
NEW YORK LA GUARDIA	6	1014.0	1016.3	23.9	13.3	18.7	1.9	34.4	23	6.7	2	2	0	8.9	56	11	- 80	9	3	2	0	0	5.3	5	13.4	NW	25	8	18	5	5.3	
ROCHESTER	166	997.1	1016.3	22.2	9.4	15.7	2.0	31.1	24+	3.3	15	0	0	7.8	61	70	0	34	8	4	0	0	4.6	25	25.0	SW	9	8	14	9	5.7	74
SCHENECTADY	66			23.9	9.4	16.6	1.6	33.3	23	2.8	3	2	0			49	- 35	24	7	3	0	0	1.8		15.6	WSW	9	23	7	1	2.5	
SYRACUSE	127	993.6	1015.3	23.3	10.0	16.4	2.2	32.2	23	2.8	21	1	0	7.8	59	59	- 24	22	13	3	0	0	4.7	27	22.4	NW	25	2	20	9	6.3	70
NORTH CAROLINA																																
ASHEVILLE U	671	939.5		25.6	11.7	18.5	0.5	32.2	8	7.2	16+	1	0			24	- 49	10	9	1	0	0	2.7	S	11.2	E	2	9	11	11	5.5	66
CAPE HATTERAS R	2	1015.8	1016.6	23.3	15.0	19.2	-0.8	30.0	10	7.8	17	0	0	15.0	78	67	- 34	36	8	4	0	0	5.1	5	11.6	NE	4	8	8	15	6.4	67
CHARLOTTE	224	989.7	1017.6	27.8	14.4	21.0	0.4	35.0	20	8.3	15+	5	0	12.2	62	23	- 56	19	5	2	0	0	3.6	4	11.2	NE	3	8	11	12	5.7	72
GREENSBORO	272	986.3	1018.0	26.7	12.8	19.8	0.4	34.4	20	6.7	3	2	0	11.7	64	14	- 69	5	5	2	0	0	3.7	4	10.3	W	10+	7	10	14	6.3	62
RALEIGH	132	1003.5	1017.2	26.7	13.3	20.1	0.3	33.9	20	6.7	16	3	0	12.2	66	23	- 66	9	5	5	0	0	3.9	2	10.3*	31	12+	7	10	14	6.1	67
WILMINGTON	9	1014.5	1017.4	27.8	16.1	21.8	0.4	35.6	28	10.6	6	5	0	15.0	70	130	40	75	5	4	0	0	4.5	23	19.2	E	3	10	10	11	5.8	68
WINSTON SALEM	295	982.9	1017.7	27.2	14.4	20.8	0.9	34.4	20	8.3	3	4	0	12.8	63	18	- 84	10	5	3	0	0	3.7	24	9.4*	33	13	8	9	14	6.2	
NORTH DAKOTA																																
BISMARCK	502	951.6	1011.8	21.1	6.1	13.8	0.5	32.8	20	- 2.8	31	1	2	3.3	54	23	- 27	9	8	6	0	0	5.5	32	19.2	E	2	6	10	15	6.5	71
FARGO	274	977.4	1011.6	23.9	8.3	16.2	3.2	36.7	21	- 0.6	13	2	2	6.1	54	22	- 29	10	9	4	0	0	5.5	36	18.3	SE	3	13	5	13	5.4	74
WILLISTON	579	943.8		21.7	6.7	14.1	1.5	36.7	20	- 1.7	12	1	1			28	- 8	13	9	1	0	0	6.0	NW	19.2	SE	3+	6	13	12	6.4	65
OHIO																																
AKRON	369	979.2	1017.4	22.8	10.0	16.3	0.9	30.6	19	0.6	30	0	0	8.9	64	84	- 14	29	11	10	0	0	4.2	24	15.6*	27	9	5	14	12	6.4	
CINCINNATI OBS	232			26.1	13.3	19.7	1.8	32.8	19	6.7	29	2	0			27	- 70	8	8	4	0	0	2.4	S	8.5	SW	23					60
CINCINNATI U	169	993.9		26.7	14.4	20.3	1.6	34.4	19	7.8	29	3	0			17	- 80	6	7	4	0	0										
CLEVELAND	237	988.7	1016.6	21.7	10.6	15.9	1.8	30.6	19	1.7	15	0	0	9.4	67	77	- 13	35	9	6	0	0	4.6	20	16.5	W	9	5	14	12	6.4	75
COLUMBUS	247	987.7	1017.5	24.4	10.6	17.4	1.1	33.3	19	3.9	30+	1	0	11.1	69	50	- 52	17	6	8			4.1	18	24.1	NW	24	5	9	17	6.8	58
COLUMBUS U	221			25.0	13.3	18.9	1.7	32.8	19	7.8	29	1	0			65	- 23	30	7	5	0	0										
DAYTON	304	984.5	1017.0	25.0	12.2	18.6	2.1	32.2	19	6.1	15	1	0	10.0	60	39	- 55	17	6	6	0	0	4.8	20	17.4	W	24	8	8	15	6.4	69
MANSFIELD	395			22.8	10.6	16.6	2.2	31.1	19	2.8	15	0	0			106	11	44	10	8	0	0						5	11	15	6.5	
TOLEDO	206	991.1	1016.3	24.4	10.0	17.0	2.4	33.3	19	0.0	21	3	1	8.3	59	24	- 53	13	8	4	0	0	4.7	22	15.2	SW	9	6	15	10	6.1	73
YOUNGSTOWN	359	974.6	1017.2	22.2	10.0	16.1	1.7	31.1	19	1.7	30+	0	0	8.3	62	75	- 28	42	9	7	0	0	4.4	23	13.0*	24	9	7	12	12	6.1	
OKLAHOMA																																
OKLAHOMA CITY	390	970.6	1013.8	27.2	15.0	21.1	0.9	33.3	3	7.8	13	4	0	15.0	71	132	1	66	10	10	0	0	6.5	16	23.2	NE	10	8	8	15	6.0	54
TULSA	206	990.4	1014.7	27.8	16.1	22.1	2.2	33.9	26+	7.8	13	5	0	15.6	69	121	- 12	58	10	8	0	0	5.6	18	17.0	S	8	9	7	15	6.2	55
OREGON																																
ASTORIA	2	1018.7	1019.4	13.9	5.6	9.7	-2.1	23.3	26	1.7	23+	0	0	6.7	80	58	- 24	21	15	0	0	0	4.1	25	11.2*	24	16	3	9	19	7.6	
BURNS U	1265	871.5		18.3	1.1	9.7	-2.2	26.7	19+	- 7.2	3	0	11			20	- 3	15	6	1	23	25						7	10	14	6.0	
EUGENE	110	1005.6		18.3	5.0	11.8	-1.6	27.8	30	- 0.6	3	0	1			23	- 31	11	8	0	0	0	2.8		10.7*	1	25	3	8	20	7.5	
MEACHAM	1234			12.8	1.7	7.3	-1.6	23.3	16	- 4.4	2	0	13			26	- 36	9	11	1	79	25						4	12	15	6.8	
MEDFORD	396	969.7	1017.5	21.1	4.4	12.7	-1.4	31.1	31	- 1.1	4	0	4	4.4	63	21	- 17	13	6	1	T	T	2.6	30	10.3*	32	16	7	10	14	6.2	
PENDLETON	452	962.0	1015.7	21.1	6.7	13.8	-1.6	30.6	31	0.6	14	0	0	1.1	45	1	- 28	1	2	0	0	0	4.6	26	13.4*	26	4	8	11	12	5.9	
PORTLAND	6	1013.1	1018.8	17.2	5.6	11.4	-2.7	28.9	30	0.0	2+	0	2	5.6	70	26	- 24	7	11	1	0	0	3.3	32	11.6	S	20	4	10	17	7.4	52
PORTLAND U	9			18.9	7.8	13.4	-1.7	31.1	30	2.2	2	0	0			24	- 28	11	10		0	0										
ROSEBURG	154	1000.1		20.0	5.6	12.9	-0.7	30.0	30	- 0.6	2	0	1			25	- 22	10	7	1	T		2.3	N	9.8	N	25	3	14	14	6.9	56
SALEM	59	1012.1	1019.5	18.9	5.0	12.1	-1.4	29.4	30	0.0	25+	0	3	6.7	70	15	- 39	5	7	0	T		3.1	18	9.4*	23	20+	3	9	19	7.3	
SEXTON SUMMIT R	1169	884.5		13.9	2.2	8.2	-1.8	23.9	31+	- 5.0	6	0	7			17	- 39	5	6	0	147	51	4.3					5	12	14	6.6	
PACIFIC AREA																																
CANTON ISLAND	3	1008.8	1009.1	31.1	25.0	28.1	-0.7	31.7	21+	23.3	9	0	0	22.2	72	19	- 91	15	5	0	0	0	5.9	7	9.8*	6	9+	5	18	8	5.9	
ENIWETOK	5	1009.6		31.1	25.6	28.4	0.4	32.8	31	23.3	29+	1	0			69	- 47	18	15	1	0	0	5.3									
TAGUAC GUAM R	110	996.5		28.9	23.3	26.3	-0.6	31.1	31	21.7	25	0	0			526	419	191	27	4	0	0	3.7		14.8	E	16					53
JOHNSTON	2	1012.4	1013.1	27.2	24.4	25.9	-0.3	28.3	31+	22.2	30+	0	0	22.2	80	91	66	39	11	1	0	0	6.2	9	13.4	E	8	2	10	19	8.0	47
KOROR R	29	1005.6	1008.4	31.1	24.4	27.8	0.4	32.8	3+	22.2	11	5	0	25.0	88	465	94	130	24	11	0	0	3.0	24	11.6	SW	18	0	0	31	9.8	59
KWAJALEIN	2	1009.6	1009.6	30.0	24.4	27.2	-0.1	31.7	22	22.2	6	0	0	24.4	86	614	406	116	23	1	0	0	5.2	6	14.3*	11	13	1	10	20	7.7	
PONAPE R	37	1004.5	1008.9	30.6	23.3	26.8	-0.1	32.8	21+	20.6	30	2	0	23.9	86	322	-194	59	23	2	0	0	2.5	6	9.8	SE	23+	1	7	23	8.5	35
TRUK MOEN ISLAND	2	1008.0	1008.3	30.6	24.4	27.3	0.2	31.7	23+	22.2	13	0	0	24.4	83	469	110	112	24	4	0	0	3.9	4	15.2	SE	14	0	3	28	9.4	42
WAKE	3	1012.4	1012.8	29.4	24.4	26.8	0.2	31.1	28+	22.2	19+	0	0	20.6	70	11	- 41	3	9	0	0	0	4.1	7	9.4*	6	12+	2	16	13	6.5	
YAP R	16	1005.6	1007.6	30.6	24.4	27.3	-0.5	32.2	25	22.8	23+	1	0	25.0	89	463	221	136	27	7	0	0	3.2	4	13.0	SW	19	0	2	29	9.5	37

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station O	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C	C.	C.	C		C.				C	%	Mm.	Mm.	Mm			Mm	Mm	M p s		M p.s							%
PENNSYLVANIA																																
ALLENTOWN	115	1002.7	1017.0	24.4	9.4	16.8	1.0	33.3	23	1.7	3	2	0	7.8	58	2	-101	1	3	3	0	0	4.6	23	25.9*	30	10	13	11	7	4.9	
ERIE	223	990.5	1016.7	21.1	10.6	15.6	2.1	31.1	23	2.8	30	0	0	7.8	63	95	5	31	10	5	0	0	6.3	18	16.5*	25	9	9	13	9	5.5	
HARRISBURG	102	1003.3	1017.2	25.6	10.6	17.9	0.9	34.4	19	3.3	3	3	0	8.3	54	13	- 86	9	6	5	0	0	4.0	27	16.5	W	9	7	15	9	5.8	74
PHILADELPHIA	2	1012.5	1017.0	24.4	12.2	18.4	1.4	32.8	23	6.1	3	2	0	9.4	58	12	- 83	12	3	0	0	0	4.2	23	13.9	W	10	9	17	5	5.1	73
PITTSBURGH	347	986.5	1017.1	23.3	10.6	17.1	1.6	31.7	19	3.9	15	0	0	8.9	60	45	- 54	17	9	4	0	0	4.5	23	15.6*	26	9	4	14	13	6.6	70
PITTSBURGH U	228			23.9	12.2	18.2	1.0	32.8	19	6.7	30+	1	0			63	- 33	32	7		0	0										65
READING U	81	1004.5		25.0	12.2	18.4	1.1	33.9	23	3.3	3	3	0			22	- 75	7	6	3	0	0	4.8	W	21.0	W	19	14	9	8	4.6	72
SCRANTON	287	982.6	1016.5	23.3	10.0	16.7	1.3	32.8	23	1.7	3	1	0	7.2	55	25	- 75	12	7	3	0	0	3.8	23	15.2	SW	19	7	15	9	5.9	67
WILLIAMSPORT	161	998.3	1017.1	25.0	8.9	16.9	1.2	34.4	23	2.8	3	4	0	7.2	57	20	- 83	15	10	3	0	0	4.0	27	13.4*	27	9	6	17	8	6.0	
RHODE ISLAND																																
BLOCK ISLAND	34	1011.1		17.2	8.3	12.7	0.6	23.9	23+	1.1	4	0	0			36	- 41	23	5	1	0	0						9	15	7	5.0	
PROVIDENCE	17	1009.2	1015.3	22.8	8.9	15.7	1.6	34.4	23	0.6	4+	2	0	7.2	61	18	- 67	10	4	1	0	0	5.3	22	15.6*	23	19	12	10	9	4.9	75
SOUTH CAROLINA																																
CHARLESTON	12	1014.7	1017.2	28.9	16.7	22.8	0.1	36.1	28	11.1	16+	8	0	16.1	70	121	29	79	4	2	0	0	4.1	18	19.7Y	N	3	9	12	10	5.6	67
CHARLESTON U	3			26.7	18.9	22.8	-0.1	33.3	28	13.9	3	1	0			104	26	69	3		0	0	4.8		20.1	NE	3					
COLUMBIA	66	1004.4	1017.1	29.4	15.6	22.4	0.1	36.7	28+	9.4	16+	13	0	13.3	61	67	- 23	65	3	0	0	0	2.9	24	10.3*	18	22	10	11	10	5.2	67
FLORENCE	45	1011.2	1017.0	28.9	15.6	22.2	0.0	37.8	28	10.0	16+	13	0	13.9	65	50	- 23	37	6	4	0	0	3.9	20	13.0*	26	28	12	10	9	5.2	
GNVLE SPARTANBURG	292	980.7	1017.7	28.3	15.6	21.8	0.6	34.4	28	11.1	16+	8	0	12.8	61	40	- 41	36	5	3	0	0	3.8	4	13.0	W	12	9	10	12	5.5	61
SOUTH DAKOTA																																
HURON	391	964.9	1011.6	24.4	7.2	15.8	1.6	34.4	21	- 2.8	13	2	2	7.2	59	33	- 27	14	9	8	0	0	5.5	15	22.8	SW	6	10	10	11	5.6	70
RAPID CITY	965	898.8	1012.1	21.1	8.3	14.7	1.6	33.3	20	2.8	24+	3	0	3.9	55	64	- 4	24	12	6	0	0	6.2	14	21.0	SW	16	6	12	13	6.4	56
SIOUX FALLS	433	961.1	1012.3	24.4	8.3	16.4	1.8	34.4	25	- 1.1	13	5	1	8.3	60	33	- 53	18	6	6	0	0	5.2	17	19.7*	26	6	11	8	12	5.4	
TENNESSEE																																
BRISTOL	459	963.7	1017.8	25.6	11.7	18.8	0.1	31.1	20	6.7	15+	0	0	12.2	68	58	- 30	25	7	5	0	0	2.0	27	10.3*	28	23+	8	9	14	6.1	
CHATTANOOGA	204	1001.6	1017.9	27.8	14.4	21.1	-0.1	33.3	27+	7.2	16+	6	0	15.0	73	109	19	88	7	6	0	0	2.7	13	10.7	NW	13+	10	5	16	6.1	66
KNOXVILLE	290	982.3	1018.1	26.1	12.8	19.4	-0.4	30.6	23+	6.7	15+	0	0	12.8	67	101	12	35	11	6	0	0	3.0	24	12.1	SW	23	10	7	14	6.1	64
MEMPHIS	80	1002.8	1017.3	27.8	16.7	22.2	0.9	34.4	27	10.0	29+	7	0	15.6	69	83	- 24	27	7	5	0	0	3.5	18	11.6	N	28	10	7	14	5.9	80
MEMPHIS U	83			27.2	17.8	22.7	1.1	33.9	27	10.0	29	7	0			53	- 49	19	10	0	0	0										
NASHVILLE	176	997.1	1017.0	27.2	14.4	20.9	0.6	33.3	22	8.3	15	5	0	15.0	71	128	34	44	8	6	0	0	3.3	16	13.0	NW	28	12	4	15	5.7	62
OAK RIDGE	276	985.9		26.7	12.8	19.8	0.6	31.7	27+	6.1	15	0	0			72	- 23	19	9	7	0	0	2.1		17.9		28	11	10	10	5.3	
TEXAS																																
ABILENE	536	952.1	1012.4	30.6	17.8	24.1	2.0	34.4	7	8.9	13	10	0	12.8	53	39	- 71	15	8	6	0	0	5.6	18	14.8	SE	7+	7	14	10	5.7	78
AMARILLO	1099	887.1	1010.6	28.9	12.2	20.5	1.3	37.2	23	5.6	6	9	0	4.4	46	43	- 43	24	8	4	0	0	7.5	21	21.0	W	8+	13	8	10	5.1	67
AUSTIN	182	992.9	1014.5	30.6	19.4	24.8	0.8	35.0	2	13.9	14	9	0	18.3	73	47	- 47	13	8	5	0	0	4.0	18	14.8	N	30	4	11	16	7.1	38
BROWNSVILLE	5	1010.7	1013.2	31.1	22.8	26.8	0.7	35.0	2	17.8	18	7	0	21.7	77	79	19	30	6	4	0	0	6.2	14	15.2	SE	30	4	9	18	6.9	51
CORPUS CHRISTI	13	1013.1	1014.2	31.1	21.1	26.0	0.7	36.7	2	16.7	18+	11	0	21.7	80	112	36	51	8	5	0	0	5.6	14	15.2	N	11	5	7	19	7.3	41
DALLAS	147	996.4	1014.7	28.9	18.9	23.7	1.0	33.9	26	11.1	13	4	0	17.8	72	86	- 37	42	9	5	0	0	5.8	16	13.4	S	5+	6	9	16	6.8	49
DEL RIO	313	978.0	1012.0	32.2	20.6	26.2		38.3	3	14.4	2	16	0	16.7	63	58		47	7	10	0	0	5.3	12	11.2	12	4+	5	8	18	6.9	
EL PASO	1194	879.4	1009.3	31.7	15.0	23.3	1.1	37.8	24	6.7	6	14	0	0.0	24	1	- 10	1	1	1	0	0	4.4	25	21.9	SW	5	23	6	2	2.7	91
FORT WORTH	166	994.3	1014.9	28.3	17.2	22.9	0.3	33.3	26	9.4	13	2	0	17.2	74	72	- 44	32	10	6	0	0	4.7	16	17.9*	29	1	6	10	15	6.6	
GALVESTON U	2			26.7	22.8	24.8	0.5	28.9	28+	17.8	31	0	0			44	- 27	14	6		0	0	5.3	SE	16.1	S	30					76
HOUSTON U	12			29.4	21.7	25.7	1.2	35.6	2	16.7	14	4	0			48	- 65	17	8		0	0										
HOUSTON	15	1012.4	1015.2	28.9	19.4	24.3	-0.1	33.3	2	13.3	14	3	0	19.4	78	57	- 53	24	6	6	0	0	4.8	14	11.6*	16	30+	6	8	17	6.9	62
LAREDO	152	997.1	1012.4	33.9	22.2	28.0	0.9	39.4	3	18.3	12	22	0	18.3	63	27	- 44	10	7	5	0	0	5.9	14	13.9*	13	30+	3	11	17	7.0	
LUBBOCK	988	901.6	1011.5	29.4	13.9	21.8	1.7	36.7	24	7.2	11	8	0	7.2	47	42	- 38	29	6	8	0	0	7.4	18	20.6*	2	12	9	13	9	5.1	
MIDLAND	870	913.3	1010.2	32.2	16.1	24.3	1.3	38.9	24	7.2	11	19	0	8.3	45	54	2	53	2	4	0	0	5.9	18	14.8*	19	5	11	10	10	5.1	
PORT ARTHUR	5	1014.1	1015.6	29.4	20.0	24.8	1.1	32.8	28+	13.3	14	4	0	20.0	78	153	27	68	6	8	0	0	4.5	13	14.3	NW	31	8	12	11	5.8	63
SAN ANGELO	580	945.5	1011.5	32.2	18.3	25.2	1.7	36.1	4	10.6	13	19	0	12.8	52	10	- 71	10	4	4	0	0	5.2	16	14.3*	16	7	8	11	12	6.0	
SAN ANTONIO	241	989.6	1014.2	31.7	18.9	25.3	1.3	37.2	2	8.9	2	21	0	17.8	69	45	- 42	22	11	5	0	0	4.5	16	11.6	SE	29+	4	14	13	6.8	55
VICTORIA	32	1010.0		31.7	21.7	26.6	2.0	38.3	2	16.7	15	11	0			78	- 26	38	9	8	0	0	4.6		18.8Y		30	3	8	20	7.4	
WACO	152	993.5	1014.3	29.4	18.9	24.2	0.7	33.3	26+	10.6	13	6	0	16.7	67	38	- 78	20	5	4	0	0	5.1	16	11.2*	34	12	9	7	15	6.5	
WICHITA FALLS	303	976.7	1013.2	29.4	16.7	22.8	0.5	35.0	26	8.9	13	9	0	15.6	68	214	97	86	11	11	0	0	5.9	14	21.5*	23	1	11	9	11	5.5	
UTAH																																
MILFORD	1533	842.1		21.7	2.8	12.4	-1.2	31.1	19	- 2.8	3	0	7			16	- 2	5	8	1	81	T						13	8	10	5.0	
SALT LAKE CITY	1286	865.6	1012.9	20.6	5.6	13.2	-1.7	31.7	20	- 2.2	3	0	4	1.1	50	70	35	23	8	7	135	76	4.4	16	15.6	SW	27	7	7	17	6.8	63
WENDOVER	1291	868.0		20.6	9.4	14.8	-1.5	31.7	20	- 0.6	3	0	1			38	21	22	8	3	T	T						9	10	12	5.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C	%	Mm	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	999.2	1013.8	22.2	7.8	14.8	2.7	32.2	23	- 1.7	21	1	2	6.1	60	119	43	34	15	3	0	0	4.1	18	13.0	W	9	6	7	18	7.0	72
VIRGINIA																																
LYNCHBURG	289	992.4		25.6	12.2	18.9	0.4	32.2	20	6.1	3	1	0			42	- 40	18	7	3	0	0	2.9		13.0	W	12	8	12	11	5.8	74
NORFOLK	8	1016.3	1017.7	24.4	13.9	19.1	-0.6	33.9	23	3.3	7	4	0	12.2	69	40	- 46	14	9	4	0	0	5.1	4	17.4	E	2	9	9	13	6.3	70
RICHMOND	49	1011.2	1017.5	26.1	12.2	19.1	-0.3	33.3	23+	6.1	16+	4	0	11.1	65	29	- 66	12	8	3	0	0	3.7	23	11.2	NW	17	8	13	10	5.5	67
ROANOKE	358	976.3	1017.9	26.1	12.8	19.7	0.9	33.3	22+	6.7	30+	3	0	10.6	59	45	- 51	26	9	5	0	0	3.6	14	13.0*	29	10	8	11	12	5.8	
WASHINGTON																																
OLYMPIA	58	1010.9	1018.3	17.2	2.8	9.9	-2.9	27.8	30	- 3.3	2	0	11	5.6	75	25	- 26	9	7	0	0	0	3.6	20	13.4*	24	4	4	7	20	7.6	
SEATTLE TACOMA	122	1004.0	1018.3	17.2	6.7	11.8	-1.3	32.2	31	1.7	2	1	0	5.0	67	23	- 21	7	9	1	0	0	4.1	24	11.6*	23	31	3	10	18	7.1	
SEATTLE U	4			17.8	8.9	13.2	-0.9	30.0	31	4.4	2	0	0			27	- 13	13	10		0	0			17.4	SW	21					63
SPOKANE	718	945.4	1014.1	18.3	5.0	11.6	-1.8	28.3	16	- 0.6	25	0	3	0.0	48	11	- 19	4	7	1	0	0	5.3	20	18.3	SW	20	6	11	14	6.4	59
STAMPEDE PASS R	1206	879.4		7.2	0.0	3.7	-2.9	17.8	31	- 5.0	13	0	18			94	- 14	29	14	0	465	4470						5	3	23	7.9	
TATOOSH ISLAND R	31	1015.4	1018.4	11.1	6.7	8.9	-1.7	13.9	26	3.9	13+	0	0	6.1	84	38	- 38	9	15	0	0	0	6.0	27	21.0	NW	4	7	8	16	6.7	50
WALLA WALLA U	289			20.6	8.9	14.6	-1.5	30.0	31	3.3	2	0	0			6	- 32	0	4		0	0										
YAKIMA	323	976.4	1015.4	20.6	3.3	12.0	-2.7	28.9	31	- 3.3	23+	0	7	- 0.6	42	1	- 13	1	1	0	0	0	4.2	30	13.0*	22	20+	10	12	9	5.4	
WEST INDIES																																
SAN JUAN P.R.	2	1013.2	1015.9	31.1	23.3	27.2	1.2	33.9	6	21.1	25+	6	0	21.1	72	101	- 80	27	13	3	0	0	4.0	7	14.3	E	23	6	17	8	5.5	86
SWAN ISLAND	9	1011.4														51	- 33	28	8		0	0						8	12	11	5.9	
WEST VIRGINIA																																
BECKLEY	763	930.8	1018.3	22.8	10.0	16.2		28.9	19	2.8	30	0	0	8.9	64	33		17	9	5	0	0	4.2	24	11.2*	30	10	5	9	17	7.1	
CHARLESTON	286	982.2	1017.4	27.2	11.7	19.4	1.2	33.3	19	3.9	1	4	0	11.1	62	24	- 70	11	7	3	0	0	2.8	22	10.3*	22	24	6	12	13	6.3	
ELKINS	600	949.0	1018.1	23.3	7.2	15.2	0.1	28.3	23+	0.0	29	0	1	8.9	68	37	- 79	15	8	5	0	0	3.1	26	13.9*	14	25	5	11	15	6.6	
HUNTINGTON	252	987.9	1017.8	26.1	11.7	18.9	0.8	32.8	19	4.4	15	1	0	11.7	65	32	- 67	9	7	3	0	0	2.6	23	10.3*	24	23	7	10	14	6.4	
PARKERSBURG U	187			25.6	11.7	18.6	0.8	32.2	19	5.6	29+	1	0			28	- 66	17	8	6	0	0	2.9		14.3	NW	23					66
WISCONSIN																																
GREEN BAY	209	991.5	1014.2	21.7	8.9	15.3	2.6	30.0	22	0.6	14	0	0	9.4	71	105	27	31	14	11	0	0	4.7	22	23.2	W	23	11	8	12	5.6	67
LA CROSSE	199	987.7	1013.6	23.3	11.7	17.7	2.6	32.2	22	5.6	29+	1	0	10.6	65	94	- 1	28	12	9	0	0	5.4	18	19.7*	30	23+	9	10	12	5.7	
MADISON	262	979.2	1014.4	24.4	10.0	17.0	3.6	31.1	22	0.0	29+	0	2	9.4	62	98	13	34	12	12	0	0	4.6	18	21.0	SW	8	4	11	16	6.8	72
MILWAUKEE	205	990.5	1015.4	21.7	9.4	15.7	3.8	31.1	22	2.8	21	0	0	8.9	66	65	- 15	24	11	8	0	0	5.2	20	21.0	W	7	8	14	9	5.6	77
WYOMING																																
CASPER	1621	834.7	1010.9	20.0	5.0	12.3	0.6	31.7	20	- 1.1	3	0	4	0.0	51	55	4	30	9	5	T		5.6	24	21.9*	24	3	5	10	16	6.8	
CHEYENNE	1867	811.7	1011.4	19.4	5.6	12.6	0.9	30.0	25+	- 1.7	12	0	2	- 0.6	46	21	- 43	9	10	4	13	T	6.3	29	19.2	N	11	7	14	10	6.2	50
LANDER	1696	832.9	1010.5	19.4	4.4	11.9	0.3	30.6	20	- 1.7	4	0	4	- 0.6	48	87	20	70	8	5	38	T	4.2	24	19.2	SW	24	3	14	14	7.1	63
SHERIDAN	1202	881.5	1012.0	18.9	5.6	12.4	0.4	33.9	20	- 1.7	12	1	3	3.9	61	45	- 21	20	10	1	18	25	5.1	30	25.0	W	13	1	15	15	7.5	57

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

MAY 1964

State and station	Current season		Long term mean July through this month
	This month	Period July through this month	
ALABAMA			
Birmingham	5	3001	2779
Huntsville	8	3309	3070
Mobile	0	2006	1659
Montgomery	1	2523	2291
ALASKA			
Anchorage	733	10518	10549
Annette	534	6396	6823
Barrow	1458	20550	19217
Barter Island	1360	19812	18938
Bethel	1047	14040	12794
Cold Bay	830	9389	9292
Cordova	753	9146	9320
Fairbanks	810	14764	14057
Juneau	610	8064	8694
King Salmon	827	11455	10935
Kotzebue	1248	17046	15469
McGrath	916	16188	14025
Nome	1138	15065	13598
St. Paul Is.	947	10750	10467
Shemya	837	9070	8975
Yakutat	732	8516	8657
ARIZONA			
Flagstaff	477	7179	6849
Phoenix (U)	15	1535	
Phoenix	23	1913	1598
Prescott	200	4595	4347
Tucson	27	2045	1882
Winslow	137	5012	4662
Yuma	19	1080	878
ARKANSAS			
Ft. Smith	16	3390	3292
Little Rock	9	3224	3219
Texarkana	2	2586	2533
CALIFORNIA			
Bakersfield	67	2561	2122
Bishop	191	4218	4239
Blue Canyon	566	5624	5401
Burbank	126	1788	1628
Eureka (U)	446	4344	4358
Fresno	92	3070	2605
Long Beach	163	1578	1779
Los Angeles (U)	113	1161	1331
Los Angeles	196	1574	1980
Mt. Shasta (R)	448	5825	5563
Oakland	295	2971	2780
Point Arguello (R)	412	3474	3352
Red Bluff	87	2849	2515
Sacramento (U)	106	2719	2419
Sacramento	99	2939	2502
Sandberg (R)	345	4611	4152
San Diego	125	1354	1416
San Francisco (U)	356	2955	2821
San Francisco	278	3056	2889
San Jose (U)	203	2546	
Santa Catalina	256	1948	
Santa Maria	347	3164	2802
Stockton	95	3117	
COLORADO			
Alamosa	412	8677	8361
Colorado Springs	253	6140	6421
Denver	230	5984	5922
Grand Junction	168	5649	5620
Pueblo	169	5602	5447
CONNECTICUT			
Bridgeport	173	5555	5590
Hartford	127	6088	6202
Middletown	207	6354	
New Haven	193	5743	5852
DELAWARE			
Wilmington	91	5107	4924
DIST. OF COLUMBIA			
Washington (U)	59	4172	
Washington	54	4311	4224
FLORIDA			
Apalachicola (U)	0	1672	1308
Daytona Beach	0	1076	879
Fort Myers	0	467	442
Jacksonville	0	1560	1239
Key West	0	92	108
Lakeland (U)	0	849	661
Miami	0	248	214
Miami Beach	0	185	141
Orlando	0	824	782
Pensacola	0	2040	1451
Tallahassee	0	2020	1485
Tampa	0	890	683
West Palm Beach	0	348	253
GEORGIA			
Athens	23	3286	2929
Atlanta	32	3450	2961
Augusta	9	2798	2397
Columbus	6	2726	2383
Macon	9	2579	2136
Rome	24	3767	3326
Savannah	4	2210	1819
Thomasville (U)	4	1944	1529
IDAHO			
Boise	323	6110	5739
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	436	9099	8283
Idaho Falls 42NW(R)	429	9372	8568
Lewiston	247	5085	5452
Pocatello	349	7475	6900
ILLINOIS			
Cairo (U)	20	3757	3821
Chicago (Midway)	83	5718	6071
Chicago (O'Hare)	139	6421	
Moline	71	6089	6339
Peoria	66	5892	5992
Rockford	122	6426	6770
Springfield	47	5419	5514
INDIANA			
Evansville	48	4595	4580
Ft. Wayne	95	5876	6223
Indianapolis	64	5450	5660
South Bend	119	5908	6382
IOWA			
Burlington	50	5751	6081
Des Moines	91	6283	6506
Dubuque	108	6733	7298
Sioux City	80	6267	6962
Waterloo	118	6888	7167
KANSAS			
Concordia	78	5170	5347
Dodge City	75	4773	4977
Goodland	201	5903	6099
Topeka	51	4796	5170
Wichita	41	4407	4614
KENTUCKY			
Lexington	55	4656	4685
Louisville	55	4507	4715
LOUISIANA			
Alexandria	2	2531	
Baton Rouge	0	1897	1620
Lake Charles	0	1931	1491
New Orleans (Audubon Park)	0	1596	
New Orleans	0	1862	1475
Shreveport	0	2431	2211
MAINE			
Caribou	407	9337	9584
Greenville (U)	387	9101	
Portland	324	7534	7400
MARYLAND			
Baltimore (U)	52	4235	4111
Baltimore	87	4952	4654
MASSACHUSETTS			
Blue Hill Obs. (R)	202	6312	6299
Boston	187	5677	5598
Nantucket	331	5827	5860
Pittsfield	246	7391	7473
Worcester	224	6776	6891
MICHIGAN			
Alpena	300	7777	7978
Detroit (City AP)	113	5647	6227
Detroit (M. Wayne Co.)	172	6360	6412
Detroit (Willow Run)	160	6095	6201
Escanaba (U)	323	7573	8322
Flint	191	6430	6935
Grand Rapids	149	6248	6819
Lansing	150	6314	6840
Marquette (U)	286	7456	8216
Muskegon	174	6163	6916
S. Ste. Marie	346	8373	9042
MINNESOTA			
Duluth	338	8653	9741
Internat. Falls	325	9484	10432
Minneapolis	154	7356	8308
Rochester	183	7442	8083
St. Cloud	204	7975	8774
MISSISSIPPI			
Jackson	0	2623	2239
Meridian	2	2850	2289
Vicksburg (U)	0	2424	2041
MISSOURI			
Columbia	43	4771	5034
Kansas City	41	4400	4859
St. Joseph	56	5136	5469
St. Louis (RFC)	29	4345	4484
St. Louis	41	4779	4803
Springfield	55	4414	4555
MONTANA			
Billings	275	6497	6957
Butte	538	8852	
Glasgow	267	7483	8846
Great Falls	318	6757	7360
Havre	322	7449	8523
Helena	411	7601	7934
Kalispell	470	7981	8423
Miles City	259	6809	7632
Missoula	492	8038	7906
NEBRASKA			
Grand Island	85	5876	6144
Lincoln (U)	73	5390	5834
Norfolk	110	6451	6931
North Platte	190	6421	6627
Omaha	55	5711	6188
Omaha N. Omaha AP	84	5981	6698
Scottsbluff	234	6416	6688
Valentine	177	6596	7341
NEVADA			
Elko	458	7744	7248
Ely	500	7746	7508
Las Vegas	72	2805	2640
Reno	400	5944	5970
Tonopah	308	5823	
Winnemucca	404	6289	6608
NEW HAMPSHIRE			
Concord	221	7180	7530
Mt. Washington Obs. (R)	847	13395	
NEW JERSEY			
Atlantic City	121	4855	4797
Atlantic City (U)	160	4855	
Newark	88	4950	5058
Trenton (U)	103	4980	4968
NEW MEXICO			
Albuquerque	85	4938	4303
Clayton	134	5102	5140
Raton	219	6220	6165
Roswell	18	4009	4072
Silver City	95	4207	
NEW YORK			
Albany	145	6794	6830
Binghamton	231	7392	7280
Buffalo	204	6481	7135
New York (U)	90	4772	4853
New York (LaGuardia)	88	4805	4805
Rochester	187	6491	6700
Schenectady	136	6587	
Syracuse	160	6558	6711
NORTH CAROLINA			
Asheville (U)	59	4351	4042
Cape Hatteras (R)	58	2869	2612
Charlotte	39	3462	3125
Greensboro	61	4101	3805
Raleigh	54	3722	3393
Wilmington	13	2665	2347
Winston-Salem	39	3840	3595
NORTH DAKOTA			
Bismarck	268	8028	8888
Devils Lake (U)	306	8951	9763
Fargo	177	8010	9172
Grand Forks FAA	218	8525	
Pembina	244	9158	
Williston	265	7923	
OHIO			
Akron	157	6132	6282
Cincinnati (U)	40	4347	
Cincinnati	64	5107	5024
Cincinnati Obs.	49	4692	4797
Cleveland	179	6100	6366
Columbus	113	5565	5417
Columbus (U)	63	5075	
Dayton	74	5301	5576
Mansfield	144	6116	6343
Toledo	146	6214	6434
Youngstown	174	6415	6158
OKLAHOMA			
Oklahoma City	27	3612	3844
Tulsa	19	3571	3688
OREGON			
Astoria	477	4807	5013
Burns (U)	477	7116	6780
Eugene	360	4495	4591
Meacham	607	7669	7535
Medford	314	5071	4635
Pendleton	257	4840	5188
Portland (U)	283	3913	4031
Portland	380	4882	4530
Roseburg	298	4368	4368
Salem	346	4779	4536
Sexton Summit (R)	560	6423	6038
PENNSYLVANIA			
Allentown	132	5816	5786
Erie	195	6092	6391
Harrisburg	93	5561	5193
Philadelphia (U)	58	4334	
Philadelphia	76	5138	5104
Pittsburgh (U)	87	5024	5041
Pittsburgh	116	5737	5948
Reading (U)	85	5024	4945
Scranton	139	6188	6408
Williamsport	119	5978	5910
RHODE ISLAND			
Block Island	309	5823	5615
Providence	188	5932	5903
SOUTH CAROLINA			
Charleston (U)	3	2109	1794
Charleston	4	2227	2026
Columbia	17	2880	2484
Florence	23	2859	2387
Greenville-Spartanburg	20	3335	
SOUTH DAKOTA			
Huron	192	7128	7905
Pierre	177	6689	
Rapid City	237	6398	7219
Sioux Falls	174	6972	7761
TENNESSEE			
Bristol	55	4576	4228
Chattanooga	16	3504	3382
Knoxville	44	4170	3551
Memphis (U)	18	3160	3015
Memphis	13	3391	3116
Nashville	23	3855	3578
Oak Ridge	38	4157	3769
TEXAS			
Abilene	6	2450	2624
Amarillo	53	4221	4195
Austin	0	1847	1711
Brownsville	0	823	600
Corpus Christi	0	1190	914
Dallas	2	2495	2363
Del Rio	0	1708	
El Paso	3	2981	2578
Fort Worth	1	2601	2405
Galveston (U)	0	1502	1235
Houston (U)	0	1403	1278
Houston	0	1695	1278
Laredo	0	1101	797
Lubbock	13	3599	3578
Midland	5	2693	2591
Port Arthur	0	1817	1526
San Angelo	5	2398	2218
San Antonio	0	1761	1549
Victoria	0	1430	1173
Waco	2	2336	2030
Wichita Falls	6	2855	2954
UTAH			
Milford	325	6588	6410
Salt Lake City	303	6647	5803
Wendover	235	6023	5727
VERMONT			
Burlington	229	7905	7673
VIRGINIA			
Lynchburg	75	4367	4166
Norfolk	108	3813	3421
Richmond	74	4255	3914
Roanoke	62	4358	4150
WASHINGTON			
Olympia	461	5230	5059
Seattle (U)	289	4112	4307
Seattle	306	4242	4739
Seattle-Tacoma	370	4859	5077
Spokane	369	6557	6615
Stampede Pass (R)	809	8981	8800
Tatoosh Island (R)	523	5173	5386
Walla Walla	236	4572	
Walla Walla (U)	215	4457	4760
Yakima	358	5849	5872
WEST VIRGINIA			
Beckley	137	5669	
Charleston	54	4691	4429
Elkins	174	6151	
Huntington	56	4761	4176
Parkersburg (U)	60	4878	4748
WISCONSIN			
Green Bay	196	7576	8152
La Crosse	111	6676	7576
Madison	133	6977	7335
Milwaukee	192	6859	7096
WYOMING			
Casper	346	7312	7492
Cheyenne	340	6980	7389
Lander	358	7580	8140
Sheridan	339	6898	7742

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama *																													
Alaska *																													
Arizona *																													
Arkansas	1	1	0	0	3	0	0	3	0	0	2	4	0	0	3	3	0									0	0	5	0
California										0	0	4	0	0	0	3	0												
Colorado	2	2	0	0	0	0	0	0	4	0	0	°5	C													0	0	F 4	5
Connecticut										0	0	4	0	0	0	4	0												
Delaware *																													
Florida	1	1	0	0		0	0	0	?	0	2	5	?													D 2	0	?	?
Georgia						0	0	3	4	0	0	5	3													0	0	R 6	6
Hawaii *																													
Idaho	1	1	0	0	4	0	0		4																				
Illinois						0	0	5	0	0	0	6	0																
Indiana	1	1	0	0	5					0	1	4	0	0	0	4	0												
Iowa	15	5	0	38	6	0	0	5	0	0	7	6	0																
Kansas	13	7	0	1				5		1	17					4													
Kentucky						0	0	0	3					0	0	4	0												
Louisiana						0	0	3	4	0	0	4	0	1	0	3	0												
Maine										0	0	4	0	0	1	4	0												
Maryland *																													
Massachusetts	2	1	0	0	3					0	1	4	0	0	1	4	0												
Michigan	6	2	11	245	6					0	0	5	C	0	0	5	0												
Minnesota	7	3	0	14	5	0	0	4	4	1	8	6	0	0	0	4	0												
Mississippi						0	0	0	4	0	0	4	0	1	0	0	0												
Missouri	1	1	0	0	4	0	0	4	0	0	0	4	0	0	0	4	0												
Montana																		1	0	5	0								
Nebraska	13	6	4	63	7	0	0	5	5	0	0	4	0	1	0	0	0												
Nevada	2	1	0	1	4	0	0	3	0																				
New Hampshire										0	0	4	0	0	0	4	0												
New Jersey *																													
New Mexico	2	2	1	8	5	0	0	3	0					0	2	0	0												
New York									5	0	11	6	6	3	1	5													
North Carolina						0	0	4	5	0	0	5	3	2	3	5	0									0	0	4	4
North Dakota	2	1	0	11	6																								
Ohio	1	1	0	0	4					0	0	5	0	2	0	0	0												
Oklahoma	22	5	0	1	5	0	0	6	6	0	5	6	4	1	1	4	0									6	0	6	0
Oregon *																													
Pacific Area *																													
Pennsylvania										0	0	4	0	0	0	5	0												
Puerto Rico																										0	0	0	7
Rhode Island *																													
South Carolina						0	0	4	4																				
South Dakota	12	4	0	0	4	0	0	4	4	0	0	5	4	1	0	0	0												
Tennessee						0	0	0	3	0	0	4	0	1	2	4	3												
Texas	15	7	0	0	5	0	0	5	6	0	27	6	4													0	0	0	3
Utah														0	1	0	0	0	0	3	0								
Vermont						0	0	2	0	0	0	4	0	0	0	3	0									0	0	FR3	0
U. S. Virgin Is.																										0	0	0	6
Virginia						0	0	4	4	0	0	4	0	1	0	5	0												
Washington	1	1	0	0	0					0	0	3	0																
West Virginia														1	0	2	?												
Wisconsin	16	6	0	25	6	0	0	5	0	0	0	7	0																
Wyoming	2	2	0	0	0	0	0	?	?																				

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
° Includes crop damage
C Crop Damage
F Flooding
R Rains
FR Flooding rain
D Rain and flood caused extensive damage to property and some crop damage on May 2-3 in North Florida.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MAY 1964

The most important flooding during May was the culmination of the moderate to major flooding which began in the East Gulf of Mexico Drainage and in Indiana during April. The flooding in the East Gulf of Mexico Drainage was prolonged by the heavy rains in the beginning of the month. Streams in Indiana receded within their banks early in May and continued to fall the remainder of the month. Some portions of the Wabash Basin experienced the driest May in more than two decades.

ATLANTIC SLOPE DRAINAGE

It was the driest May that has occurred in the Schuylkill River Basin at Reading, Pa., since the Weather Bureau began keeping records. It was the third driest for the entire period of available records. The total precipitation for the month was 0.85 inch or 2.94 inches below normal. Previous dry years were in 1903 with a total of 0.55 inch and in 1880 with a total of 0.66 inch.

This was one of the driest months on record in the Susquehanna Basin. The moderate rises which occurred at the beginning of May were followed by falling stages throughout the remainder of the month. River stage seasonal levels were generally lower than those observed at the same time last year.

This was the driest May since 1951 in eastern North Carolina and one of the driest of all records. Total rainfall for the month averaged about one-third of normal.

Light flooding occurred on the Saluda River at Chappells, S. C., on the 3d and 4th due to heavy rain on the 2d and 3d. Upstream from Lake Greenwood at Pelzer, S. C., the Saluda reached a stage of 6.5 feet on the 3d, which is somewhat above bankfull stage but below the flood stage of 9 feet. The Broad River reached bankfull stage at Blair, S. C., on the 4th. Lowland flooding occurred on the Congaree River below Columbia, S. C., on the 4th and 6th. Damage was generally light and confined mostly to crops and pastures. The heaviest losses occurred along the Congaree River.

Practically the entire rainfall during May over the Edisto Basin in South Carolina resulted from a single rainy period on the 2d and 3d with amounts of about 3 to 4 inches. The stream was high from the previous flooding during March. The flooding on the North Fork at Orangeburg, S. C., from the 2d to the 9th was the highest since April 1960. Considerable flooding occurred along the main stem at Givhans, S. C., and below for about a week. Low camp sites and approach roads were inundated.

The Savannah River in Georgia continued in flood at Clyo, Ga., from February 13 to May 30. The crest during May was 2 feet lower than the 20.2-foot stage recorded in April. Heavy rains during the early part of the month caused additional flooding upstream. Although some damage occurred during the flood in May, it was not extensive due to the flooding during April. Some damages were reported to livestock and agriculture. There were no reports of damages from the minor flooding along the Ogeechee River.

The flooding on the Ocmulgee, Oconee, Altamaha, and Satilla Rivers was due to the heavy rains during the latter part of April and the first part of May. All of the rain of importance fell during the first 3 days of the month, most of it occurring on the 2d and 3d. Damage from flooding was confined to low-lying land outside of the towns, but was not serious.

EAST GULF OF MEXICO DRAINAGE

The heavy rains during the latter part of April and the heavy to excessive rains during the first 2 days of May caused flooding on the Flint River in Georgia and on the Apalachicola River in Florida. The flood crests during May occurred between the 5th and 7th. The Flint River closely approached flood stage along its course and exceeded flood stage only at Albany and Bainbridge. The Apalachicola River exceeded flood stage by about 2 feet at the Jim Woodruff Dam, Fla., and by over 7 feet at Blountstown, Florida. The river had been almost continually above flood stage at Blountstown since January 9 except for a few days.

The Alabama River at Millers Ferry and Claiborne, Ala., and the Choctawhatchee River at Caryville, Fla., was in flood in the beginning of the month due to heavy rainfall during the latter part of April. Moderately heavy rains on the morning of the 3d resulted in additional rises with flooding on the Oostanaula and Etowah Rivers in Georgia and on the Coosa in Alabama.

Moderate rains near the end of April prolonged the high water on the Black Warrior and Tombigbee Rivers in Alabama, leaving several stations above flood stage at the beginning of May. Additional heavy rains on May 2 prolonged the crests still further at some stations. The Tombigbee continued in flood at Jackson Lock and Dam, Ala., until May 14.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The flooding on the Sangamon, Illinois, Kaskaskia, and Big Muddy Rivers in Illinois during April and May was due to heavy rains during the latter part of April. The Kaskaskia crested at Carlyle, Ill., on May 3, 2.2 feet above flood stage. The Big Muddy crested at Murphysboro, Ill., on April 30 and May 1, 1.8 feet above flood stage. All streams were back within their banks by the 7th.

Missouri Basin.--Locally heavy rains during the night of the 2-3d caused flooding along the Bad River at Fort Pierre, S. Dak., for the second time within a week. The Bad River Basin is very sparsely settled ranch country and there were no reports of any property damage.

Locally heavy rains of 2 to 4 inches in southwestern Iowa on the 7th resulted in some overflow of creeks in that area. Local flooding occurred on Brush Creek in Johnson County, Kans., on the morning of the 24th due to heavy thundershowers during the night of the 23d. Heavy rains on the 25th and 26th caused flooding on the Nishnabotna in Iowa and along streams in northwestern Missouri.

Ohio Basin.--Heavy local rain showers and thunderstorms in the South Hills area of Pittsburgh, Pa., on the evening of the 12th caused flash flooding along Banksville Road. Extensive damage resulted when storm sewers were clogged and unable to carry the excessive runoff.

The high water on the White and Wabash Rivers in Indiana was due to rainfall during April. Both rivers were back within their banks after the first few days of the month. They continued to fall the remainder of the month and some portions of the Wabash Basin experienced the driest May in more than two decades. Locally heavy rains along Skillet Fork late in the month resulted in a sharp rise followed by a rapid fall. The stream was out of its banks at Wayne City, Ill., less than 24 hours. The same area had minor overflow in March and April so there was no additional damage.

South Chickamauga Creek was out of its banks near Chickamauga, Tenn., from the 2d to the 5th. The crest on the 4th was nearly 5 feet above flood stage. Minor flooding occurred on the Elk River at Fayetteville, Tenn., on the 3d. The main stem of the Tennessee was in flood at Gilbertsville, Ky., Florence, Ala., and Whitesburg, Tenn., in the beginning of the month. It receded below flood stage on the 8th at Gilbertsville, Ky.

The flooding along the lower Ohio was due to heavy rainfall from April 19 to April 22. The crests occurred early in May and ranged up to 5 feet above flood stage at Dam 50, Fords Ferry, Ky.

White Basin.--Flooding continued on the lower portions of the Cache and White Rivers in Arkansas in the beginning of the month. The White went below flood stage during the afternoon of the 2d and the Cache on the morning of the 5th. Heavy rainfall caused the Cache to go above flood stage again during the afternoon of the 18th. No significant damage occurred with less than 1 foot of overflow. There was some delay in planting of crops in areas inundated by flood waters.

Arkansas Basin.--Three-inch rains on the 10th caused Deep Fork Creek of the North Canadian River near Dewar, Okla., to rise sharply to a crest of 20.3 feet on the 11th, 2.3 feet above flood stage. It remained above flood stage through the 13th. Heavy thundershowers on the 10-11th caused local flash flooding of small creeks and drainage systems at isolated points in the North Canadian Basin between Watonga and Eufala, Okla., resulting in temporary road closures. Some wasteland in the El Reno-Yukon reach on the North Canadian was flooded without significant damage.

The heavy rain on the 11th caused local flooding of Kingfisher and Uncle John Creeks at Kingfisher and Enid, Okla., for a few hours. The Kingfisher Flash-Flood Network Stations had an average rainfall of 3.7 inches. Several low-level rural bridges along Uncle John's Creek and Kingfisher Creek became temporarily unusable when their approaches were flooded. Several basements were flooded.

Heavy local rains on the 29th and 30th in the Syracuse, Kans., area caused the Arkansas River to rise to over 3 feet above flood stage on the 31st. This overflow was confined to the low areas immediately adjacent to the river without significant damage.

Red Basin.--The Ouachita River continued in flood at Camden, Ark., from April 26 to May 6. The crest of 38.05 feet on April 28 was 12.05 feet above flood stage. This was the highest crest at this point since May 1958.

Lower Mississippi.--Minor flooding occurred on the Tallahatchie and Yazoo Rivers during the first part of May. The Big Black River continued above flood stage at Bovina, Miss., from April 6 to May 11. Light to moderate flooding occurred to farm and pasture lands. Damages were mostly light.

Minor flooding occurred along the Mississippi River at Red River Landing, La., from the 11th to the 15th.

WEST GULF OF MEXICO DRAINAGE

The Calcasieu River continued in flood at Hineston, La., from April 27 to May 3. This minor flooding was due to heavy rains on April 26 and 27. The Sabine River reached bankfull stage at Deweyville, Tex., on April 29 and continued near that level until May 6.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--Stages and flow in the tributaries and along the main stem of the middle and lower Columbia remained at near record low levels during the first half of May due to below normal temperatures. The temperature trend was reversed during the period from the 15th to the 20th (5° to 7° above normal), causing streams to rise throughout the basin from melt of the snowpack. The flow of the Snake River at Clarkston, Wash., was increased from 110,000 c.f.s. at midmonth to a crest of better than 210,000 c.f.s. on the 21st.

This rapid increase in flow caused minor flooding on the Henrys Fork, Portneuf, and Clearwater Rivers in Oregon and along the main stem of the Columbia at Vancouver, Wash. Damage was limited to overflow of private roads and low pastures and fields. Colder than normal temperatures during the last decade caused the streams to subside through the end of the month.

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft			Ft	
Saluda: Chappells, S. C.	13	3	4	15.2	3
Broad: Blair, S. C.	14	4	4	14.0	4
North Fork Edisto: Orangeburg, S. C.	8	2	9	9.75	5
Edisto: Givhans, S. C.	10	4	16	13.1	10
Savannah: Butler Creek, Ga.	21	4	12	22.7	5
Millhaven, Ga.	15	2	26	19.5	10-11
Clyo, Ga.	11	Feb. 13	30	(14.8 (15.0 (16.5 (20.2 (18.2	Feb. 24 Mar. 13 Mar. 27 Apr. 8 12
Ogeechee: Midville, Ga.	6	5	9	7.5	7
Dover, Ga.	7	5	16	8.8	12
Eden, Ga.	7	5	16	8.8	12
Ocmulgee: Macon, Ga.	18	3	6	23.55	4
Hawkinsville, Ga.	25	7	9	26.8	7
Abbeville, Ga.	12	3	14	15.95	9
Lumber City, Ga.	15	9	15	16.9	13
Oconee: Milledgeville, Ga.	20	2	6	28.2	4
Dublin, Ga.	21	5	11	26.9	7
Mt. Vernon, Ga.	16	4	14	20.2	9,10
Altamaha: Charlotte, Ga.	15	4	18	21.55	11
Satilla: Atkinson, Ga.	13	6	17	15.8	11
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga.	20	3	9	23.7	5
Bainbridge, Ga.	25	5	11	26.1	7
Apalachicola: Jim Woodruff Dam, Fla.	66	1	8	68.05	7
Blountstown, Fla.	15	Apr. 8	21	23.6 22.35	Apr. 14 7
Choctawhatchee: Caryville, Fla.	12	Apr. 28	8	13.5	4
Conecuh: Brewton, Ala.	17	2	5	18.3	3
Oostanaula: Resaca, Ga.	22	4	6	25.4	5
Rome, Ga.	25	3	4	29.7	4
Etowah: Canton, Ga.	17	3	3	17.8	3
Coosa: Gadsden, Ala.	20	3	10	22.9	5
Alabama: Millers Ferry, Ala.	40	Apr. 7	8	(54.3 (44.6	Apr. 16 2
Claiborne, Ala.	40	Apr. 9	10	(50.2 (43.5	Apr.18-19 4
Noxubee: Macon, Miss	26	Apr. 28	1	27.8	Apr. 29
Black Warrior: Warrior Lock & Dam, Ala.	30	Apr. 28	6	36.6	1
Tombigbee: Gainesville, Ala.	36	Apr. 28	8	43.4	4
Demopolis Lock & Dam, Ala.	48	Apr. 7	10	(60.6 (57.4	Apr. 20 3
Jackson Lock & Dam, Ala.	43	Apr. 7	14	54.0	Apr. 27
Chickasawhay: Shubuta, Miss.	30	Apr. 30	2	30.9	1
Pascagoula: Merrill, Miss.	22	3	4	22.2	3
Pearl: Edinburg, Miss.	20	Apr. 29	3	23.6	1
Jackson, Miss.	18	Apr. 7	12	(29.9 (30.8	Apr. 20 4
Monticello, Miss.	19	Apr. 7	13	25.2	Apr. 29
Columbia, Miss.	17	Apr. 27	7	20.5	Apr. 30
Bogalusa, Miss.	15	Mar. 3	17	(19.4 (19.4 (19.6	Mar. 22 Apr.28,30 3
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Sangamon: Riverton, Ill.	13	Apr. 21	3	19.8	Apr. 26
Petersburg, Ill.	497	Apr. 26	Apr. 30	498.8	Apr. 28
Illinois: Havana, Ill.	14	Apr. 27	1	14.2	Apr. 28
Beardstown, Ill.	14	Apr. 23	6	16.05	Apr. 27
MISSISSIPPI SYSTEM (Cont'd.)	Ft			Ft	
Upper Mississippi Basin (Cont'd.)					
Illinois (Cont'd.): Meredosia, Ill.	14	Apr. 21	7	14.5	Apr. 27
Kaskaskia: Vandalia, Ill.	18	Apr. [illegible]	1	20.5	Apr. 29
Carlyle, Ill.	21	Apr. 30	7	23.2	3
Big Muddy: Murphysboro, Ill.	16	Apr. 28	2	17.8	Apr.30,1
Missouri Basin					
Bad: Fort Pierre, S. Dak.	16	2	3	21.5	3
West Nishnabotna. Randolph, Iowa	19	26	26	#19.65	26
Nishnabotna: Hamburg, Iowa	18	26	27	24.0	26
Kansas: Kansas City, Kans. (23d Street)	17	27	28	#20.7	28
Blue: Kansas City, Mo. (Bannister Road)	21	27	28	#26.9	28
Little Blue: Lake City (Nr.),Mo.	18	27	29	20.5	29
Petite Saline: Boonville, Mo.	16	28	28	16.6	28
Missouri: St. Joseph, Mo.	17	27	27	17.3	27
Waverly, Mo.	18	28	28	19.3	28
Ohio Basin					
White: Elliston, Ind.	18	Apr. 21	1	28.1	Apr. 24
Edwardsport, Ind.	15	Apr. 22	[illegible]	24.3	Apr. 26
Petersburg, Ind.	16	Apr. 25	5	23.7	Apr.28-29
Hazleton, Ind.	16	Apr. 23	6	24.9	Apr. 29
Skillet Fork: Wayne City, Ill.	15	29	29	16.1	29
Wabash: Lafayette, Ind.	11	Apr. 29	1	13.5	Apr. 30
Covington, Ind.	16	Apr. 20	2	25.05	Apr. 24
Montezuma, Ind.	14	Apr. 20	3	26.5	Apr. 24
Terre Haute, Ind.	14	Apr. 20	3	22.2	Apr. 25
Hutsonville, Ind.	T 20	Apr. 23	3	25.4	Apr. 26
Riverton, Ind.	18	Apr. 24	1	21.2	Apr. 28
Vincennes, Ind.	16	Apr. 25	5	23.0	Apr. 29
Mt. Carmel, Ind.	17	Apr. 26	6	24.1	Apr.30-1
New Harmony, Ind.	15	Apr. 27	May 7		
South Chickamauga Creek: Chickamauga (Nr), Tenn.	10	2	5	14.9	4
Elk: Fayetteville, Tenn.	659	3	3	659.4	3
Tennessee: Gilbertsville, Ky.	320	Apr. 26	8		
Florence, Ala.	419	Apr. 30	1	419.9	Apr. 30
Whitesburg, Tenn.	560	Apr. 28 3	1 5	561.7 561.8	Apr. 29 4
Ohio: Dam 49, Uniontown, Ky.	37	Apr. 30	2	37.15	2
Shawneetown, Ill.	33	Apr. 26	5	36.75	2
Dam 50, Fords Ferry, Ky.	34	Apr. 26	6	39.1	2
Dam 52, Brookport, Ill.	37	Apr. 29	6	38.0	2,3
Dam 53, Grand Chain, Ill.	42	Apr. 29	6	43.3	[illegible]
Cairo, Ill.	40	Apr. 28	7	41.6	5
White Basin					
Cache: Patterson, Ark.	(7 (	 18	5 24	10.4 7.8	Mar.11-14 18
White: St. Charles, Ark.	25	Mar. 2[illegible]	2	26.5	Mar.26-28
Arkansas Basin					
Deep Fork Creek: Dewar, Okla.	18	11	13	20.3	11
Arkansas: Syracuse, Kans.	11	30	June 1	13.3	31
Red Basin					
Ouachita: Camden, Ark.	26	Apr. 26	6	38.05	Apr. 28
Lower Mississippi Basin					
Tallahatchie: Swan Lake, Miss.	26		7		
Yazoo: Yazoo City, Miss.	29	3	6		
Big Black: Pickens, Miss.	16	Apr. 27	7	18.5	Apr. 30
Bovina, Miss.	28	Apr. 6	11	35.8	Apr. 18

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Lower Mississippi Basin (Cont'd.)					
Mississippi: Red River Landing, La.	45	11	15	45.3	14-15
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	Apr. 27	3	13.55	Apr. 29
Sabine: Deweyville, Tex.	14	Apr. 29	6	14.0	5
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Henrys Fork: Rexburg, Nr., Oreg.	8	17	25	8.7	19
Portneuf: Pocatello, Oreg.	6	12	23	6.3	18
Clearwater: Kamiah, Oreg.	14	20	22	15.1	21
Columbia: Vancouver, Wash.	16	23	25	16.5	24

* Provisional
# Highest Stage Observed
T Tentative

RAWINSONDE DATA

Average monthly values

MAY 1964

ALBANY, N. Y.
1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	86	11.8	75	251	2.5
1000	31	137			225	2.1
950	31	565	11.4	59	282	7.6
900	31	1,016	9.4	56	296	11.7
850	31	1,489	6.7	55	300	15.3
800	31	1,985	4.6	55	297	17.1
750	31	2,505	2.3	47	291	18.5
700	31	3,065	- .5	46	289	20.2
650	31	3,655	- 3.5	41	287	23.9
600	31	4,284	- 7.2	38	285	25.4
550	31	4,951	-11.7	36	281	27.6
500	31	5,681	-16.4		281	30.9
450	31	6,461	-21.7		282	34.2
400	31	7,325	-27.7		283	35.4
350	31	8,270	-34.5		285	35.2
300	31	9,332	-42.4		282	40.0
250	31	10,541	-50.5		287	42.0
200	31	11,974	-56.4		287	43.7
175	31	12,814	-57.1		287	42.3
150	31	13,794	-56.7		285	35.9
125	31	14,950	-56.6		285	28.7
100	31	16,360	-58.3		294	24.3
80	31	17,763	-58.4		295	15.5
70	31	18,605	-57.7		303	10.5
60	31	19,579	-56.8		315	7.4
50	31	20,740	-54.7		347	4.7
40	31	22,175	-52.4		50	3.3
30	29	24,049	-50.4		83	4.1
25	28	25,240	-48.9		85	4.7
20	19	26,715	-46.4		75	7.2
15	9	28,653	-42.9			
10						
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ALBUQUERQUE, N. MEX.
837 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,619	11.9	40	158	3.1
1000	31	101				
950	31	541				
900	31	1,004				
850	31	1,493				
800	31	2,003	12.4	34	203	4.5
750	31	2,539	9.0	35	239	7.4
700	31	3,109	5.0	37	252	11.5
650	31	3,704	.6	38	255	15.7
600	31	4,347	- 4.0	39	254	19.2
550	31	5,017	- 9.0	41	251	22.7
500	31	5,759	-14.4	40	251	27.6
450	31	6,541	-20.1	38	255	29.1
400	31	7,414	-26.0		257	30.9
350	31	8,369	-33.2		257	28.6
300	31	9,433	-41.3		255	31.9
250	31	10,649	-49.6		259	30.3
200	31	12,087	-56.9		264	33.6
175	30	12,921	-58.7		263	35.5
150	30	13,890	-58.6		261	33.0
125	30	15,030	-61.2		260	29.5
100	30	16,410	-63.1		257	25.6
80	29	17,783	-63.3		259	14.2
70	29	18,611	-63.5		262	6.9
60	28	19,559	-61.1		265	.8
50	28	20,698	-58.8		117	1.0
40	28	22,108	-56.0		78	4.3
30	28	23,954	-52.5		84	2.9
25	28	25,138	-50.4		48	1.9
20	28	26,602	-48.2		345	1.4
15	26	28,519	-44.9		251	2.7
10	10	31,216	-40.5			
7						
5						
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AMARILLO, TEXAS
890 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,195	13.6	66	218	5.4
1000	31	101				
950	31	543				
900	31	1,010				
850	31	1,488	15.4	52	235	15.7
800	31	2,001	13.9	42	240	16.9
750	31	2,547	10.7	41	243	16.5
700	31	3,113	6.8	43	244	16.7
650	31	3,714	2.3	45	248	18.6
600	31	4,358	- 2.5	45	245	19.6
550	31	5,039	- 7.4	42	244	21.0
500	31	5,778	-12.8	40	247	22.7
450	31	6,564	-18.6	35	249	26.4
400	31	7,441	-24.8		249	28.4
350	31	8,397	-31.8		247	31.3
300	31	9,471	-40.0		250	36.9
250	31	10,691	-49.1		244	41.6
200	31	12,127	-57.5		254	43.1
175	30	12,960	-60.1		257	40.2
150	30	13,923	-59.8		259	40.4
125	30	15,060	-61.1		260	34.6
100	30	16,442	-62.7		264	28.6
80	30	17,808	-64.6		264	19.0
70	30	18,625	-63.8		263	9.5
60	30	19,574	-61.0		270	2.5
50	30	20,714	-58.5		75	4.7
40	30	22,128	-55.1		89	3.7
30	30	23,980	-52.1		60	4.1
25	30	25,166	-50.3		73	4.7
20	28	26,629	-47.5		73	4.7
15	20	28,552	-44.2		238	2.1
10	5	31,310	-38.7			
7						
5						
1						

ANCHORAGE, ALASKA
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	29	2.2	70	244	1.9
1000	31	114	2.7	63	270	1.2
950	31	526	1.1	57	185	.4
900	31	961	- 1.7	61	68	1.4
850	31	1,414	- 4.5	62	45	.8
800	31	1,889	- 7.5	62	105	2.1
750	31	2,387	-10.5	60	308	.6
700	31	2,917	-13.2	55	310	2.3
650	31	3,476	-16.4	53	293	3.9
600	31	4,077	-19.8	53	296	8.2
550	31	4,715	-23.0	46	299	14.4
500	31	5,412	-27.3	45	292	16.5
450	31	6,157	-31.9	43	288	23.3
400	31	6,987	-37.3	47	284	26.2
350	31	7,897	-43.0		275	20.8
300	31	8,924	-47.9		264	27.2
250	31	10,121	-49.3		276	25.4
200	31	11,585	-48.7		283	19.6
175	31	12,463	-48.4		282	18.1
150	31	13,477	-48.6		272	15.2
125	31	14,674	-49.1		270	12.0
100	31	16,135	-49.7		277	9.5
80	31	17,594	-50.0		279	5.2
70	31	18,468	-50.1		269	3.7
60	31	19,474	-49.8		287	2.1
50	31	20,667	-49.4		58	.8
40	31	22,131	-49.1		94	3.5
30	31	24,018	-48.9		76	4.5
25	31	25,216	-48.3		78	7.0
20	31	26,688	-46.9		83	6.8
15	29	28,594	-45.0		71	10.3
10	24	31,311	-41.3		62	12.0
7	12	33,756	-38.5			
5						
1						

* ANNETTE, ALASKA
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	37	5.7	85	152	1.4
1000	31	141	6.0	77	147	1.7
950	31	558	4.1	72	162	4.5
900	31	998	1.3	73	196	4.5
850	31	1,456	- 1.5	70	208	4.7
800	31	1,937	- 4.4	71	215	6.0
750	31	2,442	- 7.7	69	225	6.2
700	31	2,976	-10.9	63	236	7.2
650	31	3,541	-13.9	58	244	8.7
600	31	4,147	-17.6	54	246	9.1
550	31	4,790	-21.6	55	251	9.3
500	31	5,490	-26.3	51	253	10.5
450	31	6,238	-31.1	49	256	12.2
400	31	7,071	-36.3	44	267	14.4
350	31	7,986	-41.9		281	18.3
300	31	9,019	-46.7		296	17.9
250	31	10,217	-50.7		296	17.7
200	31	11,662	-52.5		268	15.5
175	31	12,527	-51.3		269	13.4
150	31	13,529	-51.2		268	11.7
125	31	14,712	-51.6		260	8.9
100	31	16,159	-51.8		244	7.4
80	31	17,607	-51.5		225	6.8
70	31	18,478	-51.3		210	6.4
60	31	19,475	-51.4		186	4.7
50	31	20,658	-51.6		149	3.7
40	31	22,105	-51.4		107	5.6
30	31	23,976	-50.7		84	7.6
25	31	25,166	-49.8		84	8.9
20	30	26,622	-48.4		79	10.1
15	30	28,527	-45.7		73	10.1
10	29	31,258	-40.8		72	11.7
7	26	33,717	-35.4		80	10.1
5	20	36,074	-30.1		77	11.1
1	13	37,703	-25.7			

ATHENS, GA.
990 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	246	15.9	84	4	2.5
1000	31	156				
950	31	596	18.1	62	353	4.1
900	31	1,058	15.8	60	346	3.5
850	31	1,541	13.0	57	329	1.6
800	31	2,048	10.1	56	299	2.9
750	31	2,580	7.6	46	274	4.1
700	31	3,149	5.1	38	281	6.8
650	31	3,749	1.9	33	274	7.0
600	31	4,392	- 2.1	34	284	10.7
550	31	5,072	- 6.5		284	13.2
500	31	5,816	-11.5		281	16.9
450	31	6,612	-16.9		279	20.0
400	31	7,490	-23.1		279	23.3
350	31	8,454	-30.4		278	26.0
300	31	9,531	-38.8		277	26.8
250	31	10,756	-48.5		280	30.3
200	31	12,190	-58.3		283	34.2
175	31	13,021	-62.1		288	32.8
150	31	13,970	-63.4		284	32.2
125	31	15,091	-63.3		292	24.5
100	31	16,458	-64.2		291	17.7
80	31	17,819	-64.9		301	11.3
70	31	19,640	-64.3		327	7.2
60	31	19,581	-62.0		353	3.5
50	30	20,718	-58.7		44	4.5
40	30	22,133	-54.9		79	4.5
30	29	23,986	-51.4		65	3.9
25	29	25,175	-49.5		74	5.2
20	26	26,653	-47.1		139	2.1
15	17	28,567	-43.6		345	4.1
10	5	31,318	-38.9			
7						
5						

* BARROW, ALASKA
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	8	- 9.8	87	186	2.9
1000	30	130	- 8.0	81	237	3.1
950	30	532	- 7.0	74	248	6.2
900	30	951	- 8.1	72	252	8.0
850	30	1,393	-10.1	71	51	8.9
800	30	1,859	-12.0	71	254	8.7
750	30	2,352	-14.2	66	265	9.9
700	30	2,871	-16.7	60	270	10.5
650	30	3,426	-19.8	57	279	9.9
600	30	4,015	-23.2	55	262	11.8
550	30	4,644	-26.9	54	293	12.8
500	30	5,329	-31.5	54	304	14.2
450	30	6,064	-36.7	53	304	14.8
400	30	6,874	-42.1		311	17.5
350	30	7,767	-47.4		312	17.3
300	30	8,778	-49.9		296	18.6
250	30	9,974	-48.1		287	18.8
200	30	11,454	-45.8		285	16.3
175	30	12,343	-45.6		279	16.9
150	30	13,370	-45.7		276	14.8
125	30	14,583	-46.3		274	12.2
100	30	16,063	-46.7		271	12.2
80	30	17,543	-46.6		262	8.9
70	30	18,434	-46.4		269	7.8
60	30	19,453	-46.2		268	5.6
50	30	20,665	-45.9		255	3.5
40	30	22,150	-45.8		239	2.3
30	30	24,066	-45.7		126	1.6
25	29	25,271	-45.5		87	2.9
20	29	26,760	-45.0		56	3.7
15	27	28,681	-43.5		70	6.6
10	24	31,403	-39.7		76	8.5
7	20	33,879	-35.5		66	10.3
5	16	36,173	-31.2		87	10.1

BARTER IS., ALASKA
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	15	- 8.1	85	241	3.3
1000	31	145	- 6.6	73	260	4.7
950	31	546	- 5.9	70	268	7.6
900	31	969	- 6.7	67	265	7.4
850	31	1,414	- 8.6	66	238	6.4
800	31	1,882	-11.2	62	249	8.2
750	31	2,374	-14.1	61	251	8.7
700	31	2,895	-17.0	60	258	9.3
650	31	3,443	-20.2	58	256	8.7
600	31	4,036	-23.8	55	263	8.7
550	31	4,662	-27.9	50	253	9.9
500	31	5,345	-32.3	48	252	10.7
450	31	6,075	-37.1		263	9.7
400	31	6,889	-42.3		270	10.1
350	31	7,779	-46.6		275	11.1
300	31	8,796	-48.9		277	11.8
250	31	9,993	-48.5		274	13.8
200	31	11,470	-46.2		272	13.4
175	31	12,358	-45.7		272	13.0
150	31	13,385	-45.6		270	11.5
125	31	14,598	-46.0		277	10.9
100	31	16,081	-46.5		270	8.9
80	28	17,579	-46.1		265	8.7
70	28	18,470	-45.9		268	7.0
60	28	19,492	-45.9		260	5.1
50	28	20,706	-45.8		262	3.7
40	28	22,192	-45.7		247	.6
30	27	24,110	-45.5		140	1.4
25	24	25,345	-45.2		102	2.3
20	24	26,836	-44.7		76	4.5
15	19	28,792	-41.9		87	7.0
10	8	31,559	-38.7			
7						
5						

BETHEL, ALASKA
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	39	- 2.1	92	259	3.9
1000	29	144	- .2	79	247	5.1
950	29	552	- 1.3	71	261	2.7
900	29	984	- 3.3	66	246	4.7
850	29	1,435	- 4.9	59	263	6.2
800	29	1,910	- 6.8	54	272	8.0
750	29	2,409	- 9.3	50	284	9.3
700	29	2,943	-11.4	48	287	11.1
650	29	3,506	-14.2	46	287	12.2
600	29	4,112	-17.5	47	285	14.4
550	29	4,756	-20.9	45	290	17.1
500	29	5,459	-24.6	44	295	21.2
450	29	6,212	-29.9	43	298	22.9
400	29	7,047	-35.5	43	296	25.8
350	29	7,965	-41.4		291	28.0
300	29	8,997	-47.4		292	34.6
250	29	10,190	-51.4		295	35.0
200	29	11,640	-50.3		293	27.8
175	29	12,512	-49.8		290	22.7
150	29	13,519	-50.4		293	19.6
125	29	14,707	-50.7		293	14.8
100	29	16,162	-50.7		291	11.1
80	29	17,614	-50.9		298	7.2
70	29	18,491	-50.6		307	5.1
60	29	19,490	-50.1		334	2.5
50	29	20,682	-49.7		59	1.7
40	29	22,142	-49.7		111	2.9
30	26	24,025	-49.2		85	4.5
25	25	25,220	-48.9		82	7.2
20	22	26,687	-47.8		77	8.4
15	21	28,592	-45.4		79	8.2
10	6	31,355	-41.8			
7						
5						

BISMARCK, N. DAK.
952 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	505	7.8	73	41	1.6
1000	31	98				
950	31	527			57	3.1
900	31	975	10.7	51	352	.4
850	31	1,450	8.8	50	272	4.1
800	31	1,949	5.8	51	264	7.2
750	31	2,474	2.7	49	262	10.9
700	31	3,030	- .6	49	261	12.2
650	31	3,614	- 4.0	47	262	15.9
600	31	4,246	- 8.2	45	263	19.0
550	31	4,909	-12.9	45	265	22.5
500	31	5,636	-17.6	42	266	25.8
450	31	6,407	-22.9	37	264	28.6
400	31	7,270	-29.2	40	264	29.1
350	31	8,210	-36.5	39	264	32.4
300	31	9,259	-44.3		264	33.0
250	31	10,460	-52.0		266	37.3
200	31	11,887	-56.0		263	38.5
175	31	12,736	-55.3		261	34.0
150	31	13,723	-53.8		263	31.5
125	31	14,895	-53.5		263	20.8
100	31	16,326	-55.2		263	17.3
80	31	17,745	-56.3		274	7.6
70	31	18,602	-56.0		262	3.5
60	31	19,574	-55.6		257	1.2
50	31	20,736	-55.0		67	3.5
40	31	22,166	-53.6		73	7.4
30	29	24,022	-51.4		74	9.3
25	27	25,210	-50.4		80	9.1
20	24	26,663	-47.9		84	10.3
15	9	28,594	-44.2			
10						
7						
5						

BOISE, IDAHO
914 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	868	6.9	70	190	2.1
1000	31	122				
950	31	549				
900	31	999	8.9	57	262	1.6
850	31	1,472	8.4	49	313	5.8
800	31	1,971	5.4	48	308	6.0
750	31	2,489	1.9	51	284	6.8
700	31	3,048	- 1.6	51	267	10.5
650	31	3,628	- 5.3	48	255	13.0
600	31	4,258	- 9.5	43	249	16.7
550	31	4,919	-13.9	39	235	18.6
500	31	5,643	-19.1	42	230	20.0
450	31	6,409	-24.8	36	232	21.0
400	31	7,265	-31.0	35	229	24.5
350	31	8,198	-38.1		229	25.8
300	30	9,239	-45.8		235	27.6
250	30	10,436	-52.0		239	30.1
200	30	11,864	-56.9		246	30.9
175	30	12,710	-56.4		244	30.3
150	30	13,692	-54.6		241	26.2
125	29	14,858	-54.2		245	22.9
100	29	16,287	-55.1		237	14.8
80	29	17,708	-56.4		232	9.9
70	29	18,555	-56.4		222	6.6
60	29	19,535	-56.2		202	3.3
50	29	20,693	-56.1		120	2.3
40	28	22,115	-54.7		76	4.5
30	27	23,967	-52.7		87	8.2
25	25	25,144	-50.9		85	6.8
20	23	26,606	-47.9		74	9.5
15	20	28,508	-43.9		87	9.9
10						
7						
5						
4						

* BROWNSVILLE, TEXAS
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	7	23.5	90	129	6.2
1000	31	114	23.9	88	134	9.5
950	31	560	21.6	83	155	15.7
900	31	1,031	19.6	68	165	15.2
850	31	1,523	17.8	54	173	12.4
800	31	2,039	15.5	43	177	9.1
750	31	2,581	13.4	34	177	6.4
700	30	3,162	9.8	31	188	4.3
650	30	3,767	5.9	32	221	4.9
600	30	4,424	1.5	31	255	7.0
550	30	5,110	- 3.4	33	265	9.9
500	30	5,866	- 8.6	36	267	12.2
450	30	6,667	-14.2	33	267	12.4
400	30	7,560	-20.2	36	275	15.0
350	30	8,536	-27.3	34	278	20.0
300	30	9,627	-35.8	33	276	25.6
250	30	10,869	-45.8		282	32.6
200	30	12,318	-56.9		282	39.2
175	30	13,154	-61.8		277	37.9
150	30	14,100	-65.1		281	35.9
125	30	15,204	-67.6		284	23.1
100	30	16,538	-70.3		293	15.5
80	30	17,859	-70.9		331	4.7
70	30	18,659	-68.9		54	3.9
60	30	19,585	-64.1		83	7.8
50	30	20,713	-59.4		86	10.7
40	30	22,124	-55.0		92	9.9
30	30	23,982	-50.2		76	11.7
25	29	25,176	-48.0		78	10.5
20	28	26,654	-45.6		85	7.6
15	26	28,588	-42.4		82	3.3
10	17	31,342	-38.1		73	1.9
7						
5						
4						

BUFFALO, N. Y.
991 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	218	11.9	76	218	5.6
1000	31	139				
950	31	569	12.1	60	249	12.6
900	31	1,021	10.4	54	270	15.9
850	31	1,495	7.9	52	280	15.9
800	31	1,992	4.9	54	281	16.3
750	31	2,516	2.2	50	279	18.6
700	31	3,071	- .3	41	283	21.0
650	31	3,657	- 3.3	37	284	24.7
600	31	4,291	- 6.9	38	287	27.8
550	31	4,959	-10.9	35	285	29.7
500	31	5,691	-15.6	34	286	32.6
450	31	6,471	-20.8	32	286	34.8
400	31	7,338	-27.3		289	36.9
350	31	8,286	-34.4		290	40.6
300	31	9,344	-42.5		292	44.7
250	31	10,553	-50.5		290	44.5
200	31	11,984	-56.4		288	44.7
175	31	12,830	-57.4		285	39.0
150	31	13,805	-56.8		284	37.1
125	31	14,960	-57.0		284	27.8
100	30	16,364	-57.6		287	22.7
80	30	17,769	-58.5		299	15.0
70	29	18,615	-57.9		304	11.1
60	29	19,586	-56.8		312	8.7
50	29	20,746	-55.2		342	4.3
40	29	22,179	-52.8		44	2.1
30	27	24,041	-50.6		50	4.7
25	23	25,238	-48.9		57	4.9
20	21	26,713	-46.4		74	5.6
15	14	28,637	-42.9			
10						
7						
5						
4						

* BURRWOOD, LA.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	22.7	85	142	2.5
1000	31	142	22.2	82	140	3.3
950	31	587	19.7	69	147	4.9
900	31	1,052	17.1	62	144	5.1
850	31	1,538	15.1	50	153	3.7
800	31	2,050	13.1	43	195	1.9
750	31	2,587	10.8	34	245	2.1
700	31	3,162	7.8	28	276	4.1
650	31	3,765	4.3	24	277	6.0
600	31	4,416	.3	25	280	5.8
550	31	5,100	- 4.4	27	297	7.6
500	31	5,851	- 9.6	29	287	10.5
450	31	6,652	-15.1	26	285	12.0
400	31	7,537	-21.3	26	285	15.0
350	31	8,509	-28.2	26	284	17.5
300	31	9,595	-36.8	25	288	22.0
250	31	10,831	-46.4		295	26.2
200	31	12,277	-56.9		292	33.4
175	31	13,113	-61.7		291	34.0
150	31	14,060	-64.4		289	30.5
125	30	15,175	-64.9		286	24.1
100	30	16,525	-67.8		297	16.9
80	30	17,866	-68.1		314	7.2
70	30	18,679	-66.5		5	5.1
60	30	19,615	-62.5		56	4.9
50	30	20,752	-59.0		59	7.0
40	29	22,165	-54.2		88	7.8
30	28	24,033	-49.8		75	6.6
25	28	25,232	-48.2		71	7.0
20	27	26,708	-45.6		86	4.5
15	23	28,636	-42.3		291	3.9
10	13	31,412	-36.7		262	13.2
7						
5						
4						

*CANTON IS., PACIFIC AREA
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	26.8	77	77	11.1
1000	31	89	26.0	78	79	14.4
950	31	538	22.4	85	84	17.7
900	31	1,011	19.3	78	90	17.7
850	31	1,503	17.4	59	89	16.7
800	31	2,020	16.6	32	85	15.9
750	31	2,564	14.0	30	91	13.4
700	31	3,145	10.9	29	88	11.8
650	31	3,757	7.2	29	83	9.9
600	31	4,413	3.4	27	82	8.9
550	31	5,111	- .4	22	78	6.8
500	31	5,870	- 5.0	21	79	5.4
450	31	6,688	- 9.9	20	104	4.5
400	31	7,590	-15.6	21	160	2.9
350	30	8,584	-22.7	18	237	4.3
300	30	9,697	-31.3	20	261	7.8
250	30	10,964	-41.4		266	10.1
200	30	12,441	-53.5		277	16.5
175	30	13,288	-60.4		278	18.8
150	30	14,233	-67.6		278	22.7
125	28	15,313	-75.0		274	25.6
100	24	16,588	-81.1		267	21.0
80	19	17,853	-74.0		275	13.4
70	19	18,643	-68.1		280	13.8
60	18	19,578	-63.4		278	19.6
50	18	20,704	-61.1		268	24.5
40	17	22,097	-58.5		271	26.0
30	17	23,926	-54.2		281	12.4
25	17	25,100	-51.9		117	1.4
20	16	26,551	-50.4		87	23.1
15	14	28,440	-45.9		87	43.9
10	13	31,173	-40.5		86	47.6
7	13	33,631	-35.9		86	25.8
5	11	35,986	-31.7			
4	5	37,528	-29.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MAY 1964

CAPE HATTERAS, N. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	17.7	87	[illegible]	2.7
1000	31	137	18.4	78	335	4.5
950	31	574	17.6	67	343	6.4
900	31	1,040	15.5	61	318	4.9
850	31	1,522	12.7	59	315	6.4
800	31	2,029	9.9	51	306	6.2
750	31	2,563	7.4	42	290	7.0
700	31	3,129	4.5	39	291	8.7
650	31	3,724	1.0	37	281	10.9
600	31	4,369	- 2.6	33	279	13.6
550	31	5,049	- 6.7		277	17.5
500	31	5,792	-11.5		281	19.8
450	31	6,585	-17.1		[illegible]	23.3
400	31	7,465	-23.4		286	24.1
350	31	8,429	-30.3		278	27.4
300	31	9,506	-38.6		277	28.9
250	31	10,733	-48.0		279	35.6
200	31	12,168	-58.2		285	38.4
175	31	13,001	-61.2		287	34.6
150	31	13,954	-62.3		286	32.1
125	31	15,082	-61.8		289	26.9
100	31	16,460	-62.5		287	18.5
80	31	17,833	-63.2		296	12.0
70	31	18,658	-62.0		304	6.8
60	31	19,615	-59.6		347	5.1
50	29	20,762	-56.2		59	2.9
40	29	22,190	-53.1		82	4.9
30	28	24,057	-49.9		95	2.5
25	27	25,254	-47.6		84	2.5
20	26	26,735	-45.3		78	3.3
15	22	28,666	-41.9		135	1.9
10	16	31,435	-34.8		331	5.1
7	13	33,959	-30.1		331	5.1
5	7	36,372	-25.3			
1						

CARIBOU, ME.
990 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	7.0	81	254	3.3
1000	31	104				
950	31	526	7.2	67	271	8.7
900	31	972	5.8	64	287	14.6
850	31	1,438	3.8	59	290	17.1
800	31	1,929	1.3	57	291	18.5
750	31	2,447	- 1.4	53	287	20.6
700	31	2,994	- 4.3	51	288	22.9
650	31	3,572	- 7.3	47	298	25.6
600	31	4,195	-10.8	42	287	28.6
550	31	4,852	-14.6	43	289	30.3
500	31	5,576	-19.1	40	288	33.2
450	31	6,344	-24.2	38	285	37.1
400	31	7,202	-30.5	35	286	37.1
350	31	8,137	-37.5		286	40.6
300	31	9,185	-44.5		289	43.7
250	31	10,388	-50.5		287	46.4
200	31	11,831	-53.3		284	42.2
175	31	12,690	-53.4		287	38.1
150	31	13,684	-52.7		284	32.8
125	31	14,859	-53.2		286	24.7
100	31	16,292	-54.4		292	18.8
80	29	17,713	-55.6		298	12.6
70	29	18,567	-54.9		309	8.5
60	29	19,553	-53.7		332	5.4
50	29	20,730	-52.4		15	3.3
40	29	22,177	-51.0		61	5.8
30	27	24,054	-49.3		94	7.2
25	27	25,255	-47.3		97	8.4
20	26	26,742	-44.8		94	8.7
15	23	28,680	-41.4		90	9.9
10	21	31,461	-34.7		82	5.2
7	19	33,983	-29.6		92	4.1
5	7	36,374	-25.4			

CHARLESTON, S. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	13	18.2	81	329	2.5
1000	30	148	19.3	73	307	4.1
950	30	588	18.9	59	323	5.6
900	30	1,053	16.3	60	316	3.5
850	30	1,537	13.3	58	294	3.3
800	30	2,045	10.4	53	310	3.7
750	30	2,577	8.3	38	286	3.9
700	30	3,148	5.9		286	5.1
650	30	3,749	3.0		284	7.2
600	30	4,395	- 1.0		287	10.3
550	30	5,078	- 5.6		293	12.4
500	30	5,825	-10.5		289	14.4
450	30	6,623	-16.2		286	17.7
400	30	7,505	-22.6		285	18.8
350	30	8,471	-29.7		290	21.2
300	30	9,552	-38.2		290	23.9
250	30	10,781	-47.5		291	29.1
200	30	12,221	-57.9		290	32.8
175	30	13,054	-61.5		288	32.6
150	30	14,006	-62.9		287	30.3
125	30	15,125	-63.6		293	23.3
100	29	16,493	-64.1		295	15.5
80	29	17,858	-64.5		307	10.7
70	29	18,679	-63.8		323	6.2
60	29	19,627	-61.0		12	3.9
50	29	20,770	-57.4		44	4.5
40	29	22,193	-53.5		77	6.8
30	28	24,063	-49.8		89	6.0
25	28	25,260	-48.2		54	4.9
20	25	26,740	-45.4		69	4.5
15	12	28,672	-42.0			

* COLD BAY, ALASKA
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	1.8	83	283	4.5
1000	31	162	1.1	80	292	5.8
950	31	575	- .3	78	274	5.8
900	31	1,006	- 1.2	67	285	6.8
850	31	1,461	- 2.2	61	292	9.9
800	31	1,941	- 3.7	64	292	11.7
750	31	2,449	- 5.4	63	275	13.0
700	31	2,989	- 7.9	55	277	16.5
650	31	3,559	-10.7	58	278	20.6
600	31	4,175	-14.2	58	275	25.8
550	31	4,824	-18.1	56	277	24.1
500	31	5,535	-22.5	52	279	26.6
450	31	6,296	-27.6	47	280	28.6
400	31	7,138	-33.4	45	284	30.9
350	31	8,064	-39.5	51	282	35.4
300	31	9,104	-45.8		273	38.3
250	31	10,303	-50.9		287	33.2
200	31	11,742	-53.7		293	29.3
175	31	12,601	-53.2		296	22.7
150	31	13,594	-53.1		300	18.8
125	31	14,768	-53.2		293	15.7
100	31	16,205	-53.0		302	10.9
80	31	17,644	-53.2		303	7.6
70	31	18,513	-52.6		307	5.1
60	31	19,502	-52.3		347	2.1
50	31	20,683	-51.7		58	2.1
40	31	22,132	-51.2		66	4.1
30	31	24,004	-50.7		77	5.4
25	30	25,199	-50.1		74	6.8
20	30	26,661	-48.7		79	7.2
15	29	28,563	-46.8		81	7.4
10	26	31,292	-42.0		74	10.9
7	24	33,750	-37.3		74	10.9
5	23	36,085	-33.1		68	10.3
1	11	37,647	-31.0			

COLUMBIA, MO.
987 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	238	15.9	80	165	3.9
1000	31	122				
950	31	559	17.2	67	207	8.9
900	31	1,022	15.0	66	230	12.0
850	31	1,504	12.5	62	242	13.2
800	31	2,011	9.9	59	255	13.4
750	31	2,540	6.8	51	256	13.6
700	31	3,109	3.6	47	254	14.2
650	31	3,698	- .2	49	254	16.5
600	31	4,342	- 4.5	46	257	17.1
550	31	5,012	- 8.7	39	259	18.6
500	31	5,755	-13.4	36	258	23.3
450	31	6,541	-18.9		260	27.8
400	31	7,415	-25.2		262	30.7
350	30	8,369	-32.4		262	35.0
300	30	9,438	-40.7		267	26.6
250	30	10,655	-49.6		266	32.6
200	30	12,086	-57.9		274	35.0
175	30	12,921	-60.6		282	37.5
150	30	13,880	-60.3		279	33.8
125	30	15,020	-59.6		283	26.4
100	29	16,409	-61.4		284	17.9
80	28	17,788	-62.1		289	9.9
70	28	18,620	-61.2		305	4.9
60	28	19,576	-59.6		22	2.9
50	27	20,722	-57.8		66	6.2
40	26	22,140	-55.2		78	7.4
30	25	23,985	-52.0		66	4.7
25	23	25,166	-50.0		71	6.0
20	20	26,632	-47.0		74	6.0
15	14	28,554	-43.0		78	6.8

CORPUS CHRISTI, TEXAS
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	25	6	24.5	81	129	6.4
1000	25	102	24.1	82	142	8.9
950	25	545	21.2	85	156	14.8
900	25	1,019	19.3	71	165	14.6
850	25	1,509	17.5	56	168	12.6
800	25	2,026	15.1	50	177	10.3
750	25	2,564	13.0	39	192	5.8
700	25	3,148	9.7	38	238	4.7
650	25	3,752	5.6	39	258	6.0
600	25	4,408	1.1	40	256	7.4
550	25	5,093	- 3.7	44	253	10.5
500	25	5,848	- 9.2	47	261	13.4
450	25	6,647	-14.5	44	261	15.0
400	25	7,538	-20.6	40	265	18.5
350	25	8,512	-27.9	39	266	22.1
300	25	9,600	-36.3	39	264	27.[illegible]
250	25	10,838	-46.3		274	32.4
200	25	12,284	-57.3		276	40.6
175	25	13,118	-61.5		275	40.0
150	25	14,068	-63.9		273	34.4
125	24	15,182	-65.8		275	28.6
100	23	16,526	-67.9		275	19.4
80	23	17,857	-70.1		283	9.9
70	23	18,654	-68.2		270	6.4
60	23	19,589	-64.9		314	1.2
50	23	20,712	-60.7		65	2.1
40	23	22,119	-55.4		69	6.6
30	22	23,970	-51.7		84	8.7
25	21	25,159	-49.4		76	7.
20	21	26,633	-46.3		89	6.0
15	18	28,553	-43.1		325	2.1
10	16	31,311	-37.8		279	5.1
7	14	33,798	-33.5		271	5.4
5	10	36,141	-31.4			
4	5	37,767	-29.7			

DAYTON, OHIO
982 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	13.2	79	164	.8
1000	31	145				
950	31	579	14.8	64	230	7.0
900	31	1,035	12.8	58	260	10.5
850	31	1,514	10.3	54	271	12.2
800	31	2,017	7.8	50	279	14.8
750	31	2,545	5.4	44	278	17.3
700	31	3,108	2.1	43	280	18.1
650	31	3,701	- 1.1	36	276	18.6
600	31	4,338	- 5.0		277	20.2
550	31	5,011	- 9.3		271	22.1
500	31	5,748	-14.0		272	24.5
450	31	6,534	-19.6		279	25.6
400	31	7,406	-25.9		278	27.6
350	31	8,359	-32.9		276	30.9
300	31	9,425	-41.3		283	33.6
250	31	10,639	-50.2		283	39.8
200	31	12,067	-58.4		285	42.9
175	31	12,902	-60.3		286	41.2
150	31	13,862	-60.2		283	34.2
125	31	15,001	-59.7		283	29.7
100	31	16,393	-60.4		289	24.1
80	31	17,779	-61.6		292	15.2
70	31	18,611	-60.7		307	8.9
60	31	19,567	-59.7		334	6.0
50	31	20,713	-57.5		13	5.2
40	31	22,132	-54.9		62	3.5
30	31	23,984	-52.0		69	3.7
25	28	25,177	-49.9		58	3.5
20	26	26,640	-47.7		67	4.7
15	19	28,539	-44.5		92	5.1
10	9	31,296	-37.3			

DEL RIO, TEXAS
977 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	314	21.7	79	120	6.6
1000	31	106				
950	31	551	20.6	75	139	14.2
900	31	1,020	18.3	76	162	19.2
850	31	1,509	16.4	72	173	16.9
800	31	2,024	13.9	62	181	13.0
750	31	2,566	12.0	46	194	8.0
700	31	3,142	8.4	39	225	5.8
650	31	3,745	4.2	36	253	7.6
600	31	4,396	- .4	37	250	11.3
550	31	5,078	- 5.4	38	254	15.7
500	31	5,828	-10.2	37	254	20.0
450	31	6,630	-15.5		256	22.5
400	31	7,513	-21.7		258	26.6
350	31	8,483	-28.8		261	32.4
300	31	9,568	-37.2		261	37.7
250	31	10,803	-46.9		262	43.3
200	31	12,247	-57.1		266	45.6
175	31	13,084	-61.4		270	44.5
150	31	14,035	-63.0		269	39.8
125	31	15,153	-65.0		266	30.3
100	31	16,504	-68.1		270	22.0
80	31	17,836	-70.0		269	9.9
70	31	18,640	-67.5		266	2.7
60	31	19,571	-63.4		75	3.3
50	31	20,703	-59.0		97	7.0
40	31	22,117	-54.9		86	5.4
30	31	23,973	-50.9		68	4.9
25	31	25,168	-48.4		66	5.1
20	30	26,640	-46.3		348	1.4
15	30	28,568	-42.6		290	4.3
10	17	31,312	-36.6		267	13.8
7	7	33,795	-32.6			

DENVER, COLO.
836 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	8.1	62	209	4.1
1000	31	105				
950	31	538				
900	31	998				
850	31	1,476				
800	31	1,980	10.9	43	254	6.2
750	31	2,514	8.1	40	261	7.4
700	31	3,082	4.1	42	260	10.3
650	31	3,678	- .5	44	259	12.2
600	31	4,314	- 5.4	43	261	14.6
550	31	4,985	-10.3	43	258	16.9
500	31	5,719	-15.7	41	258	18.6
450	31	6,499	-21.5	35	254	20.2
400	31	7,362	-27.9		249	23.1
350	31	8,308	-35.0		247	26.0
300	31	9,366	-42.7		249	28.7
250	31	10,574	-51.1		246	34.0
200	31	12,002	-57.4		244	38.9
175	31	12,842	-58.3		245	39.4
150	31	13,815	-57.1		246	38.1
125	31	14,972	-56.6		253	30.1
100	31	16,379	-59.6		250	19.2
80	31	17,771	-60.3		252	11.8
70	31	18,611	-59.8		253	7.4
60	31	19,569	-58.6		203	1.2
50	31	20,718	-57.4		75	2.3
40	31	22,135	-55.3		73	5.1
30	29	23,979	-52.8		69	4.1
25	29	25,160	-50.8		51	5.6
20	28	26,628	-47.8		74	6.0
15	20	28,548	-43.1		68	2.7
10	14	31,284	-37.2		195	.8
7	5	33,785	-31.0			

DODGE CITY, KANS.
923 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	13.8	70	189	6.2
1000	31	104				
950	31	542				
900	31	1,001	15.1	59	194	12.4
850	31	1,486	14.6	51	216	16.3
800	31	1,996	12.3	47	235	15.0
750	31	2,530	9.1	44	241	15.0
700	31	3,103	5.4	41	242	15.7
650	31	3,700	1.2	38	235	18.3
600	31	4,343	- 3.4	38	241	19.8
550	31	5,021	- 8.0	35	248	23.5
500	31	5,758	-13.6	38	250	26.4
450	31	6,545	-19.0	33	249	28.9
400	31	7,419	-25.2		248	31.9
350	31	8,375	-32.7		247	33.4
300	31	9,442	-40.8		247	38.3
250	31	10,658	-50.0		248	42.7
200	31	12,089	-57.7		252	47.0
175	31	12,927	-59.8		253	42.2
150	31	13,892	-59.1		260	38.5
125	31	15,034	-59.7		263	31.5
100	31	16,424	-61.6		263	21.8
80	31	17,801	-62.8		256	14.2
70	31	18,630	-61.7		262	6.4
60	31	19,583	-60.4		196	1.2
50	31	20,724	-58.4		109	1.4
40	30	22,138	-55.1		85	5.2
30	30	23,987	-52.3		78	5.6
25	29	25,171	-50.4		85	4.7
20	29	26,634	-48.1		63	4.5
15	20	28,566	-44.6		86	5.6
10	8	31,344	-39.4			

EL PASO, TEXAS
881 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,193	16.4	36	270	.8
1000	31	96				
950	31	544				
900	31	1,011				
850	31	1,501	17.8	30	191	2.1
800	31	2,016	14.7	30	230	6.8
750	31	2,554	11.1	29	232	10.7
700	31	3,131	7.3	30	240	13.4
650	31	3,729	2.9	33	240	14.4
600	31	4,379	- 2.1	35	246	17.3
550	31	5,056	- 6.9	33	252	23.7
500	31	5,802	-12.1	32	256	27.[illegible]
450	31	6,594	-17.7		254	32.6
400	31	7,472	-23.9		253	36.5
350	31	8,434	-30.9		252	39.6
300	31	9,509	-39.3		253	46.8
250	31	10,734	-48.3		255	52.1
200	31	12,172	-57.4		257	52.3
175	31	13,009	-60.3		267	49.5
150	31	13,969	-61.0		264	47.4
125	31	15,099	-62.3		265	36.5
100	31	16,466	-65.7		262	23.4
80	31	17,813	-67.7		251	15.7
70	31	18,631	-65.4		262	9.4
60	31	19,564	-62.7		87	2.3
50	31	20,698	-58.7		116	3.5
40	30	22,114	-54.8		74	5.1
30	29	23,968	-51.3		71	4.1
25	29	25,158	-49.3		68	3.9
20	27	26,634	-45.9		52	1.4
15	17	28,565	-42.6		304	1.9
10						
7						
5						

ELY, NEV.
807 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	2.7	74	190	6.2
1000	31	133				
950	31	562				
900	31	1,013				
850	31	1,483				
800	31	1,981	6.5	56	193	6.6
750	31	2,509	4.8	47	201	4.3
700	31	3,067	.9	48	223	8.2
650	31	3,655	- 3.6	50	232	11.1
600	31	4,285	- 7.8	47	234	14.0
550	31	4,950	-12.3	39	236	17.5
500	31	5,676	-17.3	33	241	18.6
450	31	6,452	-22.9		243	22.3
400	31	7,309	-29.3		241	22.0
350	31	8,248	-36.5		246	21.0
300	31	9,299	-44.0		248	25.4
250	31	10,503	-51.1		245	27.0
200	31	11,932	-57.1		246	33.2
175	31	12,774	-58.2		251	32.1
150	31	13,747	-56.8		248	31.5
125	31	14,905	-56.5		248	27.0
100	31	16,316	-58.2		239	18.8
80	31	17,716	-59.0		247	12.0
70	31	18,560	-59.0		233	6.6
60	30	19,518	-58.2		235	2.9
50	30	20,668	-57.2		103	2.3
40	29	22,083	-55.7		87	5.1
30	29	23,928	-52.8		62	6.8
25	28	25,110	-50.6		67	6.6
20	26	26,578	-47.3		70	8.2
15	18	28,471	-43.3		78	6.6

* FAIRBANKS, ALASKA
1000 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	135	.5	70	282	3.1
1000	31	134	.9	57	297	4.7
950	31	543	- .8	57	281	5.1
900	31	975	- 4.0	60	268	6.2
850	31	1,424	- 7.3	67	266	6.6
800	31	1,893	-10.1	67	260	8.2
750	31	2,387	-13.0	64	257	7.6
700	31	2,911	-16.0	64	254	8.7
650	31	3,462	-19.1	59	258	10.5
600	31	4,058	-22.7	56	266	10.7
550	31	4,686	-26.6	55	274	10.7
500	31	5,373	-30.7	54	282	12.6
450	31	6,110	-35.5	52	285	14.2
400	31	6,926	-40.6		281	15.9
350	31	7,825	-45.7		279	19.8
300	31	8,844	-48.5		279	21.0
250	31	10,043	-48.3		284	21.0
200	31	11,516	-47.0		283	16.9
175	31	12,399	-47.4		286	13.8
150	31	13,418	-47.4		279	14.2
125	30	14,623	-47.6		277	12.4
100	29	16,093	-48.3		284	6.6
80	28	17,563	-48.7		277	4.1
70	27	18,440	-48.6		291	3.5
60	27	19,452	-48.4		312	1.2
50	27	20,653	-48.1		113	2.3
40	26	22,127	-47.8		65	2.3
30	25	24,031	-47.6		89	5.2
25	21	25,251	-47.1		95	6.2
20	21	26,730	-46.2		77	7.8
15	21	28,650	-44.1		80	11.1
10	20	31,387	-39.6		75	10.5
7	17	33,859	-34.6		74	12.4
5	9	36,286	-29.6			

FLINT, MICH.
990 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	234	12.0	75	232	2.9
1000	30	145				
950	30	577	12.8	60	248	7.6
900	30	1,029	10.4	57	276	9.9
850	30	1,503	8.0	54	278	13.0
800	30	2,001	5.5	52	282	16.1
750	30	2,528	2.9	46	282	20.0
700	30	3,083	.3	38	279	20.0
650	30	3,669	- 3.0	41	278	22.5
600	29	4,305	- 6.5		279	24.7
550	29	4,972	-10.8		279	25.6
500	29	5,706	-15.6		279	28.2
450	28	6,484	-21.1	31	277	31.9
400	28	7,351	-27.4		282	31.7
350	28	8,299	-34.4		283	35.9
300	28	9,358	-42.7		282	39.0
250	28	10,565	-51.0		285	45.3
200	27	11,990	-57.1		286	47.8
175	27	12,833	-57.6		284	42.9
150	27	13,807	-56.6		284	36.9
125	27	14,964	-56.7		282	26.6
100	27	16,375	-57.6		291	21.8
80	27	17,780	-58.6		297	15.0
70	27	18,621	-58.2		302	10.3
60	27	19,591	-57.6		320	6.0
50	27	20,747	-55.6		6	4.5
40	27	22,176	-53.4		52	5.2
30	27	24,037	-51.1		64	4.9
25	25	25,225	-49.0		79	6.4
20	25	26,699	-46.1		73	6.2
15	18	28,627	-42.8		105	6.6
10	10	31,404	-37.2			

FORT WORTH, TEXAS
994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	180	19.2	85	171	4.9
1000	31	128				
950	31	572	19.2	77	185	15.0
900	31	1,036	17.7	71	195	17.3
850	31	1,524	15.6	62	208	15.3
800	31	2,037	13.4	54	225	12.4
750	31	2,579	10.5	45	240	10.9
700	31	3,149	6.6	43	250	9.7
650	31	3,755	2.4	42	253	10.3
600	31	4,396	- 1.9	39	251	13.2
550	31	5,081	- 6.6	32	247	15.0
500	31	5,821	-11.4		248	19.8
450	31	6,619	-16.8		251	20.4
400	31	7,497	-23.1		253	24.7
350	31	8,462	-30.0		257	29.5
300	31	9,540	-38.4		260	34.8
250	31	10,767	-48.1		262	40.0
200	31	12,203	-58.2		266	44.9
175	31	13,036	-61.4		266	44.7
150	31	13,989	-62.0		267	41.2
125	31	15,117	-62.7		270	30.9
100	30	16,481	-66.2		267	24.9
80	30	17,830	-66.3		271	13.4
70	29	18,643	-65.0		263	6.0
60	29	19,585	-62.2		103	1.2
50	29	20,718	-59.7		83	4.9
40	29	22,129	-55.1		97	4.7
30	29	23,982	-51.6		54	4.3
25	28	25,171	-49.2		54	3.3
20	25	26,637	-46.5		80	1.2
15	11	28,572	-43.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	GLASGOW, MONT. 930 MB						GRAND JUNCTION, COLO. 850 MB						GREAT FALLS, MONT. 885 MB						GREEN BAY, WIS. 989 MB						GREENSBORO, N. C. 987 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	8.5	69	89	2.7	31	1,474	11.4	42	142	3.7	31	1,123	8.4	63	231	5.4	31	210	10.2	86	243	3.1	31	273	14.4	84	5	2.5
1000	31	91					31	92					31	94					31	116					31	160				
950	31	518					31	531					31	527					31	545	12.8	60	239	8.4	31	595	16.2	66	356	5.8
900	31	970	10.1	57	181	1.9	31	994					31	980					31	999	11.3	51	260	11.7	31	1,055	14.0	63	350	7.0
850	31	1,444	8.0	52	269	5.2	31	1,475			130	4.5	31	1,454	8.1	49	241	10.9	31	1,475	8.5	52	272	14.0	31	1,536	11.9	58	335	6.8
800	31	1,941	4.6	54	278	8.0	31	1,983	11.3	36	176	7.6	31	1,952	5.0	50	267	8.0	31	1,973	5.4	53	276	15.7	31	2,042	9.6	54	299	7.2
750	31	2,459	1.0	57	282	10.9	31	2,516	7.7	39	219	9.1	31	2,472	1.5	54	270	8.4	31	2,499	2.7	48	278	18.1	31	2,573	7.0	45	289	8.5
700	31	3,015	- 2.3	55	273	12.8	31	3,084	3.6	44	234	12.2	31	3,028	- 2.4	60	269	11.7	31	3,054	- .3	42	279	21.8	31	3,140	3.8	43	290	9.9
650	31	3,595	- 5.8	52	266	14.8	31	3,673	- 1.2	49	236	16.1	31	3,611	- 5.8	59	262	15.2	31	3,640	- 3.5	36	278	24.5	31	3,735	.5	39	285	12.0
600	31	4,223	- 9.7	46	265	18.3	31	4,313	- 6.1	51	234	19.8	31	4,236	- 9.8	52	261	17.5	31	4,272	- 7.3	35	278	26.4	31	4,378	- 3.2		285	13.8
550	31	4,883	-14.0	39	264	20.4	31	4,980	-11.3	51	231	23.1	31	4,902	-14.2	50	260	21.6	31	4,938	-11.3		277	28.2	31	5,055	- 7.4	35	287	17.3
500	31	5,607	-18.6	38	266	22.7	31	5,712	-16.4	46	235	26.4	31	5,619	-19.1	46	257	22.9	31	5,669	-16.1		277	30.3	31	5,798	-12.1	36	287	20.0
450	31	6,375	-24.3	41	263	26.8	31	6,490	-22.1	40	239	27.0	31	6,393	-24.6	42	253	22.1	31	6,446	-21.4	32	276	33.0	31	6,590	-17.5	35	286	22.7
400	31	7,231	-30.6	43	260	28.6	31	7,353	-28.4	36	245	30.9	31	7,243	-30.9	44	249	25.8	31	7,312	-27.7	33	273	32.6	31	7,467	-23.7	36	281	24.7
350	31	8,166	-37.6		261	28.6	31	8,295	-35.7		248	31.1	31	8,177	-37.7		244	28.4	31	8,258	-34.8		273	37.7	31	8,431	-30.9		282	27.2
300	31	9,213	-45.1		265	31.3	31	9,349	-43.5		251	31.3	31	9,222	-45.7		245	31.5	31	9,316	-42.8		273	42.3	31	9,506	-39.2		283	31.7
250	31	10,409	-52.8		260	37.1	31	10,555	-50.7		253	30.5	31	10,416	-53.0		248	30.5	31	10,522	-51.1		273	47.4	31	10,731	-48.8		285	35.9
200	31	11,835	-56.3		266	33.0	31	11,986	-56.7		256	31.1	31	11,844	-55.5		249	27.8	31	11,950	-57.4		276	52.4	31	11,164	-58.6		288	37.9
175	31	12,686	-55.1		258	29.1	31	12,830	-57.8		251	30.1	31	12,696	-54.5		245	27.2	31	12,793	-57.2		276	44.9	31	12,995	-62.2		287	36.7
150	31	13,674	-53.4		258	25.3	31	13,804	-56.5		251	32.8	31	13,686	-53.2		241	22.7	31	13,769	-56.2		279	35.7	31	13,946	-62.2		290	33.6
125	31	14,851	-52.6		258	19.2	31	14,962	-57.3		254	29.1	31	14,864	-52.3		242	16.3	31	14,930	-55.4		279	24.9	31	15,073	-62.6		286	27.2
100	30	16,293	-54.1		254	14.4	31	16,365	-59.3		253	19.4	31	16,305	-53.5		237	14.2	31	16,348	-56.9		283	19.8	31	16,448	-63.1		292	20.8
80	30	17,718	-56.0		265	9.1	31	17,756	-60.8		251	13.0	29	17,743	-54.8		232	9.1	31	17,758	-57.8		291	12.4	31	17,820	-63.4		298	12.2
70	30	18,568	-55.7		262	4.9	31	18,591	-60.5		250	6.4	29	18,602	-54.5		226	4.9	31	18,600	-57.3		309	8.7	30	18,640	-62.7		314	9.5
60	30	19,550	-55.1		233	.6	31	19,550	-59.0		271	2.9	29	19,585	-54.4		198	1.4	31	19,576	-56.6		340	6.8	30	19,594	-60.4		335	6.0
50	30	20,715	-54.7		94	2.3	30	20,699	-57.5		79	4.5	29	20,752	-54.5		59	2.9	31	20,736	-55.1		35	5.4	30	20,738	-57.9		35	4.3
40	29	22,150	-53.6		85	4.9	29	22,115	-55.6		83	6.8	28	22,190	-53.2		93	6.8	30	22,169	-52.8		69	8.4	30	22,157	-54.1		70	3.9
30	28	24,006	-51.9		75	9.5	29	23,958	-53.0		75	5.8	28	24,050	-51.5		75	8.2	29	24,031	-50.7		75	9.7	30	24,014	-51.2		69	2.9
25	28	25,192	-50.3		85	9.3	29	25,139	-51.0		74	4.9	28	25,237	-50.4		73	10.3	27	25,224	-48.9		78	9.7	30	25,204	-49.2		57	2.3
20	27	26,661	-48.4		91	7.6	29	26,600	-48.2		80	7.0	28	26,700	-48.1		85	12.0	26	26,704	-45.7		80	9.9	27	26,671	-47.2		107	.8
15	20	28,573	-44.5		85	5.2	27	28,506	-45.0		93	4.9	28	28,614	-44.5		83	9.1	17	28,648	-41.8		85	12.4	14	28,600	-43.9		16	1.7
10	5	31,357	-39.3				17	31,222	-40.3		102	4.5	23	31,348	-38.9		86	9.5							6	31,330	-40.2			
7							6	33,620	-36.0				15	33,814	-35.2		85	7.8												
5													9	36,207	-30.2															

	GUAM, MARIANA IS. 998 MB						HILO, HAWAII 1017 MB						HUNTINGTON, W. VA. 990 MB						* INTERNAT. FALLS, MINN. 969 MB						JACKSON, MISS. 1006 MB					
SURFACE	31	111	25.1	92	104	3.9	31	11	19.9	91	247	4.9	31	246	13.4	83	182	1.6	31	360	7.2	78	254	1.4	31	94	18.0	89	158	1.6
1000	31	88					31	153	20.6	83	214	2.9	31	157					31	97					31	148	19.1	83	162	2.3
950	31	544	23.4	88	110	11.1	31	597	17.7	86	101	8.2	31	591	16.2	62	233	5.8	31	525	9.6	66	257	2.3	31	584	18.8	69	181	4.9
900	31	1,013	20.7	87	116	9.7	31	1,057	14.7	88	97	10.5	31	1,051	14.1	59	264	8.7	31	971	8.4	59	267	6.4	31	1,054	16.3	66	198	5.2
850	31	1,507	18.2	85	118	8.4	31	1,540	12.1	86	92	8.9	31	1,532	11.1	57	274	12.4	31	1,441	6.1	56	271	10.1	31	1,540	14.1	58	225	5.4
800	31	2,026	15.6	81	122	7.2	31	2,047	9.5	88	88	6.8	31	2,036	8.4	55	275	13.4	31	1,936	3.5	52	273	13.2	31	2,050	11.8	51	254	3.9
750	31	2,574	12.8	75	126	7.6	31	2,585	6.5	76	100	5.1	31	2,562	6.0	49	281	14.0	31	2,456	.4	51	281	15.9	31	2,582	9.3	41	259	4.3
700	31	3,151	10.0	67	123	7.0	31	3,146	4.9	52	104	4.1	31	3,130	3.2	42	286	14.2	31	3,007	- 2.8	46	277	20.2	31	3,157	6.2	38	272	7.8
650	31	3,765	6.6	64	126	4.5	31	3,750	3.0	46	57	1.6	31	3,723	- .2	38	284	16.5	31	3,587	- 6.1	43	277	22.1	31	3,756	2.5	37	277	10.9
600	31	4,419	2.8	62	124	5.2	31	4,395	- .3	42	286	4.7	31	4,363	- 4.2	39	283	18.3	31	4,214	- 9.8	40	278	28.4	31	4,404	- 1.4		277	12.4
550	31	5,115	- 1.1	55	127	4.5	31	5,083	- 3.9	42	286	9.3	31	5,039	- 8.4	37	278	19.4	31	4,875	-13.7	38	275	33.2	31	5,083	- 6.0		274	15.2
500	31	5,875	- 5.5	58	147	3.9	31	5,835	- 8.2	39	287	14.4	31	5,777	-13.2	37	279	22.7	31	5,599	-18.4	37	275	34.2	31	5,833	-11.0		272	14.8
450	30	6,695	-10.2	56	197	3.1	30	6,643	-13.0	40	285	19.0	31	6,565	-18.7		277	24.9	31	6,371	-23.7	36	276	39.6	31	6,629	-16.4		270	15.2
400	30	7,597	-15.8	54	223	6.2	30	7,535	-19.0	33	283	24.9	31	7,440	-25.0		278	27.8	31	7,229	-29.8	35	276	38.9	31	7,513	-22.7		273	17.5
350	30	8,590	-22.3	48	232	10.9	30	8,516	-26.1		281	30.1	31	8,397	-32.1		276	30.7	31	8,167	-36.9	34	274	42.2	31	8,479	-29.7		277	20.2
300	29	9,705	-30.5	46	240	15.0	30	9,613	-34.6		279	35.4	31	9,467	-40.0		280	33.6	31	9,218	-44.5		276	40.8	31	9,558	-38.1		279	25.1
250	28	10,975	-40.6		246	18.3	30	10,959	-44.6		279	44.7	31	10,686	-49.5		283	38.9	31	10,416	-51.9		276	42.5	31	10,787	-47.6		283	30.9
200	28	12,453	-52.9		250	19.8	30	12,315	-56.0		281	54.4	31	12,117	-58.4		290	43.1	31	11,848	-55.1		272	38.9	31	12,225	-58.1		289	35.9
175	27	13,299	-60.0		260	21.0	30	13,153	-61.9		279	56.3	31	12,951	-60.7		290	40.8	31	12,703	-54.0		271	35.5	31	13,057	-62.0		289	35.2
150	27	14,243	-67.5		261	17.7	29	14,092	-67.9		279	52.8	31	13,910	-60.9		287	32.1	31	13,694	-53.3		276	28.7	31	14,007	-62.9		283	29.9
125	27	15,320	-75.0		269	10.7	29	15,177	-71.7		274	47.4	31	15,044	-60.8		286	27.8	31	14,869	-53.0		277	20.8	31	15,126	-63.8		289	25.6
100	23	16,596	-79.8		32	4.5	29	16,489	-72.7		276	31.3	31	16,430	-61.7		295	21.6	31	16,305	-54.2		278	15.7	31	16,489	-65.6		293	16.5
80	21	17,866	-76.4		69	11.1	29	17,912	-68.6		271	16.9	30	17,811	-62.0		308	13.6	31	17,730	-55.6		286	10.5	31	17,841	-66.7		299	9.3
70	20	18,644	-71.8		87	9.3	29	18,615	-66.3		268	12.2	30	18,641	-61.4		311	9.3	31	18,582	-55.4		295	8.0	31	18,652	-65.2		325	4.5
60	20	19,568	-65.5		96	4.3	29	19,553	-64.1		252	3.3	30	19,598	-60.2		327	6.6	31	19,565	-55.3		306	5.4	31	19,596	-62.6		54	3.9
50	20	20,689	-61.3		62	4.7	28	20,674	-61.6		99	7.0	30	20,741	-57.7		23	4.7	31	20,731	-54.4		10	4.7	31	20,730	-59.3		72	5.6
40	19	22,090	-56.6		48	6.4	27	22,071	-56.5		87	14.4	30	22,160	-54.6		55	5.2	29	22,166	-52.7		56	6.2	31	22,144	-54.5		77	6.6
30	18	23,937	-52.2		80	16.1	27	23,920	-51.1		91	16.9	30	24,013	-51.6		49	3.9	28	24,033	-51.0		81	8.7	30	24,003	-51.1		59	5.4
25	17	25,125	-49.4		88	21.8	27	25,112	-48.4		88	21.0	29	25,199	-49.5		62	3.9	28	25,223	-49.7		82	8.7	28	25,193	-49.0		59	6.2
20	16	26,593	-47.3		87	31.1	24	26,593	-45.6		88	21.0	28	26,669	-47.2		90	4.1	27	26,687	-47.9		78	8.9	26	26,670	-46.0		91	2.5
15	11	28,514	-43.6		86	41.0	16	28,515	-42.5		85	21.6	18	28,587	-43.9		135	2.3	27	28,601	-43.9		78	9.7	12	28,594	-43.3			
10																			18	31,364	-37.5		89	11.5						
7																			5	33,943	-31.6									

	JACKSONVILLE, FLA. 1017 MB						JOHN F. KENNEDY INT. ARPT.NY 1017 MB						JOHNSTON IS., PACIFIC AREA 1014 MB						KEY WEST, FLORIDA 1015 MB						KING SALMON, ALASKA 1015 MB					
SURFACE	31	5	19.1	92	291	2.3	31	5	14.1	65	310	5.8	27	3	25.3	82	108	12.2	23	3	25.5	76	89	3.1	31	15	.3	84	308	1.9
1000	31	154	20.2	81	298	2.1	31	147	14.1	59	314	6.4	27	122	24.4	82	108	14.4	23	138	24.4	78	100	5.1	31	135	1.1	76	318	3.9
950	31	595	19.0	65	294	1.7	31	579	13.3	52	313	9.3	27	570	21.2	83	113	16.1	23	583	21.0	82	119	7.2	31	543	- .7	70	310	4.5
900	31	1,060	16.2	62	280	2.7	31	1,033	10.8	49	308	12.2	27	1,039	18.5	80	116	14.4	23	1,053	18.1	74	116	5.8	31	976	- 3.0	68	305	5.6
850	31	1,545	13.4	60	284	2.7	31	1,508	8.6	47	299	13.6	27	1,528	15.9	78	112	10.5	23	1,541	16.0	65	127	3.9	31	1,428	- 4.4	59	315	6.8
800	31	2,054	11.2	46	308	3.5	31	2,008	6.4	43	292	15.7	27	2,042	13.7	65	103	6.4	23	2,055	13.5	60	184	4.3	31	1,904	- 6.6	54	309	7.6
750	31	2,589	9.0	35	314	3.7	31	2,533	4.1	36	283	17.5	27	2,582	11.4	59	99	3.9	23	2,593	11.2	57	175	1.7	31	2,408	- 9.0	55	307	9.5
700	31	3,159	6.4	31	311	4.5	31	3,094	1.2	34	280	20.2	27	3,159	8.1	61	295	1.0	23	3,171	8.5	51	210	2.5	31	2,938	-11.4	50	305	10.5
650	31	3,763	3.0		297	7.4	31	3,684	- 2.1	32	282	22.5	27	3,761	4.5	57	258	4.9	23	3,775	5.1	52	267	2.3	31	3,504	-14.1	48	303	12.4
600	31	4,408	- .5		291	9.7	31	4,318	- 6.3	33	282	24.7	27	4,415	.5	59	255	7.0	23	4,430	1.4	49	303	2.9	31	4,107	-17.4	49	299	13.4
550	31	5,091	- 5.1		293	11.1	31	4,989	-10.3		281	28.2	27	5,103	- 3.5	58	271	11.5	23	5,120	- 2.9	49	308	4.9	31	4,753	-21.1	46	300	17.3
500	31	5,840	-10.3		289	13.4	31	5,722	-14.9		285	32.1	27	5,856	- 7.7	54	266	14.0	23	5,874	- 7.7	48	295	8.0	31	5,451	-25.3	45	298	20.8
450	31	6,637	-15.9		294	14.0	31	6,509	-20.4		284	33.6	27	6,666	-12.8	56	265	16.5	23	6,680	-13.4	45	285	8.5	31	6,207	-30.2	44	292	24.3
400	31	7,521	-22.4		291	16.5	31	7,373	-26.7	31	283	38.5	27	7,558	-18.5	49	263	20.6	23	7,572	-19.7	46	275	10.7	31	7,038	-35.6		287	27.4
350	31	8,487	-29.5		294	21.4	31	8,323	-33.3		285	40.8	27	8,541	-25.3	47	264	24.7	23	8,550	-26.8	44	277	13.0	31	7,955	-41.9		294	28.9
300	31	9,569	-37.8		289	22.9	31	9,388	-41.4		284	44.9	27	9,641	-33.5	39	267	33.4	22	9,647	-35.4	41	279	15.2	31	8,988	-47.4		296	31.5
250	31	10,800	-47.4		285	28.9	31	10,601	-50.0		288	46.4	27	10,894	-43.7		263	38.7	22	10,891	-45.2		272	19.6	30	10,176	-50.5		295	30.7
200	31	12,241	-57.8		292	32.4	31	12,034	-57.2		285	45.1	27	12,353	-55.9		263	46.2	22	12,344	-56.4		273	25.3	30	11,628	-51.1		297	26.8
175	30	13,077	-62.8		290	32.4	31	12,875	-58.6		285	42.7	26	13,191	-62.5		262	48.8	22	13,181	-61.9		273	27.6	30	12,497	-50.8		300	23.1
150	30	14,023	-65.1		295	29.9	31	13,841	-58.7		285	35.4	26	14,128	-68.5		262	46.6	22	14,124	-66.7		279	26.4	30	13,502	-50.7		300	16.5
125	30	15,136	-65.3		294	22.0	31	14,987	-58.5		284	26.2	25	15,205	-73.8		271	40.2	22	15,218	-69.2		284	19.2	30	14,688	-51.3		295	13.8
100	29	16,489	-66.4		293	15.7	31	16,386	-59.9		287	19.2	24	16,530	-75.7		271	25.6	20	16,542	-70.1		310	12.4	30	16,139	-51.3		293	8.7
80	29	17,838	-66.7		324	7.0	31	17,778	-60.0		301	13.2	24	17,804	-70.7		266	11.5	20	17,868	-69.5		5	7.0	30	17,587	-51.5		302	6.6
70	29	18,655	-65.2		354	6.0	31	18,615	-59.3		304	10.5	24	18,600	-68.2		266	5.6	20	18,667	-67.4		54	5.2	28	18,451	-51.2		303	4.3
60	28	19,590	-62.3		56	3.7	31	19,584	-57.3		323	6.4	23	19,529	-66.2		87	1.4	20	19,602	-64.3		51	6.4	28	19,447	-50.4		309	2.7
50	28	20,726	-58.2		76	6.8	31	20,743	-55.2		355	4.7	22	20,644	-62.4		85	4.3	20	20,728	-59.7		67	10.5	28	20,637	-50.3		47	.8
40	28	22,146	-53.7		82	7.4	31	22,175	-53.1		45	4.7	22	22,037	-58.0		97	12.8	20	22,135	-56.0		91	10.9	28	22,093	-50.2		88	2.9
30	28	24,012	-50.4		96	6.8	31	24,039	-50.8		68	4.7	21	23,879	-52.2		84	15.2	20	23,984	-51.4		88	11.1	28	23,972	-49.9		96	3.7
25	28	25,207	-48.4		86	5.2	27	25,228	-48.8		69	4.7	20	25,064	-49.4		81	22.5	17	25,176	-48.6		80	11.5	28	25,165	-49.3		79	4.1
20	28	26,687	-44.9		104	2.7	23	26,710	-46.2		83	4.5	19	26,534	-47.0		85	28.0	16	26,659	-44.3		97	11.8	27	26,632	-48.1		88	5.6
15	25	28,631	-41.5		10	3.7	19	28,644	-42.4		92	4.3	13	28,462	-44.3				12	28,609	-41.3		94	9.1	18	28,556	-45.1		87	5.2
10	6	31,421	-35.4				9	31,421	-36.1										11	31,395	-36.5		95	5.4						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

+ KOROR, CAROLINE IS. 1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	28.7	84	209	2.1
1000	31	81	27.8	83	209	2.7
950	31	530	23.8	81	224	6.4
900	31	1,007	20.8	80	240	7.6
850	31	1,501	18.1	79	240	7.8
800	31	2,019	15.4	77	243	7.8
750	31	2,563	12.7	74	236	7.2
700	31	3,143	9.8	70	229	3.3
650	31	3,753	6.5	70	225	1.0
600	31	4,410	2.9	69	197	1.4
550	31	5,106	- .9	64	129	1.4
500	31	5,868	- 5.0	58	187	1.9
450	31	6,686	- 9.6	50	150	2.5
400	31	7,592	-14.9	41	195	3.3
350	31	8,590	-21.3		208	2.5
300	31	9,709	-29.5		217	4.3
250	31	10,983	-39.8		220	6.4
200	29	12,467	-52.3		256	3.3
175	29	13,317	-59.6		284	5.4
150	29	14,263	-67.2		286	4.3
125	29	15,340	-75.2		27	2.9
100	29	16,611	-80.7		55	10.3
80	29	17,876	-76.7		60	10.3
70	29	18,656	-70.0		328	2.5
60	28	19,588	-64.2		267	12.4
50	28	20,714	-60.6		265	15.9
40	26	22,106	-57.9		267	13.4
30	25	23,932	-54.2		254	4.9
25	23	25,104	-51.5		102	8.9
20	22	26,564	-48.9		92	24.1
15	16	28,460	-44.8		93	48.2
10	5	31,190	-40.8			
7						

KOTZEBUE, ALASKA 1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	- 6.1	85	206	3.5
1000	30	132	- 2.9	76	216	2.1
950	30	538	- 3.5	67	211	6.4
900	30	965	- 5.2	63	215	7.8
850	30	1,412	- 6.9	59	231	8.4
800	30	1,884	- 8.8	54	245	7.2
750	30	2,382	-11.2	51	257	7.0
700	30	2,909	-14.0	48	263	7.2
650	30	3,469	-17.0	47	253	8.4
600	30	4,066	-20.3	43	266	10.3
550	29	4,705	-24.0	40	281	10.3
500	29	5,397	-28.5	39	284	12.0
450	29	6,139	-33.6		295	14.8
400	29	6,961	-39.0		294	19.6
350	29	7,865	-44.7		289	24.1
300	29	8,885	-49.5		284	26.8
250	28	10,068	-51.0		287	25.1
200	28	11,529	-48.2		284	20.6
175	28	12,411	-47.4		280	17.1
150	28	13,430	-47.4		279	15.2
125	28	14,635	-47.9		276	12.4
100	28	16,104	-48.6		270	9.9
80	28	17,572	-48.4		261	7.2
70	28	18,454	-48.3		258	6.0
60	27	19,466	-48.0		254	3.5
50	26	20,669	-47.9		258	1.4
40	26	22,141	-47.8		108	1.9
30	26	24,041	-47.4		76	3.3
25	26	25,248	-47.0		83	4.1
20	25	26,736	-46.4		74	8.2
15	23	28,656	-45.1		83	9.1
10	14	31,410	-42.4			
7	6	33,831	-41.4			

LAKE CHARLES, LA. 1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	19.6	93	111	3.5
1000	31	140	21.6	79	138	5.6
950	31	583	20.0	70	157	9.3
900	31	1,050	17.9	58	167	9.7
850	31	1,538	16.0	48	182	9.7
800	31	2,051	13.6	43	192	5.8
750	31	2,589	11.0	36	245	4.9
700	31	3,165	7.8	33	277	6.2
650	31	3,770	3.8	31	276	8.5
600	31	4,418	- .3	35	262	8.7
550	31	5,103	- 4.9	33	263	9.9
500	31	5,851	-10.0	32	264	12.8
450	31	6,653	-15.3		258	15.0
400	31	7,537	-21.4		262	17.1
350	31	8,508	-28.3		261	21.2
300	31	9,594	-36.8		266	26.4
250	31	10,830	-46.5		272	32.6
200	31	12,275	-57.1		274	37.5
175	31	13,111	-61.1		276	39.2
150	31	14,061	-63.7		275	34.2
125	31	15,179	-64.2		283	28.6
100	31	16,538	-66.4		289	18.8
80	31	17,885	-67.2		298	7.2
70	31	18,699	-65.4		341	3.1
60	31	19,639	-62.4		53	4.7
50	31	20,773	-58.7		67	5.8
40	31	22,191	-53.7		85	7.2
30	29	24,057	-49.6		76	5.6
25	29	25,256	-47.6		79	5.6
20	27	26,743	-44.1		89	2.1
15	21	28,699	-40.9		287	.8
10	10	31,530	-34.6			

LANDER, WYO. 826 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,696	6.7	59	231	1.9
1000	31	97				
950	31	527				
900	31	985				
850	31	1,463				
800	31	1,965	8.6	46	282	1.7
750	31	2,488	5.2	46	267	3.1
700	31	3,056	1.6	47	262	6.8
650	31	3,645	- 2.5	49	260	10.1
600	31	4,279	- 7.3	51	250	15.5
550	31	4,943	-12.2	51	248	18.6
500	31	5,674	-17.4	45	243	19.6
450	31	6,451	-23.1	40	242	18.6
400	31	7,309	-29.5	39	245	21.2
350	31	8,247	-37.0		246	23.7
300	31	9,295	-44.9		244	27.0
250	31	10,495	-51.6		247	31.9
200	31	11,925	-56.0		247	34.2
175	31	12,772	-56.8		246	30.5
150	30	13,748	-55.4		247	27.8
125	30	14,912	-55.2		245	25.6
100	30	16,332	-56.7		248	17.5
80	30	17,743	-57.7		236	8.4
70	30	18,585	-57.6		238	5.8
60	30	19,559	-57.1		274	1.7
50	30	20,715	-56.0		71	2.1
40	30	22,138	-54.6		63	5.1
30	29	23,989	-52.2		74	7.4
25	29	25,173	-50.3		74	9.3
20	28	26,643	-47.4		79	10.1
15	26	28,557	-43.4		80	8.7

LAS VEGAS, NEV. 936 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	660	16.2	30	211	7.4
1000	31	89				
950	31	530				
900	31	995	17.6	30	234	7.8
850	31	1,481	14.6	30	248	6.6
800	31	1,990	10.9	32	225	7.4
750	31	2,516	6.9	35	215	8.0
700	31	3,086	2.6	36	224	11.1
650	31	3,672	- 1.6	36	230	12.6
600	31	4,314	- 5.7	30	240	15.3
550	31	4,980	-10.2	27	247	17.1
500	31	5,718	-15.5		249	20.8
450	31	6,498	-21.2		252	25.3
400	31	7,363	-27.7		250	28.9
350	31	8,310	-34.5		253	34.6
300	31	9,371	-42.0		256	38.9
250	31	10,582	-50.0		258	40.6
200	31	12,014	-57.4		256	47.4
175	31	12,854	-58.8		255	44.5
150	31	13,825	-57.4		252	40.2
125	30	14,982	-58.4		251	32.1
100	28	16,383	-60.3		247	23.5
80	24	17,784	-61.3		235	14.0
70	24	18,612	-60.9		225	7.8
60	23	19,571	-59.7		204	3.3
50	22	20,717	-57.8		92	4.1
40	20	22,134	-55.3		74	6.2
30	19	23,990	-52.0		85	6.0
25	18	25,172	-49.8		84	3.1
20	16	26,643	-46.5		63	4.9
15	13	28,568	-43.4		112	1.0

* LIHUE, HAWAII 1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	36	22.5	76	66	11.3
1000	31	162	21.6	76	73	13.8
950	31	601	17.8	85	80	17.1
900	31	1,067	14.4	85	81	16.1
850	31	1,548	11.5	79	81	15.8
800	31	2,054	9.3	63	80	11.8
750	31	2,587	7.6	42	80	9.5
700	31	3,155	5.5	26	66	4.5
650	31	3,754	2.7	26	335	2.3
600	31	4,402	- .4	30	323	4.5
550	30	5,091	- 4.2	32	296	8.5
500	30	5,839	- 8.6	32	292	12.0
450	30	6,642	-13.8	30	289	16.7
400	30	7,534	-19.9	30	288	21.8
350	30	8,511	-27.1	26	284	25.1
300	30	9,603	-35.7	25	284	30.7
250	30	10,845	-45.6		282	41.4
200	30	12,294	-57.0		280	54.2
175	30	13,128	-62.5		279	56.3
150	30	14,066	-67.6		281	52.3
125	29	15,156	-70.8		277	45.6
100	26	16,474	-72.4		276	29.5
80	26	17,795	-68.7		277	18.3
70	26	18,600	-65.7		276	12.4
60	26	19,541	-63.1		310	3.9
50	26	20,669	-60.6		90	7.4
40	25	22,072	-56.0		88	15.3
30	25	23,923	-51.4		92	19.8
25	25	25,114	-48.6		83	18.3
20	24	26,585	-46.5		82	18.1
15	24	28,506	-43.4		81	16.9
10	24	31,255	-39.9		92	16.5
7	18	33,710	-35.7		85	18.5
5	13	36,076	-32.3			
4	5	37,621	-30.1			

LITTLE ROCK, ARK. 1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	79	17.1	87	219	1.2
1000	31	143	18.3	80	213	1.2
950	31	582	18.1	68	218	6.4
900	31	1,045	15.5	69	229	9.1
850	31	1,530	13.7	62	235	11.1
800	31	2,039	11.6	56	243	9.3
750	31	2,569	8.5	52	244	10.9
700	31	3,144	4.9	49	256	12.4
650	31	3,741	1.4	42	266	12.4
600	31	4,386	- 2.7	39	266	14.2
550	30	5,065	- 6.8	34	263	15.0
500	30	5,809	-11.7		264	16.7
450	30	6,600	-17.1		261	20.0
400	30	7,483	-23.3		269	20.4
350	30	8,447	-30.4		272	23.1
300	30	9,525	-38.6		271	28.2
250	30	10,753	-47.8		275	33.6
200	30	12,192	-58.0		279	31.9
175	30	13,027	-60.8		285	33.0
150	30	13,983	-61.7		286	28.9
125	30	15,112	-62.1		296	22.9
100	30	16,486	-64.0		306	16.3
80	30	17,846	-65.6		318	7.0
70	30	18,662	-64.0		351	4.9
60	30	19,611	-61.7		45	5.6
50	30	20,746	-58.9		61	6.4
40	29	22,156	-55.2		73	6.6
30	27	24,009	-51.6		72	5.6
25	26	25,198	-49.6		76	6.8
20	25	26,670	-46.9		95	6.0
15	22	28,587	-43.5		70	5.4
10	13	31,343	-38.0			

MCGRATH, ALASKA 1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	103	- 1.0	81	268	2.5
1000	31	135			329	2.9
950	31	542	- .9	69	6	3.5
900	31	976	- 3.7	70	53	2.7
850	31	1,426	- 6.2	70	349	1.7
800	31	1,898	- 8.5	66	329	3.1
750	31	2,394	-10.7	64	317	4.9
700	31	2,925	-13.3	59	312	6.2
650	31	3,483	-16.6	57	301	7.2
600	31	4,084	-20.1	56	299	9.7
550	31	4,720	-23.8	53	315	13.6
500	31	5,416	-27.9	50	311	14.8
450	31	6,158	-32.8	47	312	17.5
400	31	6,986	-38.4		314	22.0
350	31	7,893	-43.8		307	23.7
300	31	8,918	-47.9		304	28.9
250	31	10,116	-49.0		303	27.8
200	31	11,584	-48.2		299	23.7
175	31	12,464	-47.9		298	20.0
150	31	13,480	-48.0		292	15.9
125	31	14,680	-48.7		287	11.5
100	31	16,145	-49.1		288	6.6
80	30	17,609	-49.5		285	4.9
70	30	18,483	-49.3		300	3.5
60	30	19,494	-49.1		300	1.4
50	30	20,691	-48.8		107	1.2
40	30	22,158	-48.5		98	3.7
30	28	24,051	-48.1		76	3.7
25	24	25,267	-47.4		75	6.4
20	21	26,752	-46.5		79	8.9
15	14	28,680	-44.7			

MAJURO, MARSHALL IS. * 1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	28.4	79	90	7.4
1000	31	92	27.3	79	93	8.4
950	31	543	23.6	79	93	11.1
900	31	1,017	20.8	78	93	13.6
850	31	1,511	18.4	77	91	13.6
800	31	2,030	15.8	73	93	12.4
750	31	2,574	13.3	68	96	11.5
700	31	3,156	10.4	61	102	10.7
650	31	3,768	6.8	58	99	9.5
600	31	4,424	3.0	59	100	8.5
550	31	5,117	- .7	57	104	5.2
500	31	5,882	- 5.0	57	120	1.9
450	31	6,700	- 9.6	53	142	1.7
400	31	7,606	-14.8	45	280	1.9
350	31	8,604	-21.4	38	278	4.5
300	31	9,723	-29.7		291	6.2
250	31	10,997	-40.0		274	11.1
200	31	12,481	-52.5		274	14.6
175	31	13,330	-59.6		272	19.0
150	31	14,277	-67.2		269	23.3
125	31	15,356	-74.9		270	24.5
100	30	16,632	-79.5		275	13.8
80	30	17,910	-73.9		271	8.2
70	29	18,701	-67.4		269	7.2
60	28	19,641	-63.7		265	9.3
50	26	20,773	-60.3		260	14.0
40	25	22,174	-57.0		278	13.2
30	24	24,010	-53.6		266	4.5
25	22	25,192	-50.1		94	10.1
20	16	26,665	-48.0		94	25.3
15	9	28,587	-43.0			
10	6	31,369	-36.8			

*1/MARCUS IS., N. PACIFIC 1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	23.9	83	106	8.0
1000	31	115	22.8	82	104	8.2
950	31	558	19.7	81	114	8.2
900	31	1,025	16.7	82	126	6.2
850	31	1,512	14.7	70	145	3.7
800	31	2,024	12.8	61	143	2.9
750	31	2,561	10.3	57	197	2.5
700	31	3,137	7.3	52	219	2.7
650	31	3,741	4.1	48	253	3.7
600	31	4,391	.4	47	261	5.4
550	31	5,079	- 3.6	42	268	6.0
500	31	5,832	- 7.9	32	266	7.8
450	31	6,635	-12.9	32	264	8.9
400	31	7,533	-18.8	33	267	10.1
350	31	8,514	-25.8	29	271	12.0
300	31	9,613	-34.3	27	274	16.5
250	31	10,863	-44.0		278	21.6
200	31	12,323	-55.5		283	28.7
175	31	13,163	-61.4		289	32.1
150	31	14,105	-66.8		292	29.1
125	30	15,194	-71.5		289	21.6
100	26	16,504	-74.1		304	14.4
80	24	17,806	-72.5		335	5.1
70	24	18,596	-69.6		58	3.3
60	23	19,525	-65.3		67	4.9
50	22	20,650	-60.0		69	8.9
40	21	22,054	-55.4		91	12.6
30	21	23,906	-51.6		81	9.3
25	21	25,097	-49.0		57	10.1
20	19	26,573	-46.4		51	10.7
15	18	28,500	-43.2		83	5.8
10	18	31,259	-38.5		108	2.9
7	17	33,734	-34.2		54	4.1
5	14	36,099	-32.1		106	8.2
4	6	37,691	-30.9			

MEDFORD, OREG. 971 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	401	6.2	83	305	1.4
1000	31	156				
950	31	579	8.2	70	302	2.9
900	31	1,026	6.6	70	306	2.7
850	31	1,493	4.1	71	304	2.1
800	31	1,985	2.1	63	283	2.9
750	31	2,499	- .6	54	263	5.2
700	31	3,052	- 3.7	49	266	8.0
650	31	3,627	- 6.9	39	263	10.7
600	31	4,255	-10.4	35	262	11.3
550	31	4,914	-14.6	40	264	14.0
500	31	5,636	-19.3	37	265	15.9
450	31	6,404	-24.8	37	266	17.3
400	31	7,258	-31.0		272	19.8
350	31	8,192	-37.6		273	24.3
300	31	9,238	-45.0		264	26.0
250	31	10,435	-52.6		253	30.7
200	31	11,860	-57.4		251	33.6
175	31	12,735	-56.7		251	29.7
150	31	13,685	-55.2		245	28.0
125	31	14,851	-54.7		244	22.7
100	30	16,275	-55.1		246	15.5
80	30	17,697	-56.0		230	8.7
70	30	18,544	-56.3		220	5.2
60	30	19,525	-55.9		195	3.9
50	30	20,686	-55.7		141	2.9
40	30	22,108	-55.1		89	4.0
30	30	23,950	-53.6		83	5.8
25	29	25,127	-51.8		72	7.2
20	28	26,586	-48.9		82	6.8
15	24	28,519	-44.5		78	9.1
10	20	31,258	-39.1		89	9.5
7	13	33,731	-35.0		109	8.0
5	8	36,050	-30.7			
4						

* MIAMI, FLA. 1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	22.5	86	349	1.9
1000	31	141	22.7	81	60	3.5
950	31	595	19.5	83	97	5.4
900	31	1,052	16.9	71	93	4.5
850	31	1,539	14.8	61	104	1.4
800	31	2,050	12.5	53	224	.6
750	31	2,587	10.3	47	261	2.1
700	31	3,163	7.4	43	282	3.9
650	31	3,767	4.0	38	288	5.4
600	31	4,416	.3	37	297	6.2
550	31	5,101	- 4.0	37	294	8.5
500	31	5,855	- 8.8	36	298	9.9
450	31	6,657	-14.3	37	292	11.7
400	31	7,547	-20.7	34	289	13.8
350	31	8,521	-27.9	32	288	17.1
300	31	9,609	-36.4	31	286	21.4
250	31	10,847	-46.4		284	25.3
200	31	12,292	-57.5		282	33.4
175	31	13,125	-62.6		283	34.2
150	31	14,066	-66.5		281	29.1
125	31	15,163	-68.4		284	20.2
100	31	16,496	-69.6		313	11.8
80	31	17,825	-69.1		11	4.5
70	31	18,633	-67.1		56	5.8
60	31	19,557	-63.1		61	6.8
50	31	20,698	-59.5		79	9.7
40	30	22,108	-54.9		90	11.1
30	29	23,964	-51.0		80	10.7
25	29	25,157	-48.6		77	11.5
20	27	26,629	-46.1		78	10.7
15	27	28,560	-42.2		56	5.4
10	21	31,352	-35.9		266	4.3
7	15	33,827	-32.9		244	7.8
5	13	36,199	-29.4			
4	7	37,786	-27.0			

* MIDLAND, TEXAS 914 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	874	17.4	62	167	5.8
1000	31	95				
950	31	542				
900	31	1,007	18.0	61	170	9.5
850	31	1,496	17.5	54	200	16.3
800	31	2,013	15.8	41	218	14.2
750	31	2,555	12.2	36	222	12.2
700	31	3,132	8.1	37	231	10.9
650	31	3,737	3.4	37	245	12.2
600	31	4,383	- 1.6	41	251	15.5
550	31	5,064	- 6.8	42	253	19.6
500	31	5,807	-11.8	44	251	22.5
450	31	6,601	-17.1	40	247	27.6
400	31	7,481	-23.1	37	252	33.4
350	31	8,444	-30.5	37	254	37.5
300	31	9,521	-39.0	35	252	45.5
250	31	10,745	-48.7		256	52.6
200	31	12,179	-58.1		263	53.2
175	31	13,013	-60.8		262	51.5
150	31	13,970	-61.8		268	47.2
125	31	15,092	-64.1		267	41.0
100	30	16,450	-66.4		269	30.1
80	30	17,796	-67.6		273	15.2
70	30	18,609	-66.2		283	3.5
60	29	19,544	-62.7		73	6.4
50	29	20,676	-59.6		79	8.9
40	27	22,084	-55.3		81	8.5
30	26	23,942	-51.1		70	6.6
25	25	25,128	-49.8		66	6.6
20	25	26,595	-47.2		61	4.1
15	25	28,511	-44.1		319	2.1
10	9	31,271	-39.2			

MONTGOMERY, ALA. 1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	17.5	90	35	1.0
1000	31	154	18.8	81	30	.8
950	31	591	18.5	68	41	.8
900	31	1,058	15.9	68	166	.6
850	31	1,542	13.9	59	253	1.2
800	31	2,052	11.6	51	278	2.3
750	31	2,590	9.1	44	290	3.7
700	31	3,159	6.6		282	6.0
650	31	3,761	3.2		280	8.0
600	31	4,408	- .8		279	10.5
550	31	5,090	- 5.3		282	14.0
500	31	5,838	-10.5		277	15.3
450	31	6,640	-16.1		271	14.4
400	31	7,517	-22.4		282	18.3
350	31	8,485	-29.4		285	21.8
300	31	9,567	-37.9		281	23.1
250	31	10,798	-47.6		288	28.4
200	31	12,237	-57.8		287	33.2
175	29	13,076	-61.8		289	30.1
150	29	14,025	-63.9		286	30.5
125	29	15,144	-63.9		287	25.1
100	29	16,507	-65.7		289	17.1
80	29	17,857	-66.6		294	9.7
70	29	18,671	-65.5		316	6.2
60	29	19,610	-62.6		8	4.3
50	29	20,742	-59.2		49	4.3
40	27	22,151	-55.2		80	5.8
30	25	24,005	-51.1		76	5.1
25	22	25,194	-49.4		68	4.5
20	18	26,657	-46.6		98	1.7
15	9	28,588	-43.3			

NANTUCKET, MASS. 1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	14	11.0	79	239	3.7
1000	28	138	11.7	70	230	4.5
950	28	568	13.4	57	273	9.7
900	28	1,024	10.9	53	278	10.1
850	28	1,498	8.4	50	278	11.8
800	28	1,997	5.9	44	276	14.6
750	28	2,521	3.4	40	274	17.5
700	28	3,081	.5	38	275	18.1
650	28	3,667	- 2.9	37	277	20.8
600	28	4,302	- 6.8		276	24.7
550	28	4,971	-10.8	36	277	24.3
500	27	5,708	-15.6		275	27.4
450	27	6,488	-20.9		272	30.9
400	27	7,356	-27.2		271	32.2
350	26	8,301	-34.7		267	33.6
300	26	9,359	-42.4		276	32.8
250	26	10,568	-50.7		275	36.9
200	26	11,997	-57.5		277	35.0
175	26	12,836	-59.2		281	34.4
150	26	13,801	-59.1		278	29.9
125	26	14,948	-57.8		284	23.9
100	26	16,352	-59.1		283	19.4
80	26	17,751	-58.7		288	11.7
70	26	18,596	-58.1		297	8.0
60	26	19,565	-56.3		307	5.1
50	26	20,728	-54.2		324	2.7
40	26	22,166	-52.1		112	2.3
30	25	24,032	-50.1		83	5.1
25	25	25,227	-48.2		78	6.4
20	24	26,706	-45.4		84	5.2
15	21	28,652	-41.7		79	7.8
10	5	31,448	-35.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NASHVILLE, TENN.
997 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	177	15.7	90	103	1.6
1000	31	152				
950	31	589	17.9	63	214	6.2
900	31	1,052	15.0	63	240	9.1
850	31	1,534	12.5	56	259	9.5
800	31	2,041	10.1	45	260	9.3
750	31	2,572	7.2	43	265	9.3
700	31	3,139	3.8	40	274	10.3
650	31	3,734	.1	40	276	11.5
600	31	4,374	- 3.8	40	281	13.0
550	31	5,052	- 7.8	39	270	17.1
500	31	5,791	-12.4	34	267	21.4
450	31	6,581	-17.7		269	23.7
400	31	7,459	-24.2		267	26.6
350	31	8,419	-31.1		271	30.1
300	31	9,492	-39.4		269	30.7
250	31	10,715	-48.7		274	34.4
200	31	12,147	-58.4		282	40.0
175	31	12,980	-61.4		279	39.2
150	31	13,934	-62.1		276	34.0
125	31	15,061	-61.8		277	31.1
100	30	16,437	-63.1		286	22.0
80	30	17,805	-63.8		288	11.8
70	30	18,628	-63.4		300	7.6
60	29	19,574	-61.3		344	4.9
50	29	20,711	-58.9		38	3.7
40	29	22,123	-55.2		54	3.9
30	29	23,973	-52.1		61	2.7
25	29	25,158	-49.9		56	3.5
20	29	26,625	-47.3		68	2.9
15	29	28,542	-44.1		310	.4
10	25	31,297	-38.9		283	3.5
7	13	33,733	-36.0			
5						

NOME, ALASKA
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	7	- 4.1	87	160	1.0
1000	31	134	- 2.3	74	175	1.2
950	31	542	- 3.2	64	228	3.5
900	31	968	- 4.6	60	209	5.4
850	31	1,417	- 6.3	58	223	5.1
800	31	1,889	- 8.6	54	240	4.5
750	31	2,385	-10.2	50	262	5.4
700	31	2,917	-12.7	50	273	6.6
650	31	3,476	-15.6	49	278	7.8
600	31	4,080	-19.1	45	281	10.1
550	31	4,718	-22.9	43	281	12.8
500	31	5,415	-27.1	45	282	14.8
450	31	6,159	-32.0	45	282	17.5
400	31	6,990	-37.6		286	19.4
350	31	7,899	-43.6		286	22.5
300	31	8,922	-49.5		284	25.6
250	31	10,109	-51.4		289	23.9
200	31	11,566	-49.0		288	20.8
175	31	12,445	-48.1		289	16.3
150	31	13,460	-48.3		281	15.5
125	31	14,659	-49.0		282	13.0
100	31	16,122	-49.4		275	7.8
80	31	17,582	-49.8		274	7.4
70	31	18,455	-49.6		272	5.1
60	31	19,465	-49.2		268	3.3
50	31	20,662	-48.6		253	1.0
40	30	22,132	-48.5		49	.6
30	30	24,024	-48.4		88	2.9
25	30	25,224	-47.9		84	4.3
20	30	26,699	-46.8		78	4.5
15	24	28,614	-44.9		71	5.4
10	10	31,335	-41.4			
7						
5						

NORFOLK, VA.
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	15.8	80	8	1.7
1000	31	151	16.5	63	339	3.1
950	31	589	16.3	55	345	7.4
900	31	1,048	14.2	53	332	5.6
850	31	1,529	11.8	50	303	6.8
800	31	2,034	9.0	43	286	9.9
750	31	2,564	6.5	38	285	11.3
700	31	3,130	3.3	35	279	13.4
650	31	3,723	- .3	33	275	17.1
600	31	4,363	- 3.9		277	19.8
550	31	5,037	- 7.9		284	21.1
500	31	5,780	-12.4		282	25.3
450	31	6,571	-18.1		279	27.0
400	31	7,447	-24.5		280	28.6
350	31	8,406	-31.7		283	30.5
300	31	9,478	-39.6		283	35.0
250	31	10,701	-48.7		283	37.7
200	31	12,134	-58.4		286	41.6
175	31	12,968	-61.0		289	39.2
150	31	13,923	-61.4		288	33.0
125	31	15,056	-60.8		289	27.6
100	31	16,441	-61.4		284	19.2
80	30	17,820	-62.2		294	11.8
70	30	18,655	-61.0		307	7.4
60	30	19,610	-59.0		342	5.1
50	30	20,761	-55.8		37	2.9
40	30	22,191	-52.8		59	3.5
30	28	24,055	-49.9		72	5.1
25	27	25,254	-47.5		81	4.3
20	22	26,733	-45.1		109	4.5
15	12	28,668	-41.2			
10						
7						
5						

NORTH PLATTE, NEBR.
914 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	848	9.9	77	61	2.3
1000	31	95				
950	31	530				
900	31	981	11.9	69	103	2.9
850	31	1,460	12.9	48	217	5.4
800	31	1,968	10.7	43	233	7.0
750	31	2,501	7.4	43	237	10.1
700	31	3,067	3.7	45	243	14.6
650	31	3,660	- .5	46	250	16.5
600	31	4,299	- 5.4	50	254	17.1
550	31	4,968	-10.6	48	258	19.5
500	31	5,701	-15.9	43	256	19.4
450	31	6,480	-21.2	42	252	23.3
400	31	7,346	-27.4	39	247	27.2
350	31	8,293	-34.4		244	29.7
300	31	9,353	-42.3		243	32.4
250	31	10,564	-50.6		246	35.2
200	31	11,994	-56.8		255	37.9
175	31	12,837	-57.8		256	36.1
150	30	13,815	-57.1		255	35.2
125	30	14,970	-57.1		264	26.4
100	30	16,377	-58.9		258	18.8
80	29	17,770	-60.1		264	10.7
70	27	18,613	-59.2		256	5.8
60	26	19,577	-58.1		200	2.1
50	26	20,729	-56.4		98	1.9
40	26	22,152	-54.6		88	4.3
30	26	24,003	-52.3		84	6.2
25	26	25,187	-50.5		78	6.4
20	26	26,651	-47.7		81	5.4
15	26	28,566	-43.9		97	7.4
10	21	31,314	-38.3		100	7.4
7	9	33,836	-34.9			
5						

OAKLAND, CALIF.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	10.2	84	255	4.9
1000	31	142	9.4	83	254	5.2
950	31	568	8.2	76	273	6.6
900	31	1,015	9.4	52	288	8.2
850	31	1,487	7.6	47	272	6.4
800	31	1,985	5.3	44	250	5.8
750	31	2,506	2.6	38	237	6.8
700	31	3,065	- .8	33	245	8.5
650	31	3,649	- 3.8	32	260	11.1
600	31	4,282	- 7.5	32	265	14.6
550	31	4,945	-11.9	29	269	17.3
500	31	5,678	-17.0	28	268	20.4
450	31	6,455	-22.5	30	268	23.5
400	31	7,317	-28.5	30	269	26.0
350	31	8,260	-35.4	32	268	29.1
300	31	9,317	-43.0		263	28.9
250	31	10,524	-51.1		263	30.3
200	30	11,961	-57.5		259	33.4
175	29	12,796	-58.4		254	33.6
150	29	13,768	-56.9		252	32.4
125	28	14,926	-56.7		248	30.3
100	28	16,336	-57.9		241	20.2
80	27	17,745	-58.6		234	11.8
70	27	18,583	-58.4		227	6.8
60	27	19,557	-57.6		182	3.1
50	26	20,711	-56.7		131	2.5
40	25	22,131	-55.3		104	3.5
30	24	23,975	-53.1		80	4.5
25	24	25,154	-51.5		73	2.7
20	24	26,611	-48.9		85	3.3
15	24	28,519	-44.7		104	1.7
10	22	31,268	-38.5		57	2.3
7	14	33,754	-32.2		81	4.5
5	6	36,218	-26.5			

OKLAHOMA CITY, OKLA.
969 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	392	16.2	87	150	6.6
1000	31	118				
950	31	558	17.8	74	174	12.4
900	31	1,021	16.8	64	207	18.6
850	31	1,507	15.1	56	225	18.1
800	31	2,019	12.5	48	236	15.9
750	31	2,557	9.1	46	242	15.7
700	31	3,126	5.4	44	248	16.7
650	31	3,724	1.3	42	246	16.9
600	31	4,367	- 3.1	39	254	16.7
550	31	5,045	- 7.7	37	255	18.8
500	30	5,786	-12.6		253	21.8
450	30	6,576	-18.0		250	25.1
400	30	7,453	-24.3		252	27.6
350	30	8,412	-31.6		254	30.7
300	30	9,484	-39.7		254	34.8
250	30	10,706	-49.1		256	40.0
200	30	12,138	-58.2		259	46.4
175	30	12,972	-60.9		263	45.8
150	30	13,930	-60.8		264	41.2
125	30	15,062	-61.4		267	34.8
100	30	16,439	-63.7		268	23.7
80	30	17,804	-64.4		274	10.9
70	30	18,625	-63.5		262	6.2
60	30	19,571	-61.8		18	.8
50	30	20,706	-59.1		71	3.7
40	29	22,116	-55.5		74	4.7
30	28	23,962	-52.2		67	3.5
25	28	25,146	-50.3		57	3.3
20	27	26,610	-47.6		348	1.9
15	16	28,508	-45.0		43	1.4
10	6	31,297	-40.3			
7						
5						

OMAHA, NEBR.
966 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	403	14.9	78	165	5.2
1000	31	103				
950	31	539	15.7	70	175	6.6
900	31	1,000	14.7	62	221	12.0
850	31	1,482	12.9	53	234	14.6
800	31	1,990	10.2	50	240	16.5
750	31	2,519	7.1	43	244	17.1
700	31	3,088	3.3	42	245	18.1
650	31	3,680	- .7	38	248	18.3
600	31	4,320	- 5.3	39	250	20.0
550	31	4,991	-10.1	38	251	20.4
500	31	5,726	-15.3	39	254	23.3
450	31	6,509	-20.4		258	26.2
400	31	7,378	-26.6		256	30.1
350	31	8,329	-33.4		259	34.8
300	31	9,393	-41.5		261	36.3
250	31	10,606	-50.4		262	40.6
200	31	12,036	-57.5		259	44.3
175	31	12,875	-59.5		261	43.5
150	31	13,842	-58.1		268	37.1
125	30	14,990	-57.3		270	28.2
100	29	16,394	-59.1		271	19.6
80	29	17,787	-60.5		267	12.0
70	29	18,626	-59.3		264	6.2
60	29	19,587	-58.7		261	1.0
50	29	20,736	-57.2		26	2.5
40	26	22,156	-55.1		72	5.2
30	26	24,006	-52.3		92	5.4
25	26	25,189	-50.9		83	5.2
20	25	26,648	-48.6		87	4.3
15	21	28,542	-44.7		97	1.0
10	11	31,296	-39.8			
7						
5						

PEORIA, ILL.
993 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	200	13.9	79	161	3.1
1000	31	141				
950	31	578	16.3	60	224	9.1
900	31	1,035	14.1	57	255	10.9
850	31	1,516	11.7	50	268	12.4
800	31	2,021	8.9	48	273	14.0
750	31	2,552	6.0	43	270	16.5
700	31	3,115	2.4	43	265	17.7
650	31	3,709	- 1.3	41	268	18.1
600	31	4,344	- 5.3	38	266	19.2
550	31	5,014	- 9.5	36	267	22.0
500	31	5,752	-14.3	37	267	23.7
450	31	6,535	-19.9		265	26.4
400	31	7,406	-25.9		271	29.1
350	31	8,360	-32.8		271	32.6
300	31	9,426	-41.0		271	36.5
250	31	10,641	-49.9		273	38.9
200	31	12,070	-58.4		275	45.1
175	31	12,906	-59.8		278	46.8
150	30	13,866	-58.6		279	37.3
125	30	15,013	-58.5		278	27.0
100	30	16,410	-59.8		284	20.4
80	30	17,802	-60.4		287	10.1
70	30	18,638	-59.9		303	5.6
60	30	19,600	-59.1		358	3.1
50	30	20,748	-57.4		55	4.9
40	30	22,168	-54.6		60	5.1
30	29	24,023	-51.8		65	6.0
25	29	25,211	-49.6		78	6.2
20	29	26,681	-47.2		81	7.2
15	29	28,601	-43.3		91	5.8
10	27	31,356	-37.5		83	5.8
7	17	33,874	-32.8		333	2.1
5	9	36,253	-29.1			

PITTSBURGH, PA.
976 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	353	12.0	78	212	1.7
1000	31	154				
950	31	584	13.5	65	237	6.2
900	31	1,040	11.7	61	263	9.9
850	31	1,516	9.0	59	277	12.6
800	31	2,016	6.7	52	284	14.8
750	31	2,543	3.9	46	284	17.7
700	31	3,102	1.2	37	289	18.6
650	31	3,690	- 1.7	32	287	21.4
600	31	4,328	- 5.3		286	24.1
550	31	4,998	- 9.6		287	25.8
500	31	5,735	-14.5		288	28.7
450	31	6,516	-20.0		289	29.5
400	31	7,389	-26.3		286	31.1
350	31	8,341	-33.3		283	33.8
300	31	9,406	-41.4		286	38.1
250	31	10,620	-50.2		286	45.5
200	31	12,049	-57.5		287	50.1
175	31	12,888	-59.3		285	42.7
150	31	13,852	-59.5		284	37.5
125	31	14,992	-59.6		290	29.3
100	31	16,388	-59.7		296	22.0
80	31	17,783	-60.0		310	11.1
70	31	18,617	-59.9		320	8.5
60	31	19,582	-58.4		351	5.6
50	31	20,733	-56.4		21	4.5
40	31	22,158	-53.6		49	4.3
30	31	24,018	-50.8		61	4.5
25	31	25,210	-48.8		67	4.9
20	29	26,681	-46.6		78	4.7
15	28	28,599	-43.2		74	4.7
10	21	31,359	-36.9		112	3.3
7	9	33,834	-32.8			
5	5	36,247	-27.7			

POINT ARGUELLO, CALIF.
1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	113	8.3	97	322	4.9
1000	31	144	8.4	94	327	6.6
950	31	573	9.0	77	344	13.8
900	31	1,018	10.4	51	343	14.6
850	31	1,493	9.3	42	333	11.8
800	31	1,994	7.6	33	307	10.5
750	31	2,520	5.2	29	289	13.4
700	31	3,084	2.3	31	275	15.5
650	31	3,675	- 1.2	30	274	19.0
600	31	4,313	- 5.3	33	267	24.1
550	31	4,985	- 9.6	29	262	26.2
500	31	5,720	-14.5	28	267	29.9
450	31	6,502	-20.4	30	261	35.0
400	31	7,372	-26.7	30	261	41.4
350	31	8,321	-34.2	33	261	42.9
300	31	9,382	-42.0		259	46.4
250	31	10,594	-50.3		254	46.8
200	31	12,025	-57.5		256	58.7
175	31	12,864	-59.5		254	58.9
150	31	13,829	-58.8		251	55.8
125	31	14,973	-59.2		249	49.0
100	31	16,368	-60.1		250	34.8
80	31	17,757	-61.1		242	14.4
70	31	18,587	-60.7		219	6.6
60	31	19,549	-59.6		170	5.2
50	30	20,694	-58.3		88	7.2
40	30	22,104	-56.2		79	11.8
30	29	23,949	-53.3		75	10.5
25	29	25,128	-51.3		72	8.2
20	29	26,587	-48.4		55	7.0
15	26	28,494	-44.9		53	3.7
10	25	31,246	-38.6		32	3.9
7	22	33,716	-32.5		11	2.9
5	14	36,089	-26.8			

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	39	28.3	80	72	5.2
1000	31	81	27.9	80	75	6.4
950	31	528	24.3	81	88	10.7
900	31	1,009	21.2	81	96	13.0
850	31	1,504	18.7	78	92	14.4
800	31	2,023	16.1	73	89	12.2
750	31	2,566	13.3	69	93	11.3
700	31	3,150	10.2	68	96	9.1
650	31	3,761	6.8	66	95	8.5
600	31	4,419	3.2	67	94	7.4
550	31	5,115	- .4	64	93	6.0
500	31	5,879	- 4.5	62	100	4.1
450	31	6,700	- 9.1	54	98	6.0
400	31	7,608	-14.5	45	90	4.3
350	31	8,607	-21.0	37	109	3.3
300	31	9,727	-29.3		228	1.0
250	31	11,003	-39.4		277	3.5
200	31	12,490	-51.9		285	9.7
175	31	13,342	-58.9		294	11.7
150	31	14,292	-66.5		289	11.3
125	31	15,373	-74.5		281	11.5
100	31	16,649	-80.4		285	6.8
80	31	17,921	-74.7		282	5.1
70	31	18,709	-68.3		263	6.4
60	28	19,643	-63.4		258	12.8
50	27	20,774	-60.1		262	15.3
40	26	22,175	-57.1		273	15.9
30	23	24,005	-54.3		266	4.5
25	21	25,183	-51.6		103	7.2
20	15	26,649	-47.6		92	28.7
15	7	28,564	-44.0			
10						
7						

PORTLAND, ME.
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	20	10.8	74	294	2.5
1000	31	126	10.3	63	303	3.9
950	31	557	11.2	56	295	9.9
900	31	1,005	8.9	53	297	11.8
850	31	1,476	6.5	49	299	13.4
800	31	1,972	4.1	45	294	15.5
750	31	2,493	1.4	44	290	19.6
700	31	3,047	- 1.6	44	288	21.6
650	31	3,630	- 5.1	43	284	24.1
600	31	4,260	- 8.5	41	284	26.0
550	31	4,924	-12.7	37	281	29.9
500	31	5,652	-17.4	33	281	31.3
450	31	6,426	-22.8		278	32.8
400	31	7,288	-28.9	31	277	35.2
350	31	8,229	-35.9		279	40.6
300	31	9,284	-43.4		281	43.7
250	31	10,490	-50.7		285	48.2
200	31	11,927	-55.3		285	48.4
175	30	12,774	-55.6		283	41.6
150	30	13,755	-56.1		282	35.0
125	29	14,912	-56.4		281	29.3
100	29	16,327	-57.4		287	22.3
80	29	17,737	-57.2		295	12.6
70	29	18,590	-57.1		304	7.6
60	29	19,560	-55.6		330	4.7
50	29	20,726	-53.8		30	2.3
40	29	22,165	-52.1		69	4.1
30	27	24,038	-49.8		90	5.6
25	26	25,234	-48.0		85	6.4
20	19	26,710	-46.3		81	6.6
15	13	28,637	-43.0			
10	7	31,449	-35.2			
7	5	33,979	-29.3			

RAPID CITY, S. DAK.
902 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	966	10.1	69	293	3.5
1000	31	96				
950	31	527				
900	31	984			277	1.9
850	31	1,460	10.5	50	283	7.2
800	31	1,963	8.0	48	281	8.0
750	31	2,487	5.1	48	270	10.3
700	31	3,053	1.6	48	275	12.6
650	31	3,639	- 2.7	49	274	14.2
600	31	4,274	- 7.4	50	272	15.7
550	31	4,938	-12.1	46	264	19.0
500	31	5,668	-17.5	43	260	21.2
450	31	6,442	-22.8	41	255	23.7
400	31	7,302	-29.3	36	252	23.9
350	31	8,241	-36.7		253	25.8
300	31	9,290	-44.6		255	26.6
250	31	10,490	-51.8		254	35.0
200	31	11,919	-56.4		254	35.4
175	31	12,764	-57.1		254	35.7
150	31	13,744	-55.0		254	32.2
125	31	14,908	-55.6		254	24.9
100	31	16,327	-56.9		257	17.9
80	31	17,734	-58.2		254	8.5
70	30	18,580	-57.5		226	4.7
60	30	19,548	-57.1		245	.4
50	30	20,704	-56.1		66	3.9
40	30	22,129	-54.2		70	6.0
30	29	23,986	-51.7		77	10.1
25	29	25,173	-50.1		82	10.1
20	25	26,647	-47.3		78	10.1
15	16	28,553	-42.6		95	12.0
10						
7						

ST. CLOUD, MINN.
975 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	316	10.2	80	194	1.0
1000	31	107				
950	31	537	12.7	63	205	1.2
900	31	990	11.4	55	252	6.8
850	31	1,466	9.3	50	266	10.5
800	31	1,966	6.6	49	264	11.5
750	31	2,490	3.3	47	262	14.6
700	31	3,050	.2	46	267	17.3
650	31	3,633	- 3.6	46	267	20.0
600	31	4,268	- 7.5	43	272	22.3
550	31	4,930	-11.9	39	273	26.2
500	31	5,664	-16.8	39	272	29.3
450	31	6,436	-22.4	38	270	31.5
400	31	7,301	-28.4	36	268	33.8
350	31	8,245	-35.4		269	38.3
300	31	9,301	-43.3		267	44.1
250	31	10,505	-51.6		265	46.8
200	31	11,931	-57.3		267	47.8
175	31	12,775	-57.2		267	44.1
150	31	13,753	-55.3		277	35.4
125	31	14,918	-55.2		276	25.1
100	31	16,339	-56.5		279	18.5
80	31	17,750	-57.2		278	12.8
70	31	18,595	-56.9		283	8.7
60	31	19,571	-57.0		317	4.3
50	31	20,729	-55.6		42	4.1
40	30	22,158	-53.9		65	8.5
30	29	24,014	-51.6		78	8.9
25	27	25,197	-50.0		83	8.5
20	25	26,662	-48.0		76	8.9
15	18	28,546	-44.1		79	9.9
10						
7						

ST. PAUL IS., ALASKA
1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	10	.6	92	254	2.1
1000	31	157	- .3	87	268	4.7
950	31	568	- 1.6	77	268	6.8
900	31	996	- 2.4	70	262	7.8
850	31	1,450	- 3.0	63	265	10.3
800	31	1,928	- 4.7	60	267	10.7
750	31	2,437	- 6.7	61	273	12.4
700	31	2,971	- 9.1	56	274	13.6
650	31	3,544	-11.8	54	277	16.1
600	31	4,152	-15.2	48	282	18.3
550	31	4,803	-19.1	45	285	20.4
500	31	5,509	-23.2	41	283	22.0
450	31	6,270	-28.4	41	280	26.6
400	31	7,109	-33.7	44	282	29.5
350	31	8,034	-39.8		276	35.5
300	31	9,074	-46.0		275	36.1
250	31	10,271	-51.6		271	34.6
200	31	11,709	-53.9		276	31.3
175	31	12,567	-52.8		275	24.9
150	31	13,563	-52.4		273	18.6
125	31	14,739	-52.9		273	15.2
100	31	16,178	-53.0		278	10.7
80	31	17,616	-53.0		280	7.2
70	30	18,476	-52.7		281	5.2
60	30	19,470	-52.4		309	3.5
50	30	20,647	-52.0		17	1.6
40	29	22,097	-51.7		65	3.1
30	29	23,966	-51.1		79	5.2
25	29	25,153	-50.5		86	7.4
20	28	26,609	-49.6		83	6.8
15	26	28,508	-47.2		81	7.0
10	19	31,219	-43.3		58	6.8
7	6	33,661	-41.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALEM, OREG. 1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	6.8	87	211	2.3
1000	31	162	7.3	80	238	1.9
950	31	580	6.3	74	305	1.7
900	31	1,027	4.5	70	279	2.9
850	31	1,491	2.5	65	275	3.9
800	31	1,987	.4	57	282	6.0
750	31	2,492	- 2.3	49	275	8.4
700	31	3,041	- 4.9	47	265	9.9
650	31	3,615	- 8.4	47	271	11.3
600	31	4,237	-11.8	41	273	13.4
550	31	4,893	-15.8	38	266	14.0
500	31	5,611	-20.7	37	261	16.9
450	31	6,377	-26.0	37	263	19.0
400	31	7,224	-32.3	39	264	21.2
350	31	8,153	-38.8		264	24.1
300	31	9,196	-45.6		270	26.6
250	31	10,391	-52.7		271	30.1
200	31	11,815	-56.3		271	28.0
175	31	12,665	-55.1		261	24.9
150	31	13,652	-53.9		257	21.6
125	31	14,824	-53.5		249	17.3
100	31	16,258	-54.1		239	11.8
80	31	17,688	-55.1		229	8.4
70	31	18,542	-54.9		215	6.4
60	31	19,526	-54.7		190	3.3
50	31	20,691	-55.2		151	2.3
40	31	22,117	-54.3		86	4.5
30	31	23,964	-53.2		87	6.6
25	31	25,143	-51.5		82	8.0
20	31	26,601	-48.0		73	8.4
15	31	28,515	-43.9		78	10.3
10	10	31,205	-38.2			
7						
5						

SALT LAKE CITY, UTAH 870 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,288	8.2	63	147	4.9
1000	31	116				
950	31	546				
900	31	1,004				
850	31	1,479	11.6	48	157	6.0
800	31	1,984	9.2	45	194	7.8
750	31	2,515	5.5	45	222	7.8
700	31	3,076	1.4	48	243	9.5
650	31	3,665	- 3.1	52	243	11.7
600	31	4,297	- 8.0	55	241	14.8
550	31	4,958	-12.8	52	240	16.9
500	31	5,688	-17.8	45	242	18.6
450	31	6,461	-23.3	41	243	21.8
400	31	7,320	-29.6	37	247	22.7
350	31	8,259	-36.8		245	20.8
300	31	9,309	-44.5		245	23.7
250	30	10,509	-51.0		248	27.6
200	30	11,941	-56.6		245	31.9
175	30	12,785	-57.5		244	31.3
150	30	13,761	-56.4		245	31.1
125	30	14,919	-56.1		246	27.2
100	30	16,333	-57.4		238	19.2
80	30	17,736	-59.0		231	12.0
70	30	18,581	-58.5		244	7.2
60	30	19,543	-58.1		192	2.1
50	30	20,693	-57.3		86	2.1
40	29	22,107	-55.5		82	5.2
30	28	23,951	-53.3		82	5.6
25	26	25,130	-51.7		76	5.8
20	24	26,580	-49.3		74	6.0
15	19	28,479	-46.2		66	4.1
10	5	31,104	-42.4			

SAN ANTONIO, TEXAS 987 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	243	20.0	87	147	3.1
1000	31	126				
950	31	567	19.5	83	166	11.3
900	31	1,034	17.4	73	171	15.7
850	31	1,522	15.7	63	179	15.3
800	31	2,036	13.2	57	190	11.7
750	31	2,574	11.1	43	201	8.4
700	31	3,150	7.9	42	226	6.2
650	31	3,753	3.9	36	244	8.0
600	31	4,404	- .7	35	245	9.9
550	31	5,087	- 5.4	37	242	12.0
500	31	5,836	-10.4	34	247	15.2
450	31	6,636	-15.6		254	19.6
400	31	7,521	-21.7		255	24.1
350	31	8,490	-29.0		258	28.4
300	31	9,573	-37.5		262	35.2
250	31	10,806	-47.3		264	41.0
200	30	12,251	-58.0		266	47.2
175	29	13,085	-62.3		269	46.6
150	29	14,032	-63.9		269	41.0
125	29	15,145	-65.5		269	33.6
100	29	16,492	-68.9		271	25.4
80	29	17,821	-69.8		274	12.4
70	29	18,623	-67.9		262	5.1
60	29	19,553	-64.7		90	2.1
50	29	20,677	-60.2		80	4.5
40	29	22,084	-55.9		96	7.2
30	29	23,930	-51.7		64	6.2
25	29	25,120	-49.0		62	5.4
20	29	26,591	-47.0		54	1.7
15	24	28,505	-43.7		291	2.3
10	10	31,280	-38.5			

SAN DIEGO, CALIF. 1001 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	124	12.2	84	270	.8
1000	31	131			294	.8
950	31	559	10.9	73	320	3.9
900	31	1,013	12.8	51	311	7.4
850	31	1,492	11.2	41	297	9.9
800	31	1,996	9.1	32	284	10.5
750	31	2,523	7.4		275	11.5
700	31	3,095	4.6		269	15.2
650	31	3,693	1.0		264	18.1
600	31	4,335	- 3.1		260	21.2
550	31	5,008	- 7.3		261	25.3
500	31	5,755	-12.6		257	29.5
450	31	6,544	-18.7		257	31.7
400	31	7,419	-25.0		255	37.9
350	31	8,376	-32.1		255	40.6
300	31	9,446	-40.1		255	46.2
250	31	10,667	-49.1		258	51.3
200	31	12,102	-57.9		259	56.9
175	31	12,938	-60.4		259	57.3
150	31	13,899	-59.8		255	53.8
125	31	15,038	-60.5		253	43.3
100	31	16,423	-61.7		250	29.1
80	30	17,799	-62.5		249	16.1
70	30	18,626	-62.5		239	9.3
60	30	19,578	-60.5		223	3.1
50	30	20,718	-58.8		91	1.7
40	30	22,127	-55.8		85	3.5
30	29	23,973	-52.1		63	2.9
25	27	25,162	-49.6		37	2.3
20	27	26,630	-47.2		293	2.3
15	23	28,544	-43.9		264	4.7
10	16	31,285	-38.1			

* SAN JUAN, P. R. 1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	6	25.8	77	134	2.9
1000	28	139	24.7	73	111	8.9
950	28	583	21.4	70	116	14.0
900	28	1,055	18.4	66	120	13.8
850	28	1,543	15.6	59	117	12.0
800	28	2,055	13.2	52	111	9.3
750	28	2,591	11.4	35	111	8.0
700	28	3,170	8.3	32	122	6.4
650	28	3,771	4.8	31	142	5.6
600	28	4,426	.9	29	169	5.1
550	28	5,110	- 3.1	28	207	5.8
500	28	5,869	- 7.6	25	249	7.2
450	28	6,672	-13.0	28	258	9.1
400	28	7,569	-19.1	28	256	14.4
350	28	8,549	-26.1	26	263	18.5
300	28	9,645	-34.3	24	271	23.5
250	27	10,894	-43.9		276	27.2
200	27	12,357	-55.1		276	38.3
175	27	13,197	-61.2		275	42.3
150	27	14,139	-67.2		275	38.1
125	27	15,224	-72.1		273	30.5
100	27	16,531	-73.2		276	18.5
80	27	17,844	-70.6		319	4.1
70	27	18,648	-67.2		47	2.3
60	26	19,583	-63.1		77	5.8
50	26	20,714	-60.0		77	10.9
40	25	22,119	-56.2		81	15.3
30	25	23,975	-50.0		97	20.2
25	25	25,172	-47.8		97	20.8
20	22	26,659	-44.7		83	23.5
15	22	28,602	-40.3		85	31.5
10	22	31,393	-36.2		91	32.1
7	20	33,900	-32.0		84	33.8
5	15	36,300	-27.7			

SANTA MONICA, CALIF. 1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	38	12.0	84	47	1.6
1000	31	129	11.7	81	73	1.9
950	31	559	11.4	71	48	2.1
900	31	1,012	12.4	48	332	4.1
850	31	1,490	10.6	41	294	6.2
800	31	1,993	8.4	32	274	9.3
750	31	2,523	5.9	27	272	10.5
700	31	3,087	3.2	27	265	15.3
650	31	3,678	- .2	28	265	17.9
600	31	4,320	- 4.4		262	21.2
550	31	4,992	- 8.8		260	23.5
500	31	5,733	-13.9		260	27.0
450	31	6,517	-19.8		260	30.1
400	31	7,389	-26.5		259	30.7
350	31	8,340	-33.8		260	31.7
300	31	9,404	-41.4		259	37.1
250	31	10,619	-49.9		255	42.5
200	31	12,050	-58.1		257	45.6
175	31	12,885	-60.5		257	45.6
150	31	13,846	-59.4		252	46.8
125	31	14,985	-60.3		249	41.8
100	31	16,372	-61.5		251	30.1
80	31	17,752	-62.4		244	16.7
70	31	18,583	-61.8		237	11.3
60	31	19,534	-60.6		221	4.9
50	31	20,673	-59.1		[illegible]	2.3
40	30	22,082	-56.5		123	3.9
30	30	23,921	-53.4		65	3.9
25	29	25,104	-51.3		72	4.1
20	28	26,566	-48.4		12	1.4
15	24	28,478	-45.0		147	1.0
10	9	31,216	-39.4			
7						

SAULT STE. MARIE, MICH. 988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	221	8.1	82	92	.6
1000	31	116				
950	31	541	9.8	66	260	6.8
900	31	990	9.0	56	272	13.6
850	31	1,462	6.5	55	281	16.5
800	31	1,957	3.8	53	281	17.5
750	31	2,477	.8	51	278	18.8
700	31	3,030	- 2.3	49	279	21.2
650	31	3,613	- 5.8	42	280	24.7
600	31	4,238	- 9.2	37	281	27.4
550	31	4,903	-13.3	33	284	30.5
500	31	5,625	-17.9	32	281	34.2
450	31	6,399	-23.3		280	37.3
400	31	7,256	-29.3		277	37.5
350	31	8,197	-36.3		281	43.1
300	30	9,241	-43.7		281	48.0
250	30	10,445	-51.2		280	50.9
200	30	11,878	-55.4		282	49.9
175	30	12,730	-55.2		282	42.5
150	30	13,715	-54.3		282	35.2
125	30	14,884	-54.6		283	26.4
100	30	16,310	-55.4		290	19.8
80	30	17,727	-56.4		302	13.8
70	30	18,577	-56.4		317	9.5
60	30	19,554	-55.8		341	6.4
50	30	20,716	-54.8		23	5.6
40	30	22,149	-53.0		61	5.8
30	29	24,015	-50.7		82	8.2
25	29	25,206	-49.1		90	8.0
20	28	26,677	-46.7		85	8.5
15	23	28,609	-42.7		87	8.9
10	9	31,379	-36.6			

SHEMYA, ALASKA 1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	38	2.5	85	244	7.6
1000	30	193	1.7	80	252	10.1
950	30	608	.9	73	258	12.6
900	30	1,040	.8	58	258	11.3
850	30	1,499	- .1	47	259	11.3
800	30	1,983	- 1.8	42	259	13.0
750	30	2,490	- 3.6	42	257	15.0
700	30	3,039	- 5.8	41	252	15.9
650	30	3,612	- 9.0	41	265	15.5
600	30	4,232	-12.7	43	278	18.6
550	30	4,885	-16.7	44	286	15.5
500	30	5,601	-21.3	42	278	18.8
450	30	6,367	-26.2	45	277	19.6
400	30	7,215	-31.6	47	276	23.9
350	30	8,146	-38.2		277	27.6
300	30	9,190	-46.0		284	30.5
250	30	10,382	-53.5		295	31.5
200	29	11,792	-56.7		288	25.4
175	29	12,642	-55.1		283	22.5
150	28	13,616	-54.2		284	20.4
125	27	14,781	-54.6		282	17.3
100	27	16,209	-54.6		277	12.8
80	27	17,639	-53.9		269	7.8
70	27	18,499	-53.5		262	5.4
60	27	19,490	-52.7		242	4.3
50	27	20,667	-52.6		215	1.4
40	27	22,109	-52.4		127	2.5
30	27	23,971	-51.6		92	3.7
25	27	25,157	-50.5		89	5.4
20	26	26,617	-48.9		76	5.2
15	23	28,519	-46.3		95	8.5
10	15	31,223	-42.3		122	5.8
7	7	33,684	-39.5			

* SHREVEPORT, LA. 1008 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	79	19.6	87	137	3.9
1000	31	146	20.1	82	153	5.8
950	31	591	18.7	71	182	10.7
900	31	1,052	16.7	63	199	11.1
850	31	1,538	14.6	51	213	10.1
800	31	2,049	12.3	54	230	8.9
750	31	2,588	9.2	46	249	8.7
700	31	3,157	5.9	39	263	10.1
650	31	3,757	2.2	37	268	12.0
600	31	4,401	- 2.1	37	265	13.2
550	31	5,085	- 6.6	34	259	14.2
500	31	5,826	-11.5	34	258	16.9
450	31	6,625	-16.7	31	257	19.6
400	31	7,503	-22.6	30	259	23.7
350	31	8,468	-29.9	29	260	28.2
300	31	9,547	-38.3	30	260	34.4
250	31	10,776	-47.8		266	38.5
200	31	12,212	-58.2		270	48.4
175	31	13,046	-61.4		271	43.3
150	31	13,999	-62.1		275	37.5
125	31	15,121	-63.5		276	32.1
100	31	16,486	-65.7		280	21.2
80	31	17,836	-66.7		283	9.7
70	31	18,655	-64.8		296	2.7
60	31	19,592	-62.5		50	3.3
50	30	20,726	-59.3		66	4.3
40	28	22,140	-54.4		78	4.3
30	28	23,997	-51.1		74	4.1
25	28	25,187	-49.2		69	4.5
20	28	26,660	-46.3		73	2.7
15	25	28,590	-42.9		347	.6
10	18	31,354	-38.8		310	2.5
7	6	33,813	-34.1			

SPOKANE, WASH. 930 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	722	6.2	67	189	5.2
1000	31	124				
950	31	547				
900	31	996	8.1	57	215	5.4
850	31	1,466	5.8	56	246	6.6
800	31	1,960	2.3	59	244	7.0
750	31	2,473	- 1.3	60	240	8.7
700	31	3,024	- 5.0	58	240	9.9
650	31	3,596	- 8.5	59	243	12.4
600	31	4,220	-12.1	56	239	14.0
550	31	4,873	-16.3	52	237	17.9
500	31	5,591	-21.0	49	234	20.0
450	31	6,350	-26.2	43	237	21.4
400	31	7,203	-32.1	42	236	25.1
350	31	8,132	-38.9		235	27.6
300	31	9,172	-46.6		235	28.0
250	31	10,364	-52.8		237	29.5
200	31	11,795	-54.4		242	28.2
175	31	12,653	-53.1		242	22.1
150	31	13,649	-52.2		239	20.0
125	31	14,828	-52.1		238	16.9
100	31	16,272	-53.1		236	13.4
80	31	17,708	-53.9		227	8.4
70	31	18,569	-53.9		222	5.2
60	31	19,556	-53.7		197	1.2
50	31	20,726	-54.1		102	2.7
40	30	22,164	-52.8		83	6.2
30	30	24,027	-51.0		86	10.1
25	29	25,215	-49.7		81	9.7
20	29	26,684	-47.1		77	11.7
15	22	28,590	-42.9		79	13.0

SWAN ISLAND, W. I. 1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	17	26.7	81	115	9.7
1000	31	112	26.0	81	111	10.9
950	31	564	22.8	80	116	14.0
900	31	1,033	20.2	74	118	12.2
850	31	1,526	17.7	65	117	10.7
800	31	2,042	15.0	56	115	9.3
750	31	2,586	12.1	49	110	7.6
700	31	3,161	8.7	45	109	7.4
650	31	3,768	5.7	40	113	6.0
600	31	4,422	2.3	32	110	4.1
550	31	5,111	- 1.5	[illegible]	44	1.9
500	31	5,874	- 6.2		17	3.3
450	31	6,683	-11.8		18	2.7
400	31	7,583	-17.7		301	3.5
350	31	8,568	-25.4		275	6.8
300	31	9,670	-33.5		273	10.5
250	31	10,923	-43.5		268	17.7
200	31	12,386	-55.1		260	22.0
175	31	13,226	-61.6		264	26.0
150	30	14,164	-68.0		270	24.7
125	30	15,244	-73.0		280	20.0
100	30	16,544	-75.0		306	10.7
80	30	17,843	-73.0		34	6.2
70	30	18,634	-70.5		58	7.0
60	30	19,555	-65.5		76	8.0
50	30	20,676	-60.9		84	7.8
40	30	22,076	-57.1		82	10.3
30	30	23,918	-52.1		87	17.1
25	28	25,109	-48.8		90	20.8
20	25	26,582	-45.0		90	23.7
15	[illegible]	[illegible]	-41.5		91	30.1
10	10	31,264	-38.7			
7						

TAMPA, FLA. 1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	8	21.0	87	58	4.5
1000	31	145	21.3	78	78	5.1
950	31	583	19.4	72	114	4.5
900	31	1,054	16.9	66	127	2.5
850	31	1,540	13.9	62	157	1.2
800	31	2,050	12.0	47	334	.4
750	31	2,586	9.9	36	340	1.4
700	31	3,160	7.3	32	321	3.3
650	31	3,763	4.1		316	5.2
600	31	4,413	.4		310	6.6
550	31	5,095	- 4.0		316	8.2
500	31	5,851	- 9.2		307	9.1
450	31	6,648	-14.8		295	11.5
400	31	7,540	-21.1	30	291	13.8
350	31	8,511	-28.2		291	16.9
300	31	9,598	-36.6		285	19.8
250	31	10,835	-46.3		284	24.3
200	31	12,278	-57.5		283	28.7
175	31	13,112	-62.0		283	30.5
150	31	14,058	-64.4		285	27.6
125	31	15,167	-66.5		287	21.2
100	31	16,512	-67.4		302	13.8
80	31	17,856	-67.3		338	6.0
70	31	18,668	-65.7		12	4.3
60	31	19,606	-62.6		50	5.4
50	31	20,741	-58.8		69	8.2
40	30	22,158	-54.1		87	10.7
30	30	24,021	-49.8		78	10.1
25	30	25,218	-47.8		75	9.3
20	28	26,708	-44.3		94	5.1
15	26	28,654	-40.2		345	2.3
10	14	31,449	-34.9			

* TATOOSH IS., WASH 1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	31	7.9	86	185	5.6
1000	31	147	7.5	81	196	6.6
950	31	566	5.9	75	214	6.4
900	31	1,009	3.8	70	231	6.2
850	31	1,473	1.6	68	238	6.4
800	31	1,959	- 1.2	67	246	7.6
750	31	2,468	- 4.2	66	256	9.3
700	31	3,013	- 7.7	63	261	10.5
650	31	3,580	-11.2	58	259	11.5
600	31	4,196	-14.7	49	258	13.6
550	31	4,846	-18.[illegible]	45	259	15.5
500	31	5,556	-22.9	41	263	17.3
450	31	6,313	-28.1	41	261	18.5
400	31	7,157	-33.8	42	259	21.2
350	31	8,081	-40.0	42	264	22.0
300	31	9,120	-45.8		258	23.7
250	31	10,317	-51.8		266	25.1
200	31	11,753	-54.0		263	21.8
175	30	12,611	-52.8		263	19.4
150	30	13,607	-52.2		252	16.1
125	30	14,786	-52.2		247	14.4
100	29	16,231	-52.8		237	11.5
80	29	17,670	-52.9		226	9.1
70	28	18,541	-53.2		228	7.2
60	28	19,528	-53.6		192	3.7
50	28	20,700	-53.6		126	3.3
40	28	22,134	-53.4		116	4.1
30	28	23,990	-52.2		92	6.4
25	28	25,173	-50.7		82	7.4
20	28	26,633	-48.6		74	9.9
15	28	28,538	-45.3		84	11.7
10	25	31,265	-39.7		82	12.4
7	16	33,759	-33.0		86	9.9

TOPEKA, KANS. 982 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	269	16.1	83	175	5.8
1000	31	115				
950	31	553	17.2	69	205	9.9
900	31	1,015	15.7	61	217	16.3
850	31	1,499	14.1	48	228	15.7
800	31	2,008	11.1	46	238	14.6
750	31	2,538	7.7	47	241	14.4
700	31	3,110	3.8	49	240	14.4
650	31	3,702	- .4	47	243	15.9
600	31	4,343	- 4.7	43	245	17.7
550	31	5,014	- 9.2	39	249	20.8
500	31	5,755	-13.9	38	253	24.1
450	31	6,537	-19.3		257	26.6
400	31	7,414	-25.4		265	27.8
350	31	8,368	-32.5		265	29.5
300	31	9,437	-40.6		266	34.0
250	31	10,653	-49.9		262	39.2
200	31	12,084	-57.7		263	43.9
175	31	12,920	-60.2		265	38.5
150	31	13,882	-59.7		269	35.7
125	31	15,023	-59.3		274	26.8
100	30	16,410	-61.2		273	17.1
80	30	17,793	-61.5		282	9.3
70	30	18,624	-61.2		279	5.1
60	30	19,581	-60.0		284	1.9
50	30	20,724	-58.0		74	1.6
40	30	22,138	-55.5		71	3.9
30	29	23,985	-52.8		74	4.7
25	29	25,167	-50.8		76	4.1
20	29	26,628	-47.9		80	2.9
15	24	28,544	-44.4		83	2.5
10	5	31,275	-39.9			

TRUK, CAROLINE IS. + 1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	2	28.7	78	93	5.1
1000	31	84	27.9	79	91	5.8
950	31	530	24.0	82	104	9.7
900	31	1,011	21.3	79	110	10.5
850	31	1,506	18.5	77	114	8.7
800	31	2,026	15.7	76	118	8.5
750	31	2,572	12.9	74	119	8.4
700	31	3,151	10.0	71	111	8.4
650	31	3,764	6.5	71	110	7.6
600	31	4,419	2.8	72	109	7.0
550	31	5,114	- .9	69	101	5.2
500	31	5,877	- 5.0	68	109	5.2
450	31	6,694	- 9.7	58	109	4.1
400	31	7,602	-14.8	45	118	3.9
350	31	8,600	-21.4	39	142	2.1
300	31	9,719	-29.5		12	1.4
250	31	10,993	-39.9		322	4.7
200	31	12,477	-52.4		301	9.9
175	31	13,326	-59.7		296	12.0
150	31	14,272	-67.4		304	12.4
125	31	15,352	-74.3		295	7.0
100	31	16,630	-80.1		328	2.7
80	31	17,904	-75.0		13	2.5
70	31	18,690	-68.8		266	4.3
60	31	19,627	-63.3		260	9.3
50	31	20,757	-60.3		264	14.6
40	29	22,159	-56.6		276	14.2
30	27	24,002	-52.6		250	2.1
25	22	25,193	-50.2		90	12.6
20	10	26,650	-47.3			
15	5	28,559	-44.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MAY 1964

Standard pressure surface (mb)	TUCSON, ARIZ. 923 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	789	15.3	25	154	4.9
1000	31	97				
950	31	539				
900	31	1,004	19.4	22	194	3.1
850	31	1,493	17.0	23	268	3.1
800	31	2,006	13.5	24	253	4.9
750	31	2,544	9.7	24	234	9.7
700	31	3,115	6.1		228	14.2
650	31	3,712	2.3		230	19.4
600	31	4,359	- 2.1		230	21.4
550	31	5,036	- 6.9		243	24.7
500	31	5,781	-12.0		252	28.2
450	31	6,572	-17.6		253	32.4
400	31	7,450	-24.2		261	35.5
350	31	8,410	-31.5		262	40.0
300	31	9,484	-39.3		263	44.7
250	31	10,708	-48.4		267	49.0
200	31	12,145	-57.3		267	56.3
175	31	12,983	-60.3		255	54.8
150	31	13,944	-60.2		262	49.1
125	31	15,075	-62.3		258	42.5
100	31	16,446	-64.3		256	33.8
80	31	17,807	-65.3		249	20.4
70	31	18,626	-64.5		244	10.5
60	30	19,566	-62.6		238	1.7
50	30	20,701	-58.5		[illegible]	3.9
40	29	22,113	-55.2		87	5.2
30	29	23,966	-51.5		72	6.2
25	29	25,155	-48.8		76	5.4
20	28	26,634	-45.5		45	1.0
15	26	28,559	-42.6		331	1.9
10	16	31,343	-35.8		306	4.7
7	7	33,958	-30.1			

Standard pressure surface (mb)	* WAKE IS., PACIFIC AREA 1014 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	25.3	74	73	7.6
1000	31	125	24.3	76	75	10.9
950	31	568	20.4	81	78	13.0
900	31	1,039	17.2	81	78	10.3
850	31	1,526	14.9	73	73	7.6
800	31	2,039	13.4	60	67	5.4
750	31	2,579	11.5	45	57	4.5
700	31	3,155	8.7	39	55	2.7
650	31	3,762	5.4	39	12	3.5
600	31	4,415	1.9	33	357	3.9
550	31	5,107	- 2.2	32	344	4.7
500	31	5,863	- 6.7	29	325	4.9
450	31	6,675	-11.9	28	313	5.8
400	31	7,570	-18.0	28	298	9.1
350	31	8,555	-25.1	28	294	12.8
300	31	9,656	-33.7	33	287	16.3
250	31	10,909	-43.4		284	22.9
200	31	12,373	-54.7		282	30.9
175	30	13,213	-60.7		282	33.8
150	29	14,157	-66.3		265	[illegible]
125	28	15,242	-72.3		281	28.2
100	28	16,543	-75.5		287	18.1
80	27	17,840	-73.5		299	7.2
70	27	18,628	-68.6		319	2.3
60	26	19,564	-63.8		173	1.2
50	26	20,691	-60.7		86	5.6
40	25	22,092	-56.8		89	[illegible]
30	23	23,938	-51.7		85	15.5
25	23	25,128	-49.0		78	19.8
20	22	26,603	-45.8		80	25.4
15	21	28,533	-43.4		80	30.7
10	17	31,291	-38.6		87	32.8

Standard pressure surface (mb)	WALLOPS IS. VA. NASA 1018 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	20	3	14.4	84	354	2.1
1000	20	151	16.4	64	342	3.3
950	20	587	16.3	50	326	8.9
900	20	1,047	13.9	47	308	9.3
850	20	1,527	11.2	47	296	12.0
800	20	2,031	8.3	46	288	13.4
750	20	2,560	5.4	42	290	15.2
700	20	3,122	2.5	38	[illegible]	18.8
650	20	3,713	- 1.0	37	284	21.4
600	20	4,353	- 4.5	34	290	21.0
550	20	5,027	- 8.4	34	293	25.3
500	20	5,767	-12.7	32	289	28.4
450	20	6,557	-18.[illegible]	35	289	29.9
400	20	7,431	-25.1	38	[illegible]	29.7
350	20	8,387	-32.3	34	292	31.5
300	20	9,457	-40.5		288	32.1
250	20	10,676	-49.3		283	42.2
200	20	12,107	-58.5		289	45.3
175	20	12,939	-61.7		292	43.3
150	20	13,894	-61.3		290	36.9
125	20	15,027	-60.5		[illegible]	32.1
100	20	16,415	-61.1		[illegible]	24.9
80	20	17,800	-61.4		300	17.5
70	20	18,630	-60.7		312	11.1
60	20	19,591	-59.1		328	6.8
50	20	20,741	-56.5		356	4.1
40	20	22,165	-53.9		42	2.9
30	19	24,020	-51.4		37	3.3
25	19	25,209	-49.5		56	3.1
20	19	26,678	-46.8		97	4.3
15	17	28,591	-43.6		105	2.7
10	16	31,357	-38.8		61	1.9
7	8	33,826	-32.6			

Standard pressure surface (mb)	WASHINGTON, D. C. 1008 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	84	12.0	85	317	1.2
1000	31	151	13.6	74	331	1.7
950	31	586	14.5	55	321	6.0
900	31	1,041	12.1	55	317	8.9
850	31	1,517	9.5	56	305	11.1
800	31	2,019	7.3	48	293	13.8
750	31	2,546	5.0	42	290	15.7
700	31	3,108	2.2	36	285	17.9
650	31	3,701	- 1.1	32	283	19.2
600	31	4,338	- 4.8		284	21.8
550	31	5,011	- 8.9	33	283	24.1
500	31	5,749	-14.0	34	282	26.2
450	31	6,539	-19.3	33	279	31.3
400	31	7,407	-25.5		281	32.6
350	31	8,362	-32.7		280	36.1
300	31	9,430	-40.7		281	40.2
250	31	10,647	-49.7		285	43.7
200	31	12,076	-58.4		287	46.8
175	30	12,914	-61.1		289	41.6
150	30	13,870	-61.0		293	35.9
125	30	15,005	-60.4		284	27.2
100	30	16,393	-61.4		293	21.2
80	30	17,776	-61.5		299	14.2
70	30	18,613	-60.9		308	10.1
60	30	19,566	-59.2		331	6.2
50	30	20,714	-56.9		[illegible]	3.9
40	30	22,135	-54.3		43	3.9
30	29	23,991	-51.3		47	3.1
25	27	25,183	-49.4		56	3.3
20	25	26,645	-47.3		49	2.5
15	21	28,571	-43.6		82	3.1
10	12	31,363	-37.6		83	5.1
7	5	33,870	-33.9			

Standard pressure surface (mb)	WINNEMUCCA, NEV. 868 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,370	4.6	60	303	[illegible]
1000	31	131				
950	31	561				
900	31	1,013				
850	31	1,481	8.5	46	289	2.7
800	31	1,980	6.2	46	312	4.9
750	31	2,505	2.8	48	277	[illegible]
700	31	3,061	- 1.4	48	249	8.4
650	31	3,646	- 5.4	47	238	13.2
600	31	4,272	- 9.4	42	[illegible]	14.6
550	31	4,936	-13.8	41	239	16.1
500	30	5,654	-18.8	38	241	19.6
450	30	6,425	-24.1		[illegible]	20.0
400	30	7,281	-30.4		241	22.1
350	30	8,216	-37.2		244	26.2
300	30	9,265	-44.6		248	31.1
250	30	10,465	-51.4		246	32.4
200	30	11,897	-56.3		254	35.9
175	30	12,743	-56.9		247	34.2
150	29	13,721	-55.6		[illegible]	30.9
125	28	14,881	-55.1		244	26.2
100	28	16,304	-55.8		238	16.5
80	28	17,718	-57.6		234	10.3
70	28	18,569	-57.5		[illegible]	5.4
60	28	19,537	-56.8		155	2.9
50	27	20,675	-56.0		[illegible]	5.2
40	25	22,114	-55.1		[illegible]	[illegible]
30	24	23,956	-53.0		64	6.0
25	21	25,136	-51.4		74	5.4
20	20	26,603	-48.0		69	4.1
15	15	28,494	-44.2			

Standard pressure surface (mb)	WINSLOW, ARIZ. 850 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,492	8.5	38	[illegible]	5.2
1000	31	[illegible]				
950	31	554				
900	31	1,008				
850	31	1,492			[illegible]	3.7
800	31	1,999	12.0	28	240	9.3
750	31	[illegible]	[illegible]	28	240	[illegible]
700	31	3,101	4.6	29	[illegible]	16.7
650	31	[illegible]	[illegible]	32	[illegible]	17.9
600	31	4,336	- 4.4	32	[illegible]	20.4
550	31	5,005	- 9.1		[illegible]	25.3
500	31	5,746	-14.3		241	29.1
450	31	6,528	-19.9		246	32.4
400	31	7,400	-26.2		251	35.9
350	31	8,352	-33.4		256	39.4
300	31	9,416	-41.4		263	38.1
250	31	10,631	-49.5		265	41.6
200	31	12,067	-57.0		262	44.7
175	31	12,907	-59.3		259	44.3
150	31	13,874	-58.5		256	42.3
125	31	15,017	-59.9		256	35.7
100	31	16,404	-62.0		253	25.3
80	30	17,779	-62.7		246	13.6
70	30	18,605	-63.0		249	7.6
60	30	19,555	-61.1		233	2.7
50	29	20,694	-59.1		111	2.9
40	29	22,105	-55.8		92	3.7
30	29	23,950	-52.9		83	2.7
25	27	25,134	-50.6		344	1.6
20	25	26,593	-48.0		319	1.4
15	18	28,501	-44.9		260	8.9
10	5	31,237	-37.7			

Standard pressure surface (mb)	YAKUTAT, ALASKA 1014 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	12	2.0	89	83	[illegible]
1000	31	128	4.2	[illegible]	95	3.7
950	31	541	2.4	69	[illegible]	[illegible]
900	31	[illegible]	- .3	[illegible]	141	4.1
850	31	1,435	- 3.2	[illegible]	[illegible]	[illegible]
800	31	1,913	- 6.4	[illegible]	[illegible]	4.7
750	31	2,411	- 9.0	62	[illegible]	[illegible]
700	31	2,946	-12.2	[illegible]	[illegible]	6.8
650	31	[illegible]	-15.7	60	[illegible]	9.1
600	31	[illegible]	[illegible]	60	[illegible]	[illegible]
550	31	4,745	-23.6	58	[illegible]	[illegible]
500	31	5,441	-28.1	54	249	15.0
450	31	6,184	-32.7	51	257	17.3
400	31	7,012	-37.7		268	20.0
350	31	7,922	-43.1		275	24.1
300	31	8,952	-47.1		286	31.1
250	31	10,152	-49.4		282	29.7
200	31	11,613	-49.3		282	21.8
175	31	12,488	-49.4		276	15.9
150	31	13,499	-49.0		274	13.0
125	31	14,696	-49.3		272	10.1
100	31	16,156	-50.0		275	8.0
80	31	17,613	-50.1		250	3.1
70	31	18,486	-49.8		241	2.5
60	31	19,493	-49.6		178	1.9
50	31	20,687	-49.4		135	2.1
40	31	22,149	-49.4		103	3.1
30	31	24,036	-48.9		83	4.9
25	31	25,234	-48.5		82	6.4
20	29	26,700	-47.7		80	7.2
15	27	28,609	-45.5		77	9.1
10	13	31,286	-42.4			

Standard pressure surface (mb)	+ YAP, CAROLINE IS. 1006 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	17	28.2	84	77	2.1
1000	28	75	27.6	83	95	3.3
950	28	522	23.8	83	126	2.9
900	28	1,001	20.8	81	144	3.1
850	28	1,495	[illegible]	78	[illegible]	3.5
800	28	2,014	15.4	75	[illegible]	2.5
750	28	2,558	12.8	71	147	2.5
700	28	3,138	9.9	70	[illegible]	2.7
650	28	3,748	6.5	[illegible]	157	[illegible]
600	28	4,406	2.8	68	157	2.1
550	28	[illegible]	- 1.2	65	[illegible]	2.7
500	28	5,862	- 5.2	60	[illegible]	2.5
450	28	6,679	- 9.8	55	214	3.5
400	28	7,585	-15.3	48	218	5.1
350	28	8,580	-21.8	35	228	8.0
300	28	9,697	-30.0	30	234	10.5
250	28	10,968	-40.2		241	12.6
200	28	12,449	-52.8		250	15.2
175	28	13,297	-59.9		265	11.1
150	28	14,243	-67.4		268	9.3
125	28	15,319	-75.2		310	2.7
100	28	16,590	-81.5		38	8.2
80	28	17,855	-76.5		67	9.7
70	27	18,632	-71.7		55	4.9
60	27	19,559	-64.2		315	3.1
50	27	20,685	-60.5		272	6.0
40	27	22,084	-58.0		254	7.6
30	25	23,918	-52.9		116	3.7
25	23	25,103	-50.2		95	12.2
20	16	26,557	-48.3			
15	7	28,439	-45.2			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 879 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	1,196	8.6	39	253	3.7
1000	29	105				
950	29	538				
900	29	998				
850	29	1,473	12.7	33	249	[illegible]
800	29	1,977	9.5	33	218	7.0
750	29	2,508	5.7	36	[illegible]	7.6
700	29	3,070	1.7	39	232	9.3
650	28	3,659	- 2.4	38	240	11.3
600	28	4,293	- 6.4	35	246	12.8
550	28	4,962	-10.8	[illegible]	249	17.9
500	28	5,692	-16.2		249	23.9
450	27	6,482	-21.4		248	26.4
400	27	7,344	-27.9		254	29.3
350	27	8,289	-34.9		256	30.1
300	27	9,347	-42.8		256	36.5
250	27	10,555	-50.5		[illegible]	38.7
200	26	11,981	-56.9		253	40.6
175	26	12,824	-58.1		252	39.4
150	26	13,797	-57.3		252	36.3
125	26	14,951	-57.1		251	31.7
100	26	16,357	-58.6		246	25.3
80	25	17,757	-60.0		237	15.5
70	25	18,597	-59.3		237	11.3
60	25	19,559	-58.7		237	5.4
50	25	20,707	-57.2		106	2.7
40	24	22,129	-54.9		101	3.7
30	24	23,979	-52.2		87	4.5
25	24	25,165	-50.2		82	3.1
20	22	26,622	-48.2		63	1.7
15	19	28,542	-44.2		37	2.5
10	8	31,216	-39.9			

Note: All observations scheduled at 1200, G. C T Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available

Relative humidity data are computed and expressed on the basis of vapor pressure over water Unless otherwise indicated, they are obtained from lithium chloride hygristors

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

1/ beginning May 4, 1964

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. MAY 1964

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
ALBUQUERQUE, N. MEX.									
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
May									
2	0.84	0.98	1.11	1.19	----	----	----	----	----
3	.78	.88	1.03	1.21	1.43	1.17	----	----	----
4	.81	----	----	----	----	----	----	----	----
5	----	----	----	----	----	D (.92)	D(0.75)	D(0.64)	D(0.53)
6	.88	.99	1.12	1.28	1.46	D(1.12)	D (.97)	D (.80	D (.73)
7	.85	.96	1.12	1.27	----	----	----	----	----
8	.75	.84	.95	1.09	1.27	1.07	.91	.82	.70
9	.73	.83	.96	1.08	1.26	1.08	.93	.81	.69
10	---	----	.82	----	1.20	1.05	.94	.81	.63
11	.74	.83	.94	1.08	1.24	----	.89	.78	.69
12	.67	.77	.88	1.02	1.22	.99	.85	.73	.64
13	.54	.64	.77	.95	1.12	----	----	----	----
14	----	.84	----	----	----	----	----	----	----
15	.87	.96	1.08	1.25	1.45	1.24	1.13	1.00	.88
16	D (.45)	D (.61)	D (.76)	D(1.03)	1.41	----	----	----	----
17	----	.68	.84	1.06	1.23	----	----	----	----
18	.65	.79	.90	1.09	1.35	1.04	----	----	----
19	.57	----	.80	1.02	1.27	----	.83	----	----
20	.64	.74	.87	1.04	1.29	----	----	----	----
21	.63	.74	.87	1.03	1.29	----	----	----	----
22	.43	.58	.75	.94	----	1.10	----	.74	----
23	.83	.95	1.07	1.21	1.41	1.24	1.08	.96	----
24	.90	1.00	1.12	----	1.38	1.23	.93	----	----
25	----	----	----	----	----	----	.80	----	----
27	----	----	.73	.98	1.27	1.08	----	----	----
28	----	----	----	----	----	1.21	----	----	----
29	.85	.96	1.07	1.24	1.41	----	----	----	----
30	.77	.85	.96	1.14	----	----	----	----	----
31	---	----	----	---	----	----	----	----	.90
Averages	0.74	0.84	0.94	1.11	1.31	1.13	0.93	0.83	0.73
MAUNA LOA OBS., HAWAII									
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
May									
1	----	----	----	----	1.50	1.32	1.19	1.07	0.96
2	1.01	1.10	1.21	1.34	----	----	----	1.07	----
3	1.00	1.09	1.20	1.33	1.50	----	----	----	.98
4	1.03	1.12	1.23	1.37	1.51	1.34	1.20	1.09	.99
5	1.05	1.13	1.24	1.37	----	1.33	1.19	1.09	.97
6	HS1.04	HS1.13	HS1.23	HS1.37	----	----	----	----	----
7	1.00	1.10	1.22	1.34	----	----	----	----	----
8	.95	1.05	1.18	1.32	1.49	1.33	1.20	1.09	1.01
9	1.00	1.09	1.21	1.33	1.54	1.38	1.24	1.13	1.04
10	1.03	1.13	1.23	1.36	1.52	1.35	1.23	1.11	1.03
11	1.08	1.16	1.27	1.40	1.56	1.38	1.25	1.14	1.05
12	----	----	----	----	1.57	1.41	1.28	1.17	1.09
14	1.05	1.13	1.24	1.39	----	----	----	----	----
16	----	----	----	----	1.51	----	----	----	----
20	(.97)	(1.07)	(1.17)	(1.30)	----	(1.30)	----	----	(.96)
21	(.96)	(1.08)	(1.17)	----	----	----	----	----	----
22	.99	1.07	1.18	1.31	----	----	----	----	----
28	1.00	1.08	1.19	1.33	1.50	----	----	----	.99
29	1.00	1.11	1.21	1.35	1.51	----	----	----	----
31	.98	1.06	1.17	1.31	1.48	----	----	----	.97
Averages	1.01	1.10	1.21	1.35	1.52	1.36	1.22	1.11	1.01
MADISON, WIS.									
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
May									
14	0.71	0.97	1.04	1.11	----	----	----	----	----
22	----	----	----	I .91	----	----	----	----	----
Averages	0.71	0.97	1.04	1.01	----	----	----	----	----

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
BLUE HILL OBS. MASS.									
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
May									
1	0.65	0.78	0.91	1.07	1.28	----	----	----	----
2	.71	.79	.93	1.07	1.34	1.11	0.89	0.75	0.66
3	.67	.79	.98	1.15	1.34	----	----	----	----
4	.62	.72	.91	1.07	1.25	----	----	----	----
5	----	----	----	----	1.24	1.01	.83	.71	.61
6	----	----	----	----	1.20	.98	.76	.62	.52
11	.57	.67	.87	1.06	1.28	1.10	.93	.77	.69
12	.67	.78	.91	1.10	1.30	----	----	----	----
16	.64	.76	.91	1.11	1.29	.95	.70	.55	.43
17	.67	.82	.96	1.13	1.29	----	----	----	----
18	.54	.66	.77	----	----	1.01	.88	.71	.58
21	.82	.90	1.04	1.21	1.37	1.00	.74	.61	.47
26	.69	.79	.99	1.18	1.34	1.08	.83	.60	.48
28	.72	.87	.99	1.16	----	----	----	----	----
29	.61	.74	.89	1.10	1.36	1.10	.93	.82	.74
30	.69	.78	.91	1.10	1.33	1.04	.88	.74	.61
Averages	0.66	0.78	0.93	1.12	1.30	1.04	0.84	0.69	0.58
TUCSON, ARIZ.									
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
May									
1	0.48	----	----	----	----	----	----	0.74	0.64
2	.75	0.86	1.00	----	----	----	----	----	----
3	.73	.83	----	----	----	----	----	----	----
6	.79	----	----	----	----	----	----	----	----
7	.59	.65	----	----	----	----	----	----	.75
8	.72	.84	----	----	----	----	----	----	----
9	.73	.84	.98	----	----	----	----	----	----
10	.66	.75	1.01	----	----	----	----	----	.73
13	.79	.89	1.02	----	----	----	----	----	----
18	----	----	----	----	----	----	----	----	.72
20	.51	.60	----	----	----	----	----	.67	.56
21	.54	.65	.79	----	----	----	----	.69	----
22	.63	.76	.91	----	----	----	----	.69	.62
23	.62	.74	.85	----	----	----	----	----	----
24	.73	----	.96	----	----	----	.87	----	----
29	.22	.27	----	----	----	----	.14	----	.09
30	----	.24	----	----	----	----	.86	.72	----
31	.24	.29	----	----	----	----	----	.38	----
Averages	0.54	0.65	0.94	----	----	----	0.61	0.63	0.58
OMAHA, NEBR.									
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
May									
6	----	----	----	----	----	HS1.12	HS0.89	HS0.74	HS0.63
8	----	----	----	----	DM1.06	----	----	----	----
9	HS0.78	HS0.83	HS0.96	HS1.01	----	----	----	----	----
10	HS .60	HS .70	HS .83	HS1.04	HS1.25	----	----	----	----
13	HS .77	HS .86	HS1.00	HS1.19	HS1.41	HS1.18	HS1.00	HS .82	HS .64
14	----	HS .75	HS .92	----	----	HS .97	HS .77	HS .66	HS .55
15	HS .50	HS .62	HS .73	HS .95	----	HS .86	----	----	----
16	HS .41	HM .58	HM .63	HM .87	----	----	.70	----	----
19	----	----	----	----	----	HS .89	HS .68	HS .64	HM .47
20	----	----	----	----	1.16	----	----	----	----
21	HM .50	HM .63	HS .77	HS .94	1.14	----	----	----	----
24	----	HS .90	HS1.01	HS1.20	HS1.38	HS1.20	HS1.01	HS .86	HS .73
25	HM .52	HM .62	HM .78	----	----	----	----	----	----
31	HS .72	HS .76	HS .92	HS1.08	HS1.31	----	----	----	----
Averages	0.60	0.73	0.86	1.04	1.10	1.04	0.84	0.74	0.60

HS	Slight haze
HM	Moderate haze
DM	Moderate dust
D	Dust
( )	Clouds present
I	Intense haze - indeterminable
*	Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63 of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	678	756	782	---	---	771	670	765	760	752	754	750	696	662	775	705	655	727	633	663	708	716	774	759	500	371	658	589	717	595	499	684
AMES IOWA	193	595	585	465	267	623*	281*	352*	452*	681*	288*	137*	---	629	570	626	478	528	519	632	598	552	480	668	613	470	466	497	478	194	643	485*
ANNETTE ALASKA	401	474	356	477	509	292	66	246	281	135	250	158	521	376	269	479	217	217	143	475	411	94	343	563	288	331	530	553	491	517	450	352
APALACHICOLA FLORIDA	105	278	663	711	711	699	692	680	683	708	711	600	436	736	710	681	655	689	665	653	615	650	700	311	615	575	595	702	675	713	696	623
ARGONNE NAT. LAB.	248	625	650	519	580	315	610	324	568	669	276	331	169	748	691	592	623	655	605	725	717	656	581	521	726	404	621	528	739	658	559	556
ASTORIA OREGON	656	695	---	199	537	381	306	358	261	478	731	229	656	---	570	---	383	---	535	371	604	655	803	632	824	814	---	184	515	591	128	504
ATLANTA GEORGIA	554	70	425	802	709	701	661	695	521	499	610	366	601	487	747	627	695	718	524	685	650	597	530	444	672	714	579	629	177	262	314	557
BARROW ALASKA	596	---	486	643	622	634	626	629	611	476	366	372	481	575	571	505	582	507	706	567	624	613	665	618	618	750	719	613	718	676	559	591
BETHEL ALASKA	684	397	651	668	747	787	681	755	763	762	410	431	271	374	491	494	423	456	264	342	420	354	370	454	734	556	638	767	759	734	755	561
BISMARCK N.DAK.	210	73	270	536	565	188	662	405	619	577	290	704	696	571	458	694	559	692	679	649	684	---	506	726	663	735	683	501	439	633	635	543
BLUE HILL MASS.	713	748	733	688	702	657	530	511	517	574	728	652	362	101	604	740	666	660	393	609	787	451	699	693	649	793	569	664	784	650	656	622
BOISE IDAHO	395	456	446	574	459	695	675	730	695	594	747	726	635	691	737	701	---	---	564	716	694	759	784	319	769	463	473	357	340	757	745	610
BOSTON MASSACHUSETTS	640	690	672	610	655	---	472	465	458	---	---	604	340	67	602	702	677	---	378	---	692	---	629	624	---	730	---	---	---	---	---	---
BROWNSVILLE TEXAS	462	625	361	332	323	248	421	632	655	483	395	660	720	665	660	661	692	680	482	195	406	327	82	494	219	650	683	714	643	413	78	486
BURLINGTON VERMONT	672	678	696	509	638	635	500	328	394	77	430	666	283	119	719	511	699	730	184	547	576	401	622	600	260	703	468	406	392	712	568	507
CANTON ISLAND P.I.	577	576*	582	567	564	549	555	458	583	555	555	567	466	553	570	529	564	541	569*	572	560*	493	564	563	535	532	565	546	547	562	567	551*
CAPE HATTERAS N.C.	289	290	106	598	718	549	726	688	670	715	707	633	501	594	462	703	728	675	739	656	737	---	705	593	525	746	641	477	280	239	343	568
CARIBOU MAINE	678	670	663	567	653	428	418	365	44	166	280	642	532	315	705	136	661	716	267	415	634	93	176	368	194	348	448	419	---	665	740	447
CHARLESTON S.C.	---	55	186	577	700	695	705	731	682	702	657	547	455	642	654	538	639	616	469	562	415	535	567	496	549	633	621	595	272	233	---	542
CLEVELAND OHIO	502	654	736	622	581	584	523	274	642	503	551	255	211	468	688	435	601	658	549	551	0	673	477	444	667	217	681	521	484	---	---	509
COLUMBIA MISSOURI	531	626	547	624	578	458	225	408	733	608	126	270	227	711	696	624	691	706	702	672	650	650	599	387	661	323	191	602	665	421	420	527
DODGE CITY KANSAS	409	539	649	548	487	660	508	568	642	329	543	669	650	520	633	633	632	564	609	466	614	627	626	659	610	515	130	520	168	114	663	532
E. LANSING MICHIGAN	446	645	675	605	577	561	694	260	400	663	488	148	118	785	737	319	694	689	686	690	748	708	677	533	729	451	797	739	804	705	586	592
EL CENTRO CALIF NARF	575	571	576	355	577	509	515	570	563	571	567	565	471	587	584	593	582	584	589	534	607	578	502	396	151	579	---	583	612	594	605	541
EL PASO TEXAS	757	725	761	750	671	752	589	773	744	773	755	757	693*	571	530	687	706	748	744	725	703	702	761	749	703	694	689	794	790	790	784	722*
ELY NEVADA	338	472	668	561	323	501	626	455	694	650	749	729	673	757	786	770	777	777	758	773	738	614	701	504	453	---	---	---	---	---	696	636
EPPLEY,NEWPORT R.I.	647	657	672	670	605	655	529	462	414	403	677	616	246	153	385	682	646	505	511	590	707	490	615	646	610	716	513	618	684	711	400	562
FORT WORTH TEXAS	314	608	658	365	100	124	102	168	326	465	582	656	758	717	554	701	712	650	673	664	492	430	480	502	638	690	517	570	353	436	321	494
FRESNO CALIFORNIA	428	724	446	628	244	405	711	709	706	706	729	721	752	750	745	734	740	678*	730	759	575	746	625	716	372	721	554	745	755	745	754	656*
GAINESVILLE FLORIDA	151	212	587	521	705	675	638	728	645	451	692	527	244	741	671	581	---	624	608	680	605	603	633	521	536	729	736	693	691	598	694	591
GLASGOW MONTANA	174	96	254	447	524	438	288	330	553	558	601	637	642	600	704	695	651	---	109	393	---	739	---	---	---	---	---	---	---	---	---	---
GRAND JUNCTION COLO.	549	689	672	470	330	250	486	514	775	745	711	800	---	---	---	---	---	---	---	693	690	612	738	676	522	409	606	790	758	452	208	589
GREAT FALLS MONTANA	248	165	109	158	602	454	261	335	538	564	593	579	575	586	---	---	667	648	549	555	683	438	729	446	640	512	429	111	305	520	678	472
GREENSBORO N.C.	186	104	166	631	590	719	592	655	571	733	574	420	442	543	720	748	718	748	730	678	672	629	551	593	694	726	339	472	330	524	519	562
GRIFFIN EXP.STA.GA.	501	114	343	810	792	784	753	738	648	668	696	287	674	560	827	806	806	788	457	671	736	635	688	587	749	792	634	731	288	338	460	624
INDIANAPOLIS INDIANA	701	686	736	664	631	606	462	414	706	727	194	381	374	---	794	576	760	704	754	792	807	733	576	486	801	376	622	251	821	598	509	608
ITHACA NEW YORK	265	639	676	667	624	617	441	220	558	117	699	367	464	33	713	626	696	683	408	400	720	604	568	594	690	514	554	422	323	749	466	520
LAKE CHARLES LA.	301	566	559	---	510	521	680	549	569	604	489	260	720	709	465	652	683	674	649	593	655	354	384	244	611	575	701	609	419	295	460	535
LAKELAND FLORIDA	181	457	564	366	635	484	631	711	620	594	651	582	571	445	439	626	610	671	536	724	678	610	477	583	681	638	693	624	640	667	675	586
LANDER WYOMING	524	545	500	653	---	---	534	649	662	483	295	438	537	612	713	690	752	722	664	718	740	631	776	708	702	134	416	536	104	215	486	556
LARAMIE WYOMING	446	490	712	659	573	571	401	489*	455	627	345	576	595	566	685	579	686	597	660	592	595	384	526	579	384	233	492	634	370	356	562	530*
LAS VEGAS NEVADA	655	741	766	447	667	594	559	624	764	---	751	751	588	785	785	786	792	774	778	779	777	---	712	497	---	684	780	794	729	793	776	712
LITTLE ROCK ARKANSAS	564	534	593	549	593	343	300	711	301	393	408	607	694	652	621	606	616	591	542	567	501	352	527	340	602	581	540	391	530	274	169	487
LOS ANGELES CALIF.	515	700	623	663	516	619	669	656	701	715	669	494	563	488	623	629	574	698	598	657*	667	533	411	458	362	750	725	723	720	693	562	613*
LOS ANGELES CALIF. U	410	736	607	583	462	541	595	686	741	730	675	632	581	641	662	637	630	710	622	688	727	629	504*	536*	382	704	733	759	765*	695*	691*	635*
MADISON WISCONSIN	113	551	658	520	532	410	653	458	466	757	487	525	208	755	573	630	425	682	724	768	725	731	589	666	747	461	752	716	750	540	592	587
MANHATTAN KANSAS	307	510	558	424	179	568	253	607	718	549	433	673	776	652	682	688	728	623	702	685	707	511	670	758	695	531	90	611	391	282	748	561
MATANUSKA ALASKA	603	373	453	495	357	322	632	654	655	670	653	604	88	383	372	426	429	626	482	375	221	495	607	112	372	405	517	508	681	681	666	481
MEDFORD OREGON	429	337	537	452	284	660	471	603	640	707	713	712	635	567	708	425	696	569	689	687	719	746	742	707	748	234	161	365	731	714	703	584
MIAMI FLORIDA	209	711	642	626	644	641	647	673	720	758	709	594	649	376	198	514	684	725	414	257	679	671	624*	543*	404	565	396	316	487	599	565	556*
MIDLAND TEXAS	675	683	707	660	619	569	444	399	454	692	596	636	694	408	622	638	672	639	580	396	696	640	578	679	681	446	595	280	548	504	418	579
NASHVILLE TENNESSEE	671	60	707	652	688	633	541	519	212	364	393	479	607	512	736	728	535	665	631	629	692	649	348	482	718	572	526	318	785	397	155	539
NEW YORK N.Y. U	454	652	663	573	607	631	483	439	364	392	696	461	186	282	363	667	589	651	624	716	699	615	632	612	746	668	481	---	---	---	---	553
NORTH OMAHA NEBRASKA	379	622	465	612	138	693	533	546	711	718	500	125	782	714	698	713	585	645	582	704	716	604	465	794	684	486	284	451	530	621	792	580
OAK RIDGE TENNESSEE	512	160	497	629	578	579	493	542	285	414	279	414	516	247	648	642	567	632	614	505	603	586	438	425	544	591	512	320	356	470	333	484

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

1 [illegible]

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
OKLAHOMA CITY OKLA.	286	628	644	527	245	579	208	483	559	107	487	564	691	458	440	667	675	660	622	638	557	598	616	540	628	652	445	415	100	286	551	505
PHOENIX ARIZONA	664	692	691	350	712	692	691	674	704	705	694	688	558	683	710	698	665	708	664	674	667	711	622	668	419	610	655	590	716	706	711	658
PORTLAND MAINE	689	691	710	566	633	631	426	463	102	499	598	704	389	73	714	687	688	646	141	603	666	434	663	614	600	768	627	438	694	645	581	561
RAPID CITY S.DAK.	142	9	580	673	452	417	450	406	469	566	138	688	672	545	654	651	642	659	672	662	655	535	630	713	605	262	281	174	133	450	390	483
RIVERSIDE CALIFORNIA	421	632	658	475	311	408	373	749	775	780	758	745	692	764	754	712	747	745	745	731	722	719	596	450	612	781	745	785	770	753	741	666
SAINT CLOUD MINN.	153	341	463	339	160	243	561	140	224	637	353	275	640	651	410	718	335	626	724	724	665	664	453	746	447	655	762	652	590	611	525	500
SALT LAKE CITY UTAH	329	340	582	579	---	532	551	278	827	724	842	763	784	740	816	803	815	828	798	795	810	637	847	442	467	664	483	542	187	704	855	645
SAN ANTONIO TEXAS	374	578	457	462	175	100	183	339	318	478	167	649	640	612	520	682	685	641	642	474	270	363	465	577	478	586	515	644	576	312	601	470
SANTA MARIA CALIF.	650	718	552	501*	356	551	353	705	681	690	689	666	461	555	651	670	694	638	657	740	702	696	509	722	364	691	558	749	752	676	638	620*
SAULT STE MARIE MICH	159	481	620	572	465	439	590	389	125	678	727	638	600	752	180	681	746	395	455	788	513	443	495	337	723	418	786	784	816	789	674	557
SEATTLE TACOMA WASH.	648	639*	372	89	406	547	465	316	240	421	639	134	699	645	602	475	350	652	687	319	486	511	646	370	759	748	735	611	498	704	564	515*
SEATTLE WASH. UNIV.	473	512	377	81	493	522	384	251	129	498	544	107	430	592	573	459	446	527	629	279	504	448	543	423	723	720	715	539	414	682	---	467
SHREVEPORT LOUISIANA	421	502	706	553	643	350	392	333	257	453	367	553	775	737	630	700	714	695	720	642	550	343	602	448	529	708	702	412	385	306	---	538
SPOKANE WASHINGTON	402	346	217	411	667	316	574	683	479	484	770	540	794	655	755	702	692	704	639	704	689	479	831	688	799	606	806	517	667	746	746	616
STATE COLLEGE PENN.	112	703	716	695	612	673	505	247	541	345	706	382	341	434	762	728	657	770	698	747	812	739	700	567	790	689	595	636	704	710	412	604
STERLING VIRGINA	102	647	385	689	661	692	561*	517	317	710	---	355	166	505	461	715	453	706	663	677	739	705	655	537	724	684	548	341	757	657	599	564*
STILLWATER OKLAHOMA	---	644*	631	586	242	673	146	497	569	146	423	619	695	317	423	657	670	658	572	606	---	630	625	528	611	650	310	553	160	58	498	496*
SWAN ISLAND W.I.	735	671	739	729	705	721	734	727	612	642	711	480	745	703	487	397	126	585	721	701	450	622	673	678	741	497	562	404	654	641	574	618
TAMPA FLORIDA	25	492	681	480	680	592	603	649	713	719	698	599	558	636	591	627	626	661	594	713	668	601	474	478	558	510	715	696	728	722	723	607
TUCSON ARIZONA	694	706	704	610	695	733	658	738	729	727	722	720	582	547	676	694	715	731	674	655	657	673	681	672	415	639	671	621	675	692	690	671
WAKE ISLAND,PACIFIC	613	584	535	584	469	520	602	604	481	521	433	410	485	463	470	514	498	553	537	623	592	424	527	590	622	638	629	568	641	624	605	547

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

MAY 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	203	18	-42	289	238	336	232	114	251	136	51	380	360	395	396	390	348	389	341	287	397	417	206	328	420	304	88	75	17	408	324	261

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. The instrument with which they were measured has not been checked by the Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code $\lambda s \Omega \Omega \Omega$ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

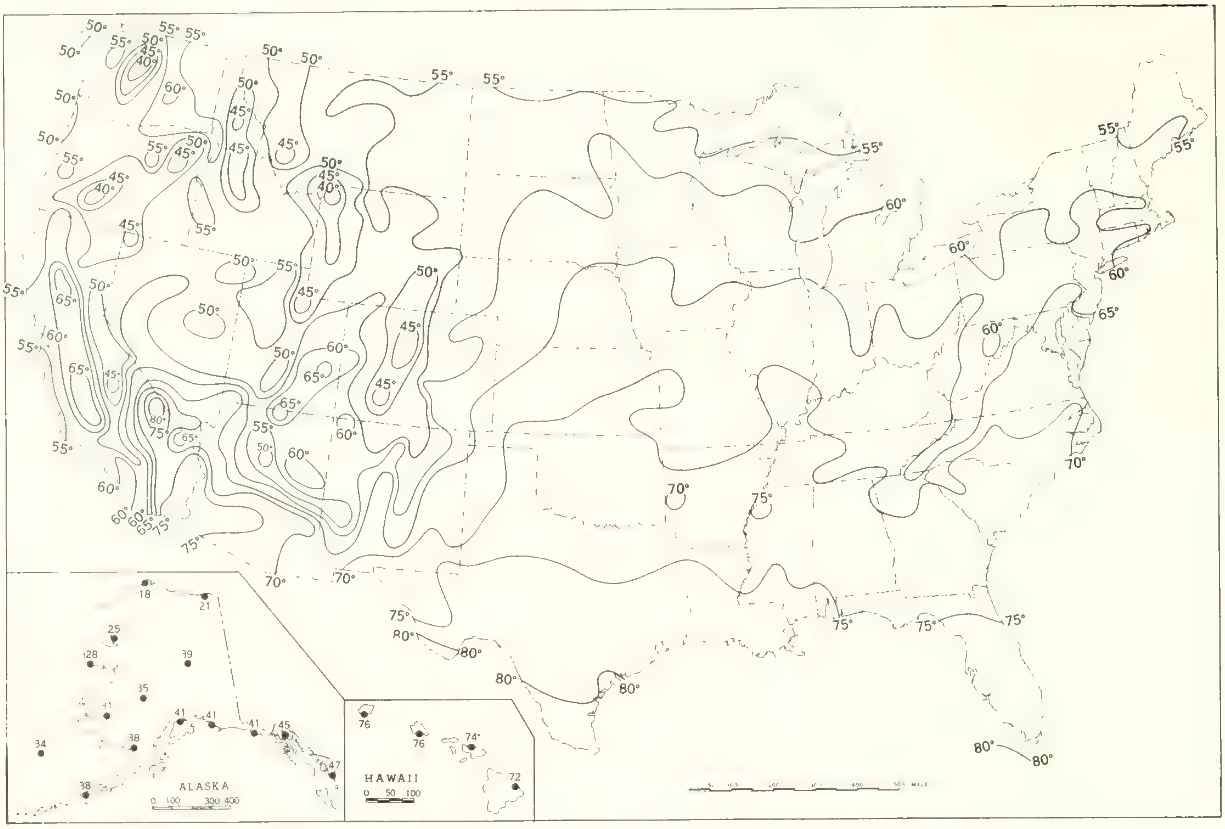
Units Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3

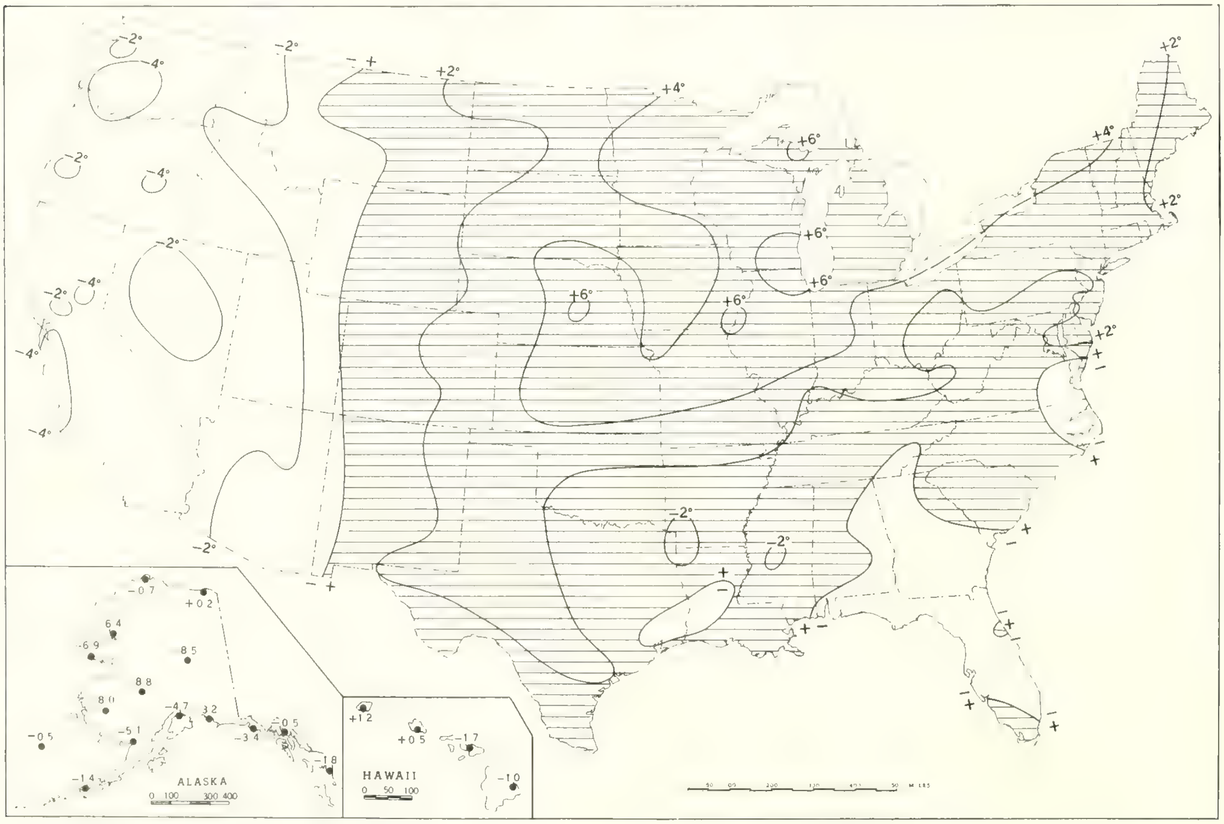
May data delayed - will be printed in June 1964 issue.

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station The amount of ozone in this column (coded $\Omega \Omega \Omega$) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e g , 350 milli-atmo-cm ozone implies an ozone layer 0 350 centimeter thick The code λs designates the type of measurement made

Chart I. A. Average Temperature (°F.) at Surface, May 1964.

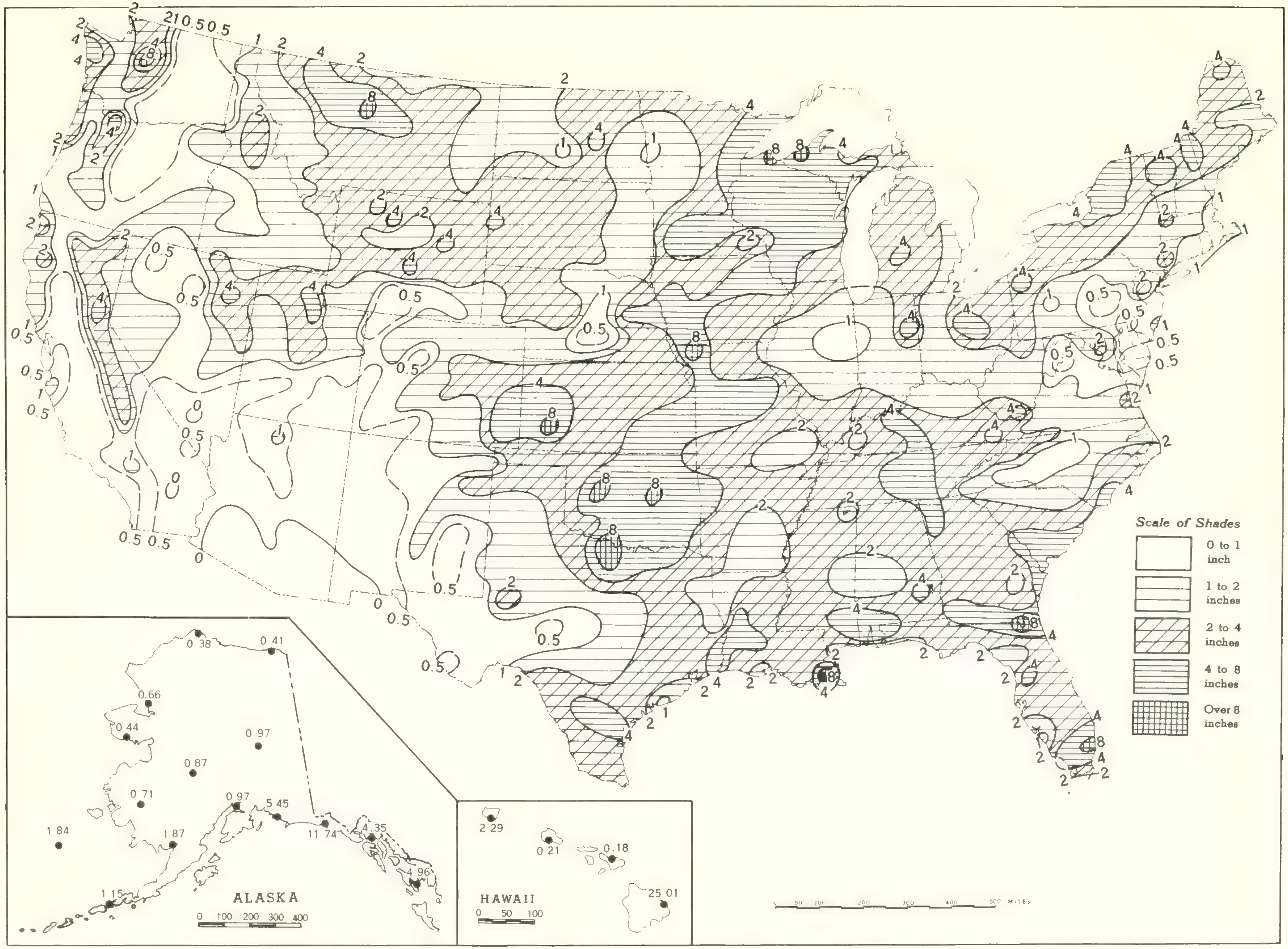


B. Departure of Average Temperature from Normal (°F.), May 1964.



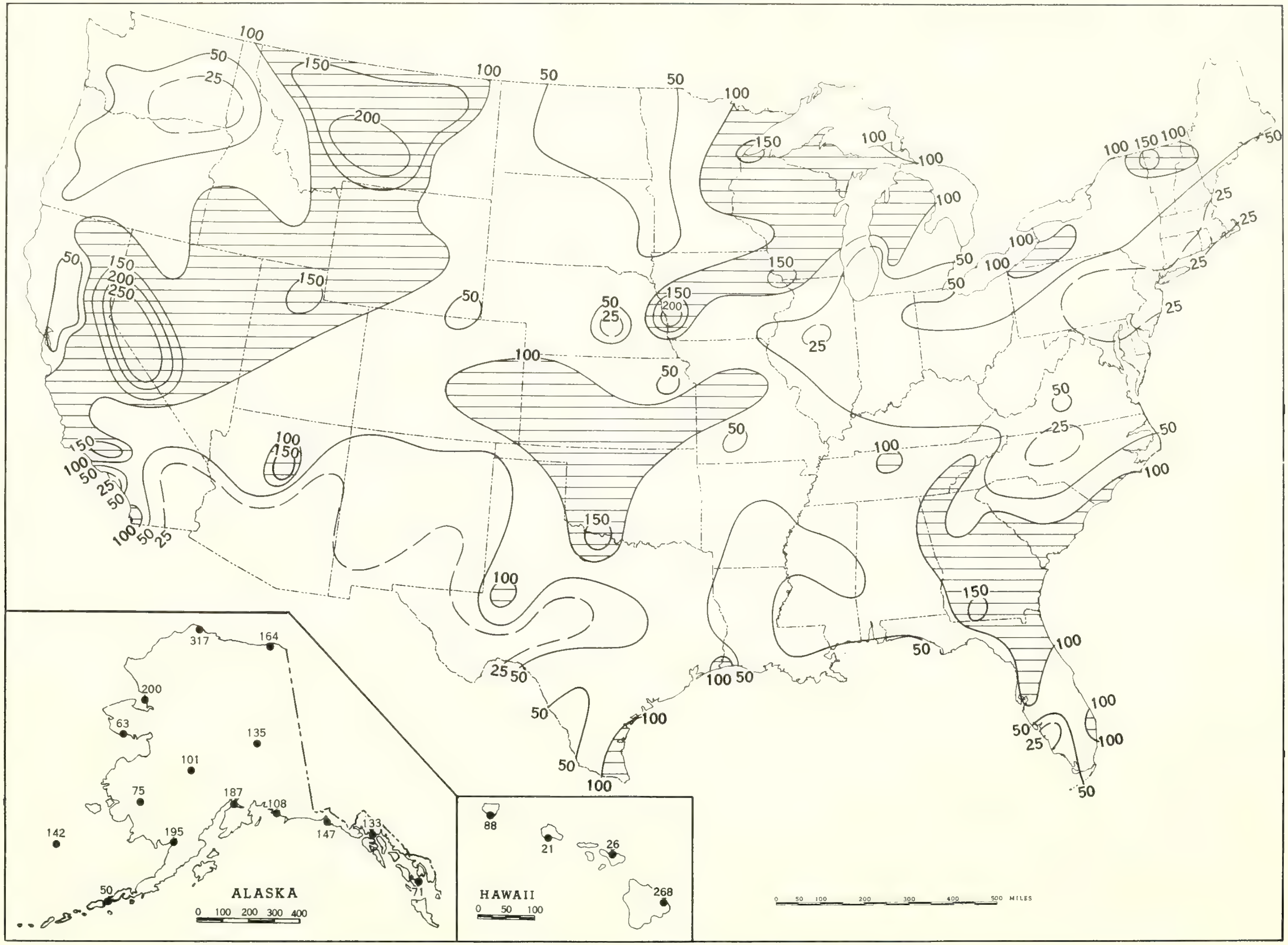
A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), May 1964.



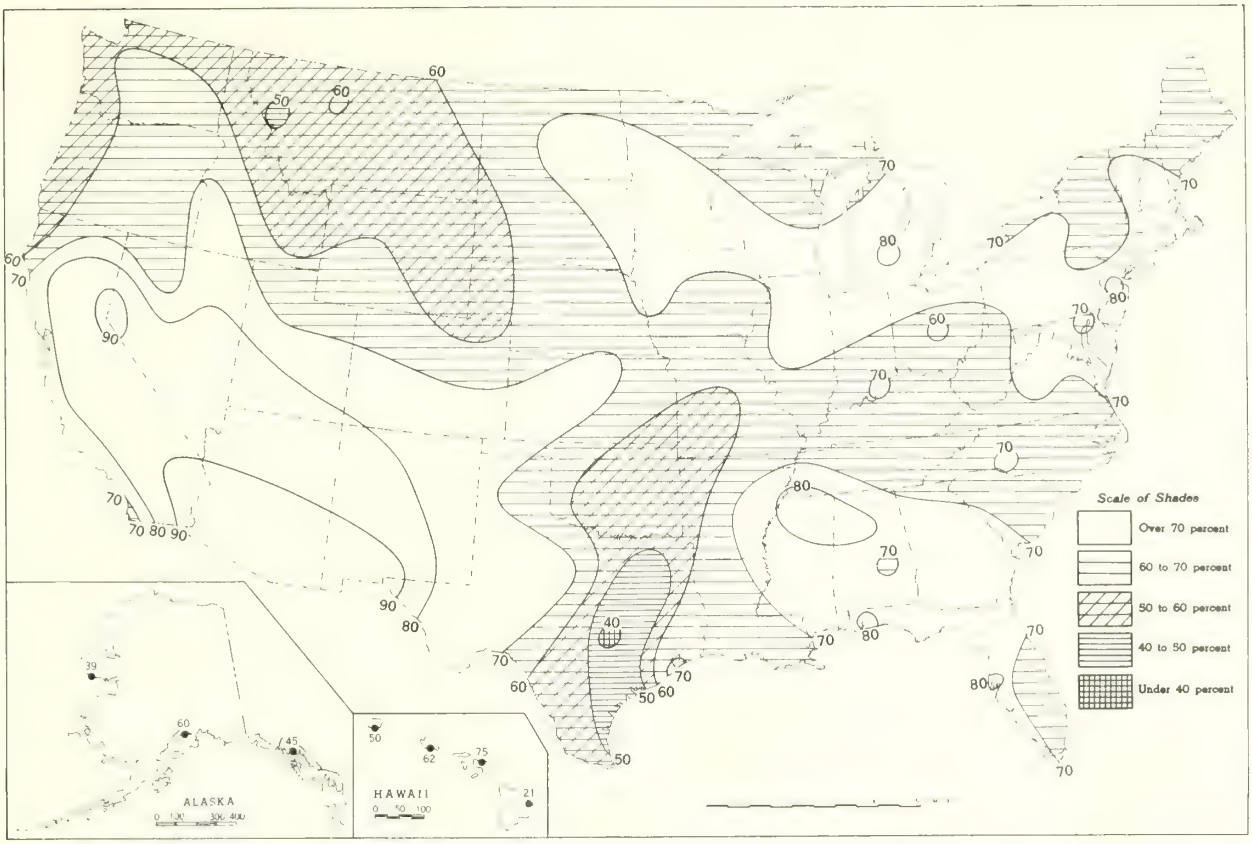
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, May 1964.

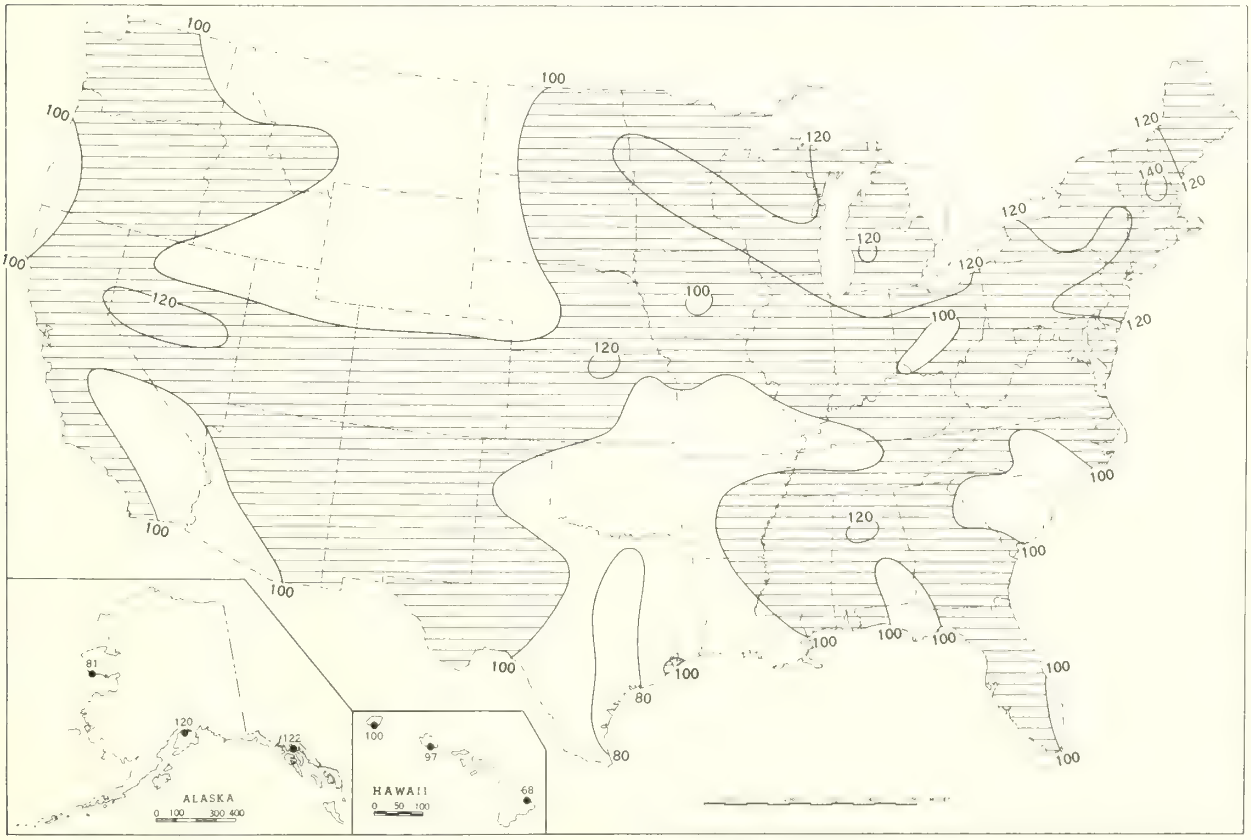


Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, May 1964.

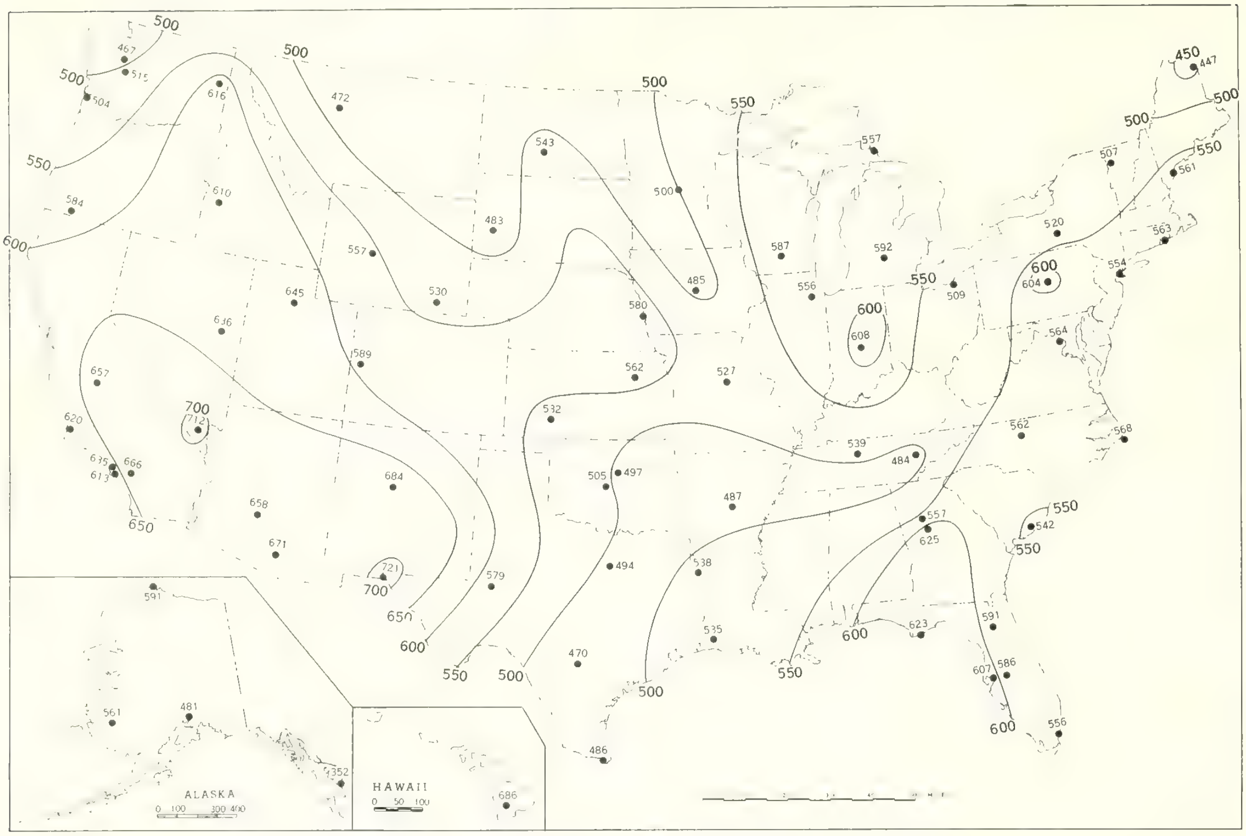


B. Percentage of Mean Monthly Sunshine, May 1964.

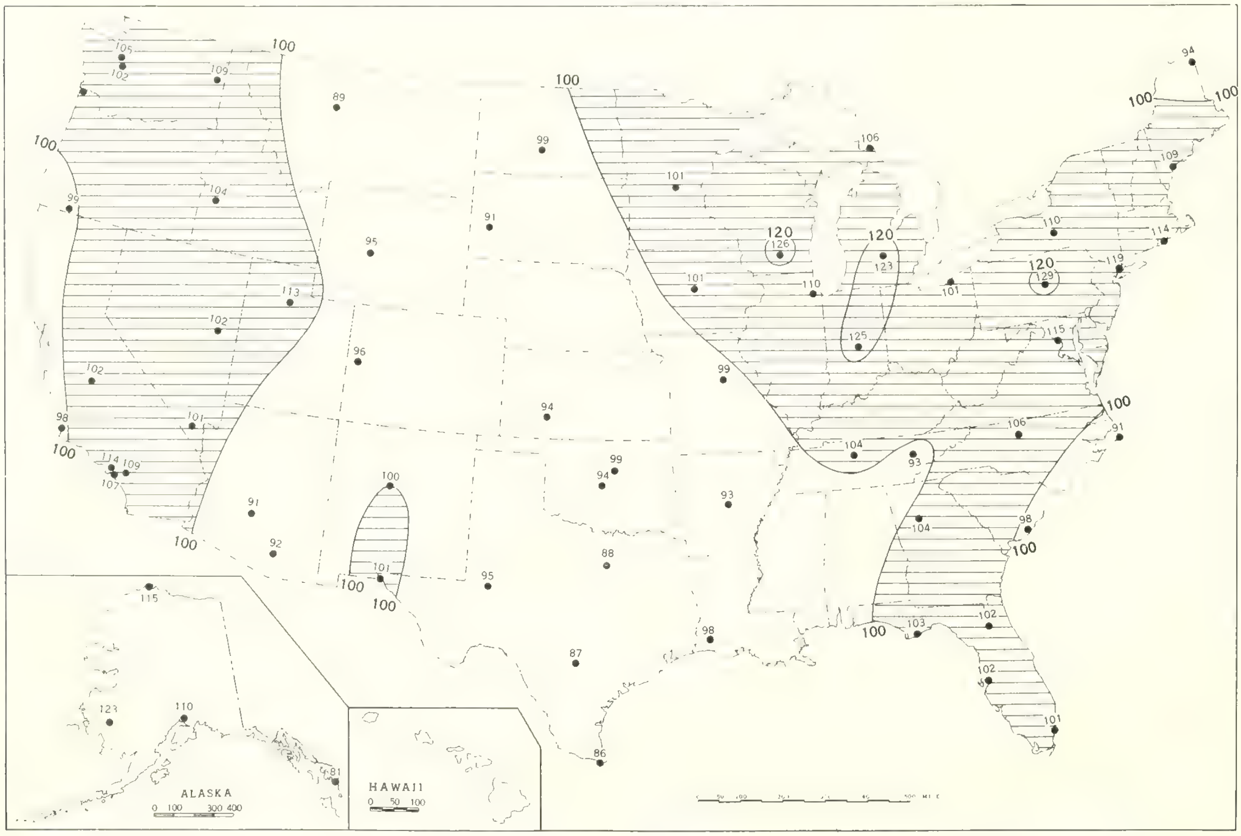


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, May 1964.

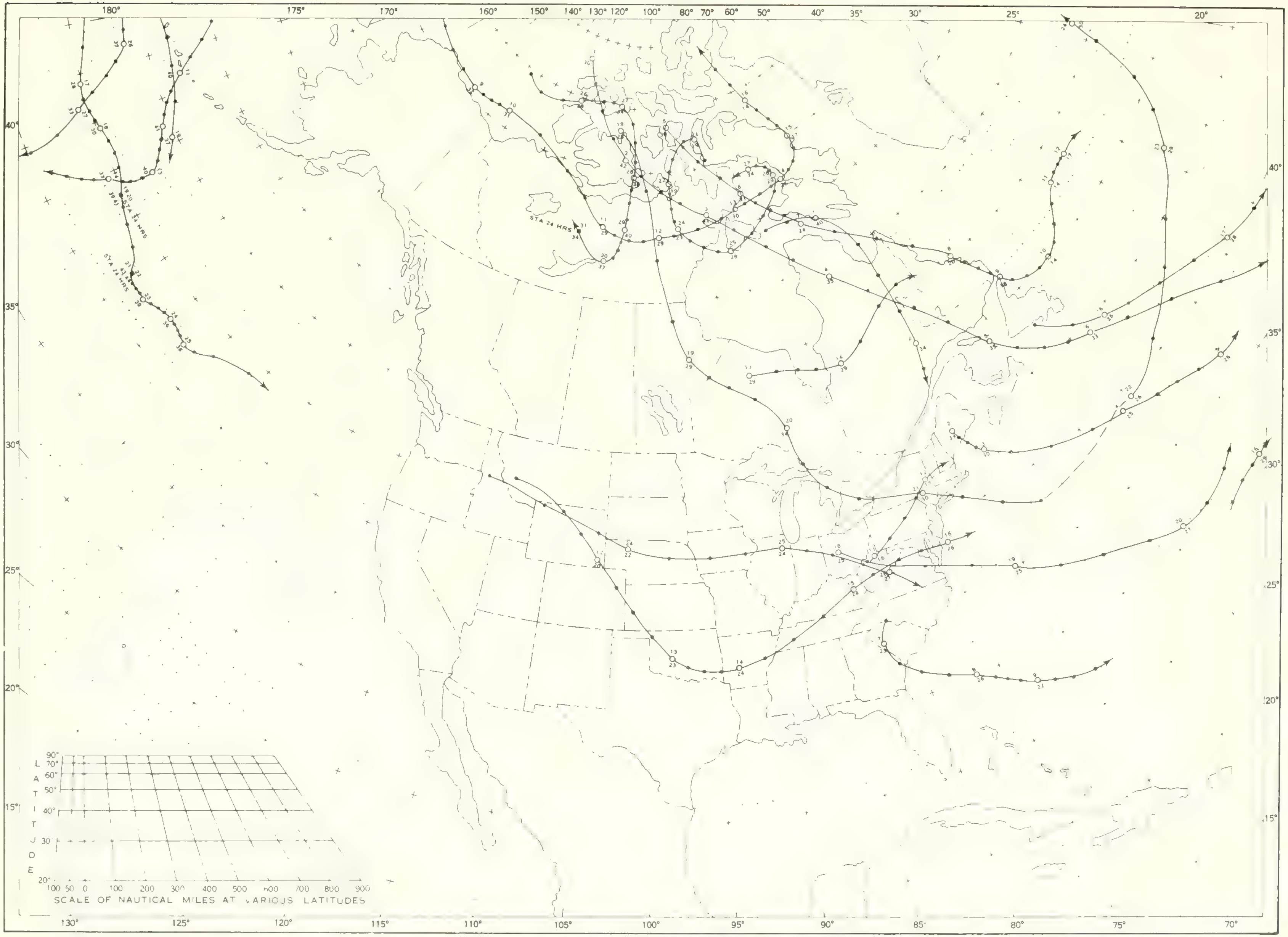


B. Percentage of Mean Daily Solar Radiation, May 1964.



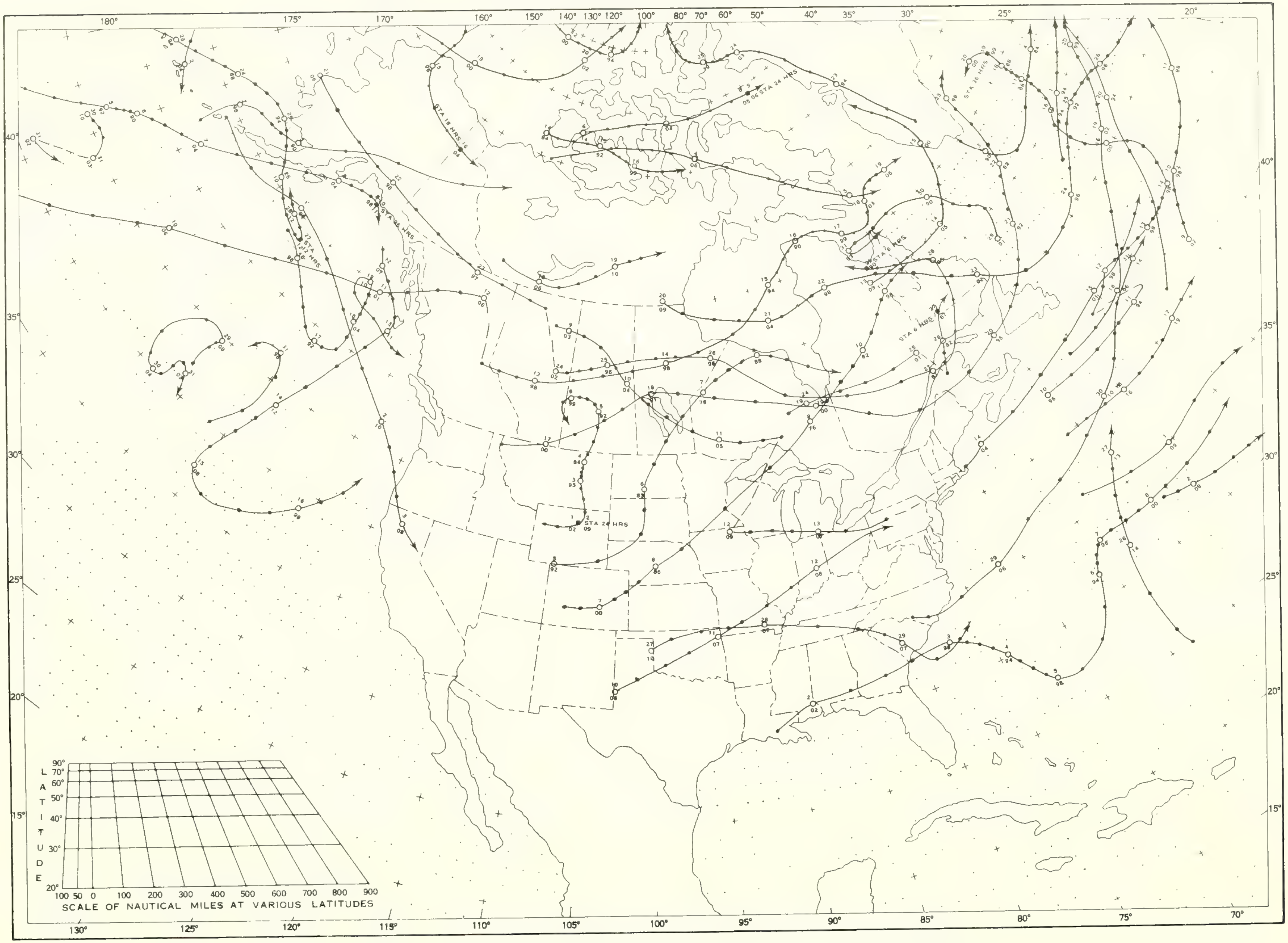
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, May 1964.



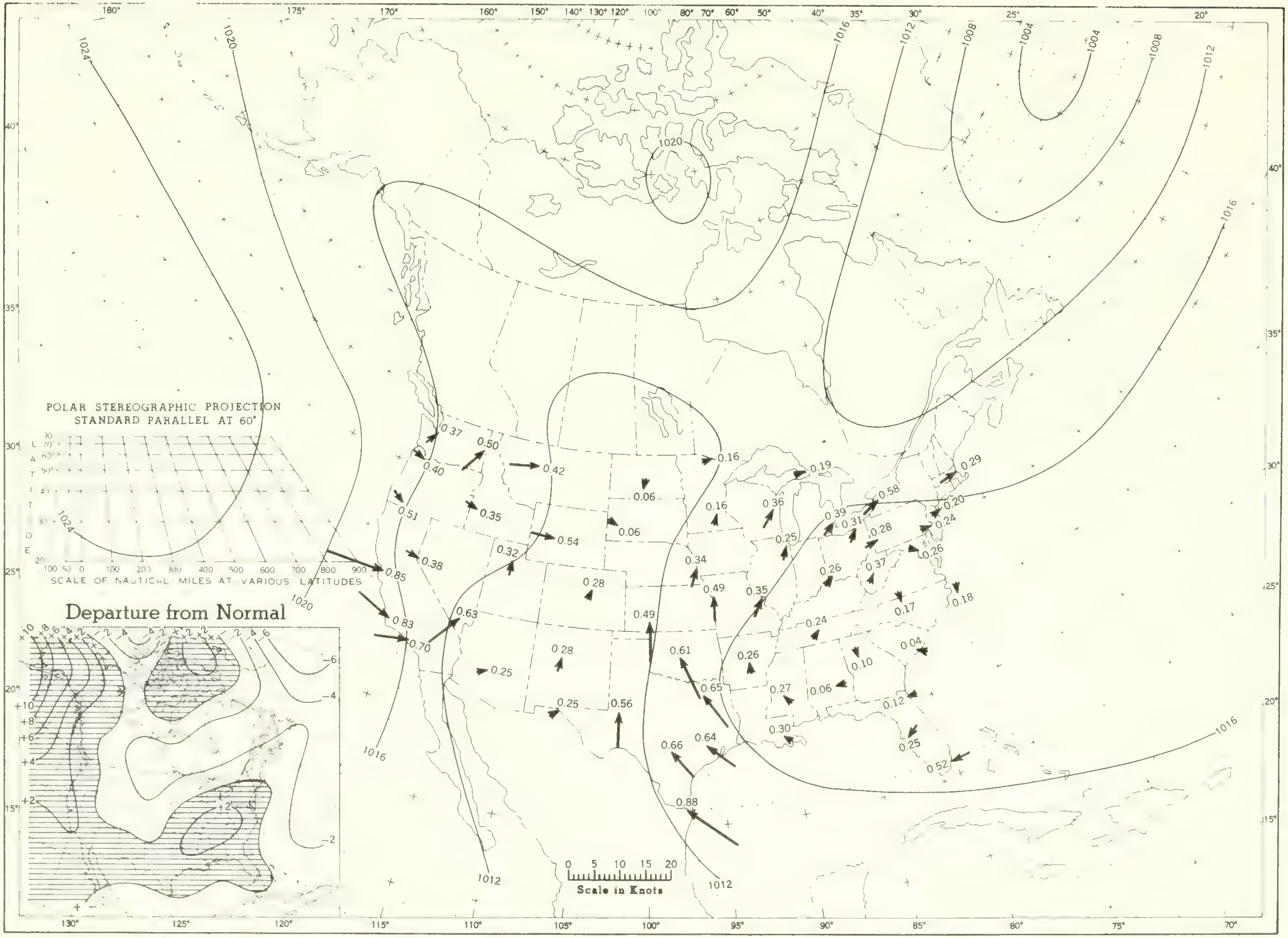
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, May 1964.



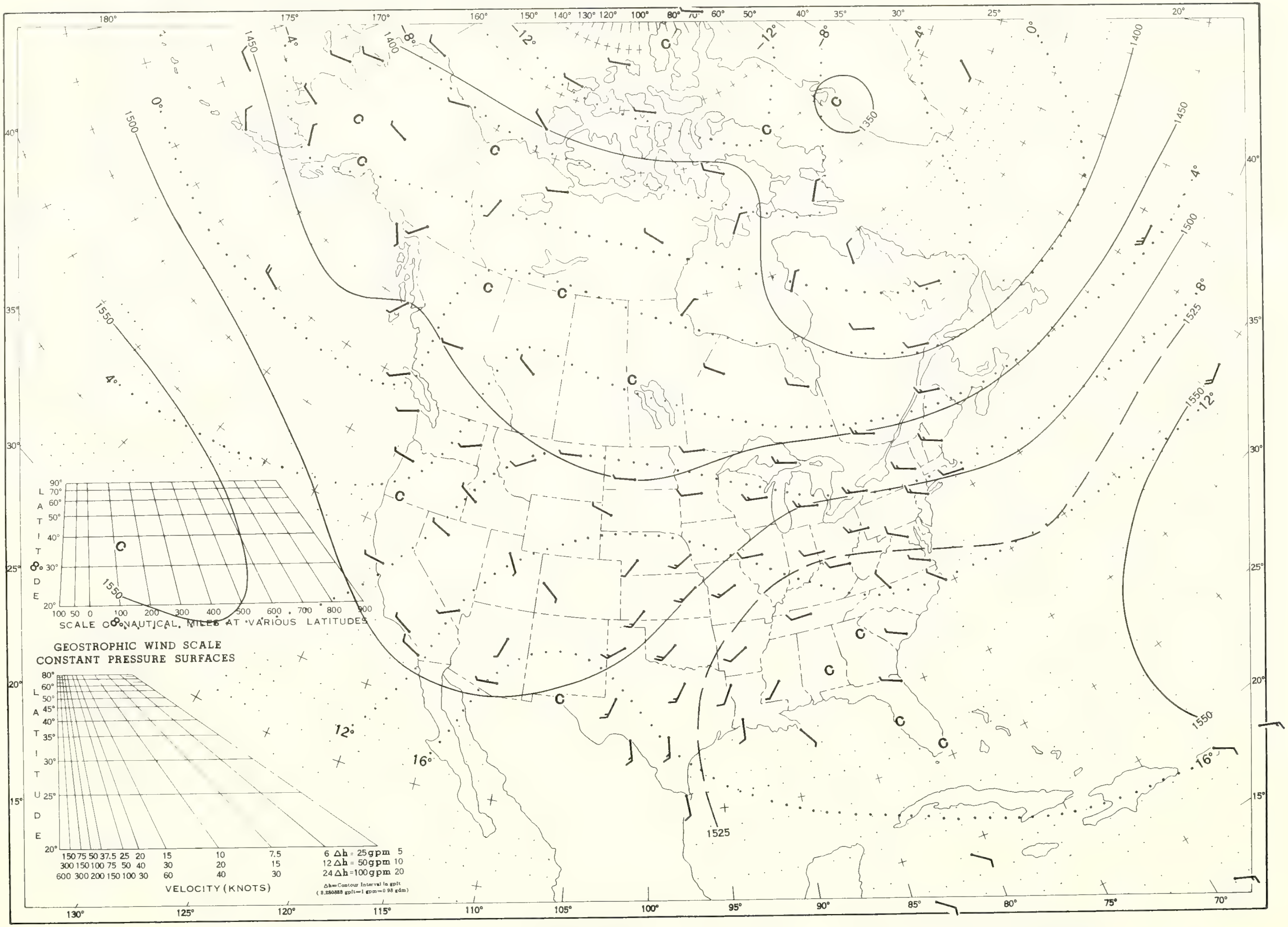
Circle indicates position of center at 7:00 a. m. E. S. T. **See Chart VIII** for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, May 1964. Inset: Departure of Average Pressure (mb.) from Normal, May 1964.



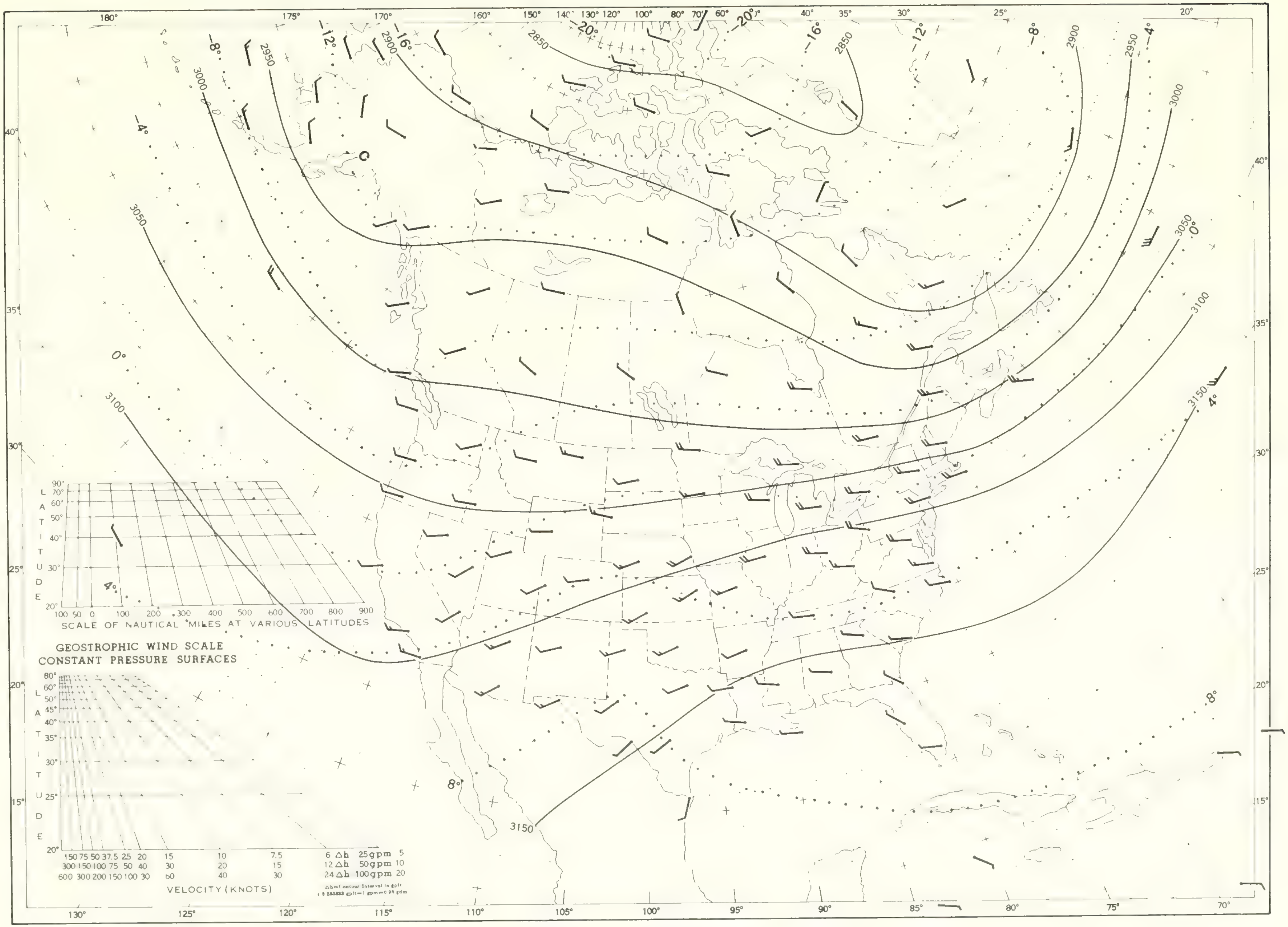
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed – average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, May **1964**. Average Height and Temperature, and Resultant Winds.



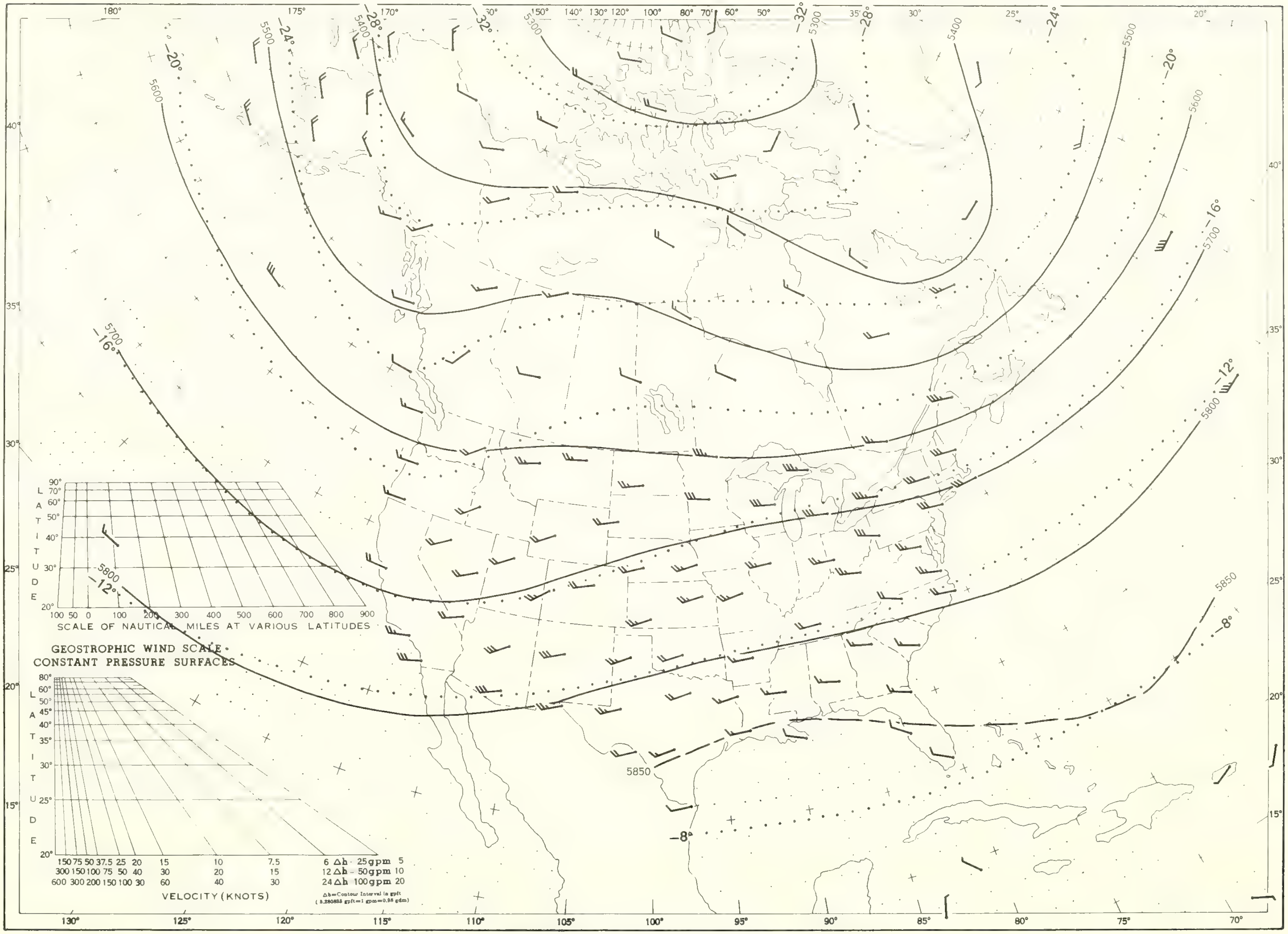
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and **half feather 5 knots. All wind data are based on rawin observations.**

Chart XII. 700-mb. Surface, 1200 GMT, May 1964. Average Height and Temperature, and Resultant Winds.



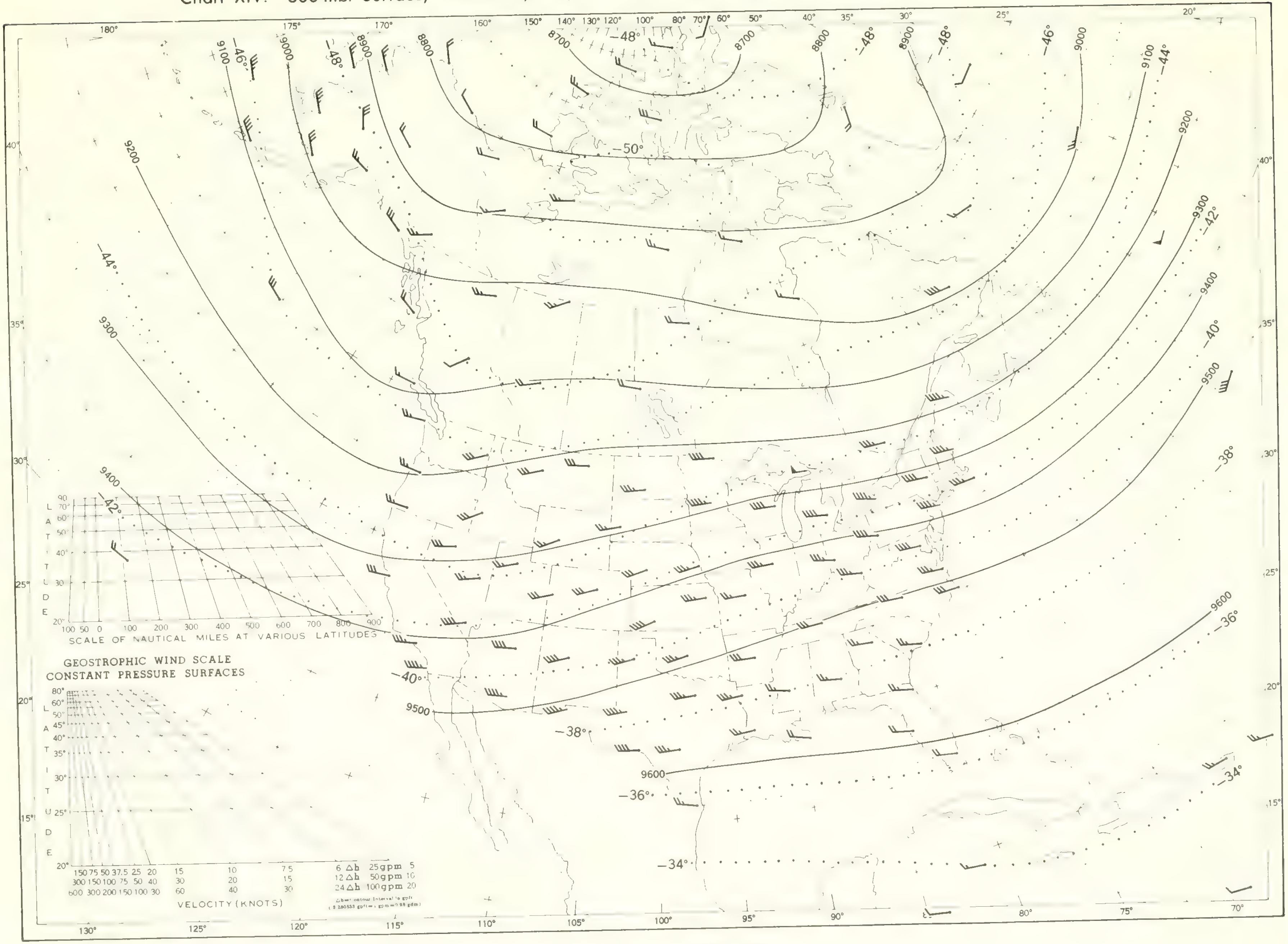
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, May 1964. Average Height and Temperature, and Resultant Winds.



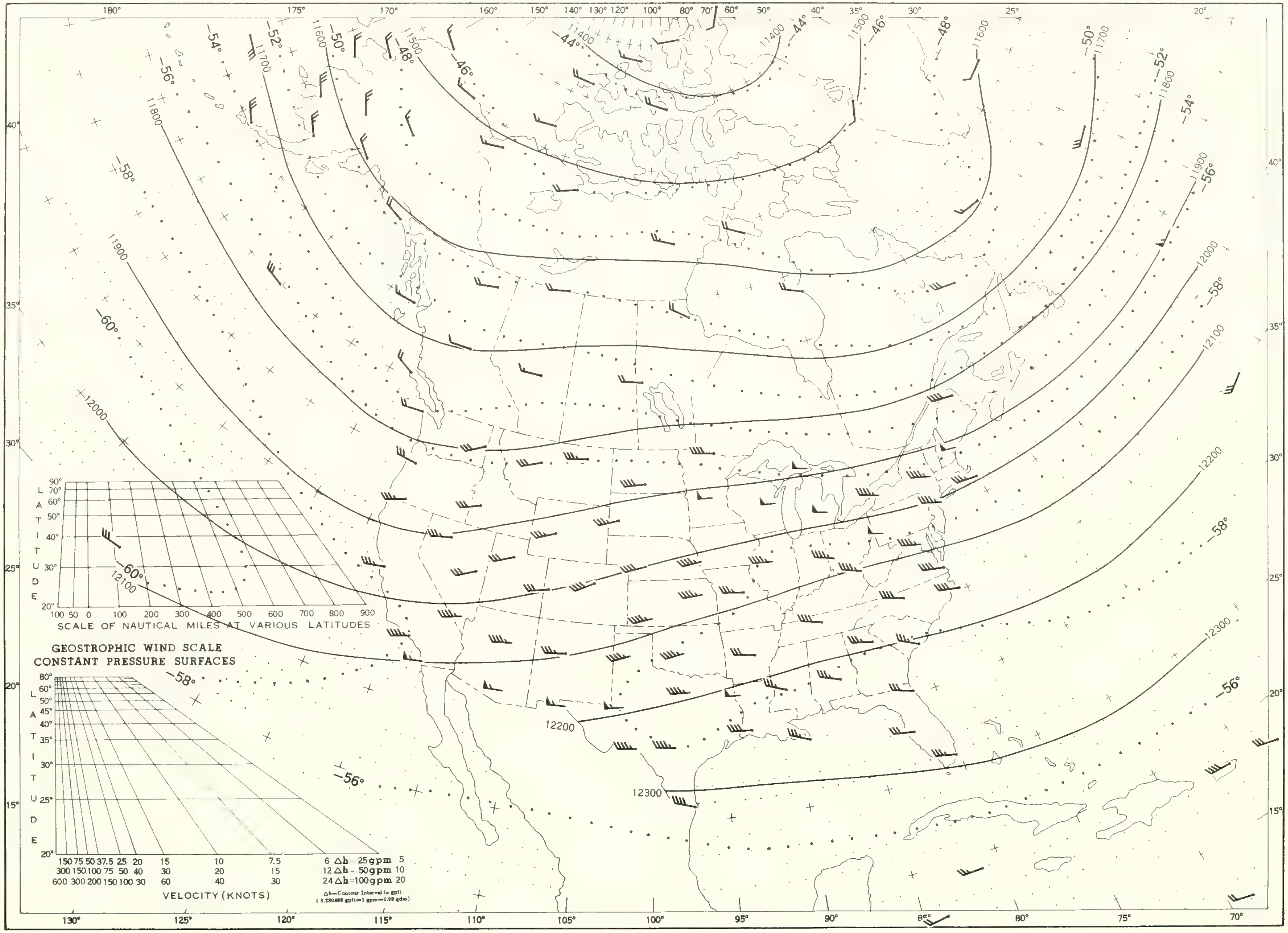
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, May 1964. Average Height and Temperature, and Resultant Winds.



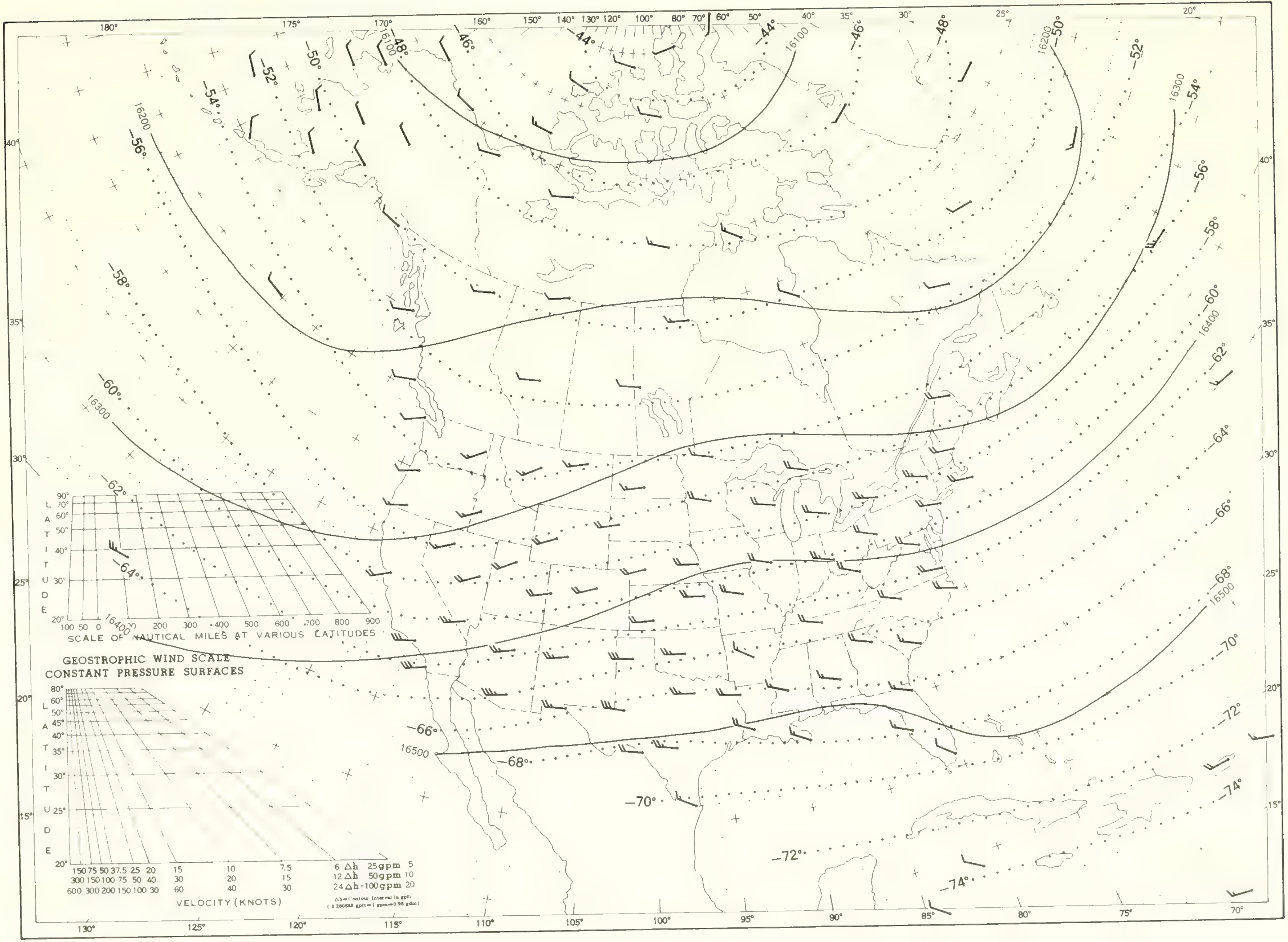
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, May 1964. Average Height and Temperature, and Resultant Winds.



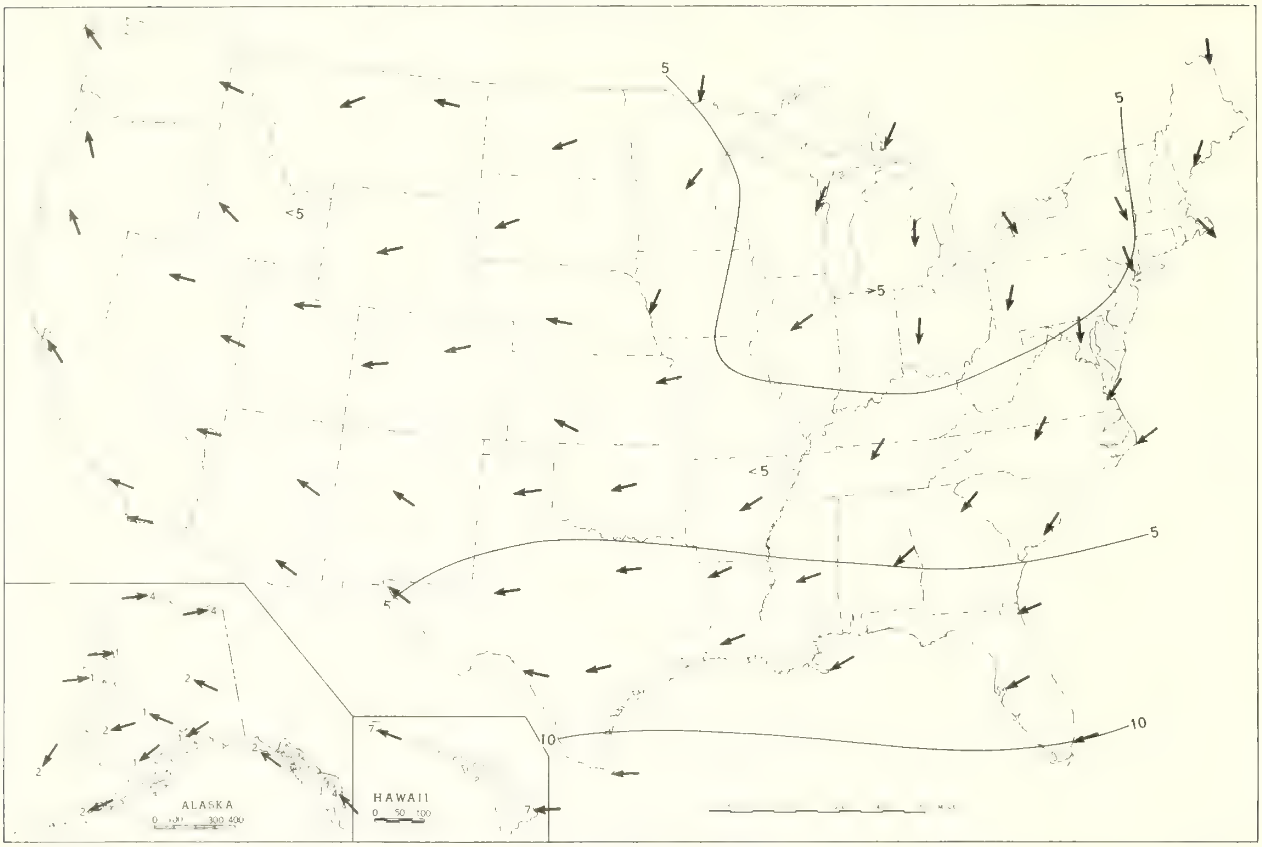
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, May 1964. Average Height and Temperature, and Resultant Winds.

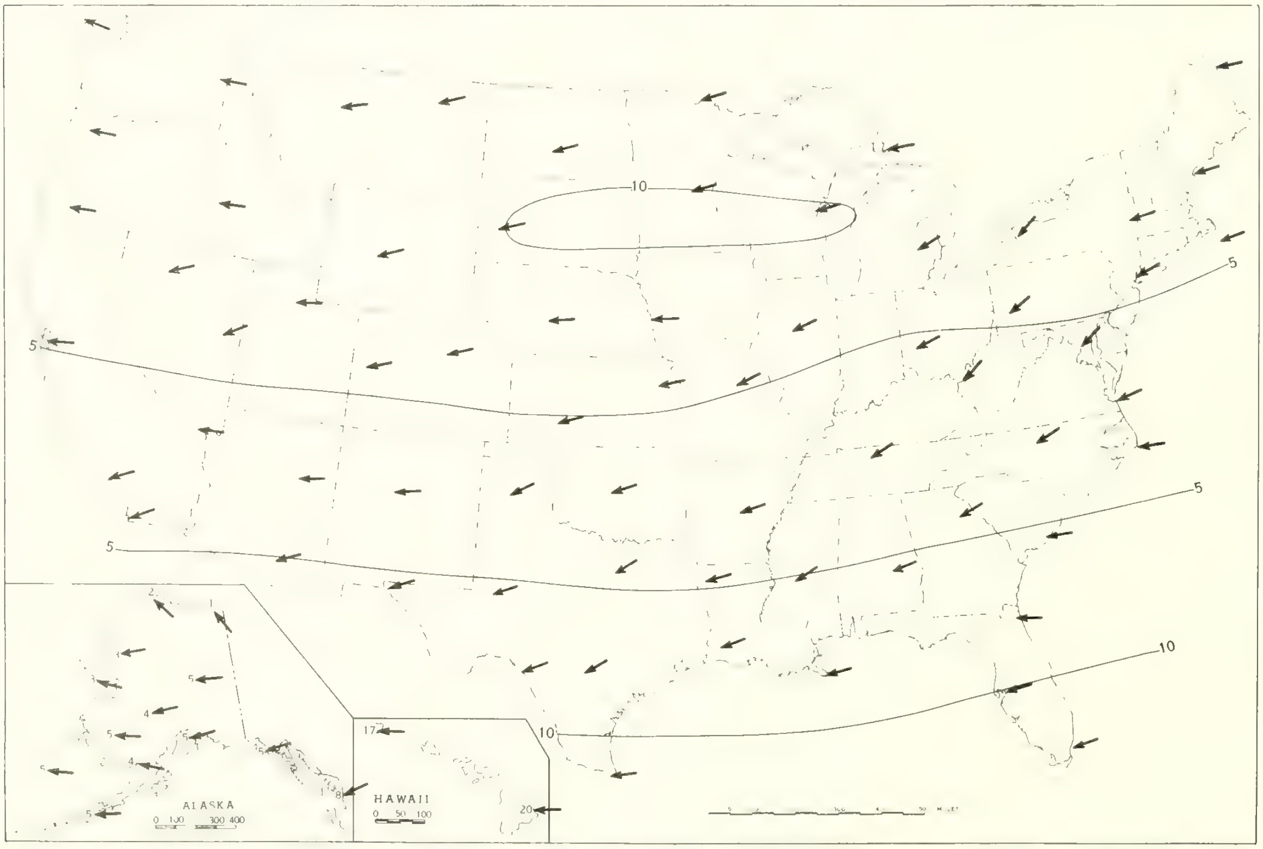


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, May 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, May 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville, N. C. -9/18/64 1850

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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NOV 9 1964
SCI., TECH. & AGR. DIV.

JUNE 1964
Volume 15 No. 6

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 6 JUNE 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

Cool weather prevailed over the western United States during the first and last weeks of June. The second and third weeks were warm. The eastern half of the Nation was warm the first week and comparatively cool the rest of the month. Thunderstorms brought generous showers to scattered locations but left wide areas with deficient moisture.

TEMPERATURES.--Temperatures for the month averaged cooler than normal over the western half of the Nation and warmer than normal over the East. During the first week of June, cool temperatures dominated the Great Plains and eastward. Frost occurred at a few northern stations. Freezing temperatures occurred at a few stations in New York and New England on the 5th. The West was warm during the first week. The situation was reversed the second week. Cool air spread over the West and dropped the temperatures below normal west of a line from the northern Great Plains to the southern Rocky Mountains. Summer heat warmed the East. The hot humid weather continued over the eastern half of the Nation and temperatures at some Texas stations reached 100° or higher on a few days.

The hot humid air continued to dominate the weather from the Great Plains eastward during the third week of June. Midland, Tex., registered 100° or higher on 6 days from the 17th to the 22d. Temperatures from the Great Lakes to the Ohio River reached 90° on 1 to 2 days. Caribou, Maine, registered 87° on the 23d, less than a week after a few late spring snow flurries had occurred. High temperatures continued over the northern Great Plains during the last week of June. They reached the 90's on several days over most of Minnesota and reached 100° at Huron, S. Dak., on the 25th and 26th. The interior valleys of California sweltered in 100° heat. Bakersfield and Fresno recorded 100° or higher each day from the 22d to the 26th. Their maximums were 111° and 110°, respectively, on the 25th. The month ended with unseasonably warm weather over all except the northwest quarter of the Country.

PRECIPITATION.--Rainfall during June exceeded the normal over much of Nevada, Idaho, Montana, Wyoming, and the Dakotas. Spots in southern Texas, in the central Great Plains, in West Virginia, and in Pennsylvania also received more than normal rainfall. Much of Arizona and New Mexico and a narrow band extending from the Edwards Plateau in Texas to western Virginia received less than half of the normal June rainfall.

Moderate to locally heavy rains fell over the northern portion of the Far Northwest during the first week of June. The heavy rains on the 7th and 8th caused severe flooding along the Sun and Flathead Rivers in western Montana. Ample rains fell on the central Great Plains and much of the East. A storm which started as a depression in the Caribbean area moved northward across the Gulf of Mexico. It produced 6 to 8 inches of rain along the Carolina coast. Flash flooding occurred and many highways in the Myrtle Beach, S. C., vicinity were closed. Heavy local rains fell over parts of Idaho, Montana, the Dakotas, Kansas, Nebraska, Iowa, Missouri, and Oklahoma. Tornadoes occurred from Colorado to Michigan and from Minnesota to Texas. On the 10th, a tornado west of Claflin, Kans., removed 12 cars of a moving freight train from the tracks. Local thunderstorms produced heavy rains over several central States during the third week of June. Some localities in central Texas received about 14 inches of rain in a few hours. McGregor, Tex., received 13.96 inches and Moody, 13.00 inches on the 15th and 16th. Generous showers fell during the last week of June over parts of northeastern Wyoming, northeastern Iowa, along the Gulf coast from New Orleans, La., to the Florida Panhandle, and along the coast of the Carolinas. Little or no rain fell from the Pacific Ocean to the western Great Plains (except in Wyoming as noted above). Portions of Indiana, Illinois, and the Missouri Bootheel received no rain during the last week of June.

In some western locations June 1964 was one of the coolest and wettest Junes of record. The rains in the Pendleton, Oreg., - Walla Walla, Wash., area came too late to benefit the early pea crop, but the rains helped the late peas. A few stations in Nevada received 3 or 4 times their normal amounts. At Los Angeles International Airport, June 1964 was the second coolest of record and the rainiest since 1934. The cool storm in the second week at Sacramento, Calif., offset the extreme heat in the fourth week, so the temperatures averaged slightly less than normal.

The June rains helped the hay crop at Havre, Mont., but the heavier rains in the western part of the State caused millions of dollars damage along the Flathead and Sun Rivers. Phoenix, Ariz., received no rain during June and Albuquerque, N. Mex., only light sprinkles on the 2d and 25th. Torrential rains fell at Austin and San Antonio, Tex., on the 15th and 16th. Other Texas locations received little rain. June 1964 was one of the driest Junes of record at Brownsville, no measurable rain fell during the first 23 days at Port Arthur, and Dallas received less than one-tenth of the normal rainfall for that station.

It was the wettest June in northeastern Kansas since 1951 when the Kansas River flooded a portion of Kansas City, Kans. Several stations in eastern Nebraska recorded one of the wettest Junes in many years. A few damaging tornadoes occurred in the Dakotas. The weather was generally pleasant in the Great Lakes region, although there were a few days with strong winds. Some parts of New England were hot and dry. Albany, N. Y., recorded the driest June in 138 years of record. There were frequent thunderstorms in Pennsylvania, but the rainfall was less than normal in the eastern part of the State. Precipitation was spotty in Rhode Island and many areas were critically dry. Lynchburg, Va., registered the least rainfall of any June of record. Other parts of Virginia were also very dry. It was the driest June of record at Asheville, N. C. The brief, hard showers at

Greenville-Spartanburg, S. C., brought the largest June total since 1909. The showers began on the 21st at Macon, Ga. They helped the crops in that area. Thomasville, Ga., farmers also benefited from the generous June rains. The rains from the 26th to the end of the month broke the dry spell at Lakeland, Fla. A tornado caused considerable property damage at Jacksonville, Fla., on the 6th.

Due to the uneven distribution of the June rains, the drought continued in parts of the Midwest and East and floods occurred in western Montana and along the coast of the Carolinas.

CONDENSED CLIMATOLOGICAL SUMMARY

JUNE 1964

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Chatom 3N	105	19	Valley Head	44	4	Yates Hydro Plant	9.42	Arley 3S	0.28
Alaska	Tanacross	97	17	Tok	16	26	Yakutat WBAP	9.05	Wales Airport	.02
Arizona	Apache Junction	116	24	Pinon	20	21+	Montezuma Castle NM	1.36	75 Stations	.00
Arkansas	2 Stations	102	23+	Stamps	38	29	Gravette	7.83	Hopper	.12
California	Death Valley	120	25	White Mountain 2	6	9	Davis Creek	5.10	79 Stations	.00
Colorado	3 Stations	102	28+	Wagon Wheel Gap 3N	19	12	Holyoke	4.26	Ordway	.00
Connecticut	Hartford WBAP	100	30	Coventry	28	6+	Danbury	4.87	Baltic	1.03
Delaware	Lewes 1SW	100	10	Georgetown 5SW	41	17	Milford 3WNW	2.37	Georgetown 5SW	.55
Florida	Melrose	106	19	Fountain 3SSE	54	4	Tavernier	16.40	Bartow	.73
Georgia	Siloam	104	21	Blairsville Exp Sta	39	4	Adel 2S	10.32	Forsyth 1S	.47
Hawaii	Lahaina 361, Maui	91	4	Haleakala Summit, Maui	30	18	Wahiawa Mountain 990, Kauai	24.25	10 Stations	.00
Idaho	Swan Falls Power House	101	25+	Warren	22	13	Grangeville	7.69	Bliss	.74
Illinois	2 Stations	99	28+	Barrington 1NW	37	2	Lawrenceville 3WSW	8.89	Cairo WB City	.98
Indiana	9 Stations	98	30+	Culver Experiment Farm	38	3	Shoals Hiway 50 Bridge	8.39	Saint Meinrad	1.18
Iowa	Cedar Rapids FAA AP	96	8	2 Stations	33	1	Corydon	11.22	Mason City FAA AP	1.25
Kansas	2 Stations	104	19	Alton 6E	37	1	Frankfort	13.46	Tribune 1W	.61
Kentucky	3 Stations	100	29+	Blaine 1W	35	4	Waynesburg 7NE	6.62	Woodbury Lock 4	.43
Louisiana	2 Stations	104	22+	2 Stations	50	2	Oaknolia	7.64	Converse	T
Maine	Sanford 2NNW	96	20	Eustis 2	21	6	Oquossoc	4.71	Grand Lake Stream	.76
Maryland	2 Stations	99	30	2 Stations	34	17	Bittinger 2NW	7.12	Elkton	.86
Massachusetts	New Bedford	99	30	do	29	6	Ashland	3.70	Ashburnham	.56
Michigan	4 Stations	99	30+	Vanderbilt Trout Sta	22	4	Saint Johns	6.22	Onaway State Park	.08
Minnesota	2 Stations	99	25	Bigfork	15	1	Kettle Falls	9.01	Elgin	.46
Mississippi	Kosciusko	103	23	University	48	4	Standard	9.33	Greenville	.50
Missouri	Malden	102	23	2 Stations	37	3	Polo	12.57	Parma	.89
Montana	Miles City	104	27	Opheim 10N	21	1	Gibson Dam	10.34	Libby 1NE Ranger Sta	.96
Nebraska	Chambers	101	8	2 Stations	29	2	Boys Town	11.09	Brownlee	.92
Nevada	2 Stations	111	26+	do	24	11+	Vya	4.23	4 Stations	.00
New Hampshire	do	98	30+	Grafton	25	6	Dixville Notch	5.09	Walpole 2	.41
New Jersey	3 Stations	101	30	Newton	33	5	Split Rock Pond	5.13	Millville FAA AP	.51
New Mexico	Jal	105	17+	Cowles	10	1	Clovis	4.35	26 Stations	.00
New York	Poughkeepsie	102	30	Indian Lake 2SW	21	6	Rock Hill 3SW	7.26	Battenville	.24
North Carolina	Tryon	105	22	Celo 2S	37	4	Shallotte 4WNW	10.58	Waynesville 1E	.49
North Dakota	2 Stations	101	27+	Hansboro 3W	20	1	Reeder	13.25	Hankinson RR Station	2.41
Ohio	4 Stations	98	30+	Dorset	32	5	Prospect	7.97	McArthur	.25
Oklahoma	2 Stations	108	7	2 Stations	40	2+	Miami	13.23	Healdton 2N	.24
Oregon	do	100	24+	Fremont	21	28	Headworks Portland Water	6.80	Grants Pass	.53
Pennsylvania	Bethlehem Lehigh Univ	104	30	Clermont 4NW	25	5	Confluence 1NW	10.14	Philadelphia WBAP	.21
Puerto Rico	Utuado	97	10	Caguas 2ENE	57	17	Saint Just	11.28	Ponce	.18
Rhode Island	3 Stations	94	30	Kingston	33	6	Providence WBAP	2.34	Kingston	.86
South Carolina	Cheraw	104	21	Walhalla	48	4+	Conway	15.27	Chester 2WSW	1.05
South Dakota	Andover 7N	104	28	Deerfield 5NW	23	2	Bowdle	11.48	Wolsey	.83
Tennessee	Norris	104	23	Mountain City 2	38	4	Bolivar 2	6.42	Monsanto	.19
Texas	Castolon	112	8	Mount Locke	36	1	McGregor	14.33	11 Stations	.00
Utah	Saint George Pwr House	108	25	Strawberry Hwy Station	20	2	Bingham Canyon	5.25	3 Stations	.00
Vermont	Cornwall	99	30	Chelsea	25	6	Waterbury 1NNE	3.27	Newfane	.43
Virginia	Quantico 1S	102	10	Burkes Garden	31	4	Grundy 3NW	7.70	The Plains 1E	.34
Washington	2 Stations	96	24+	Rainier Paradise RS	27	27	Tolt South Fork Resvr	9.88	McNary Dam	.53
West Virginia	Harpers Ferry Nat Mon	99	27	Canaan Valley	30	17	Belington	9.21	Harpers Ferry	1.13
Wisconsin	2 Stations	99	29+	Danbury	20	1	Arlington Univ Farm	4.66	2 Stations	.35
Wyoming	5 Stations	98	30+	Lamar Ranger Station	20	2	Gillette 2E	10.00	Casper WBAP	.59

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	991.9	1016.9	89	68	78.2	- 1.2	99	22	53	4	12	0	67	73	4.08	0.07	3.37	7	9	0.0	0	5.2	3	25	SE	26	7	11	12	6.1	67
HUNTSVILLE	605	993.7	1016.6	89	68	78.8	0.2	97	22	56	3+	17	0	65	64	4.28	0.91	1.90	5	6	0.0	0	5.3	18	23*	5	23	9	14	7	5.5	
MOBILF	211	1013.6	1015.8	90	70	80.4	- 1.1	97	22	59	2	19	0	69	75	4.27	- 1.96	1.78	12	15	0.0	0	7.7	18	29*	4	22	4	20	6	5.8	
MONTGOMERY	195	1008.3	1016.3	92	71	81.2	1.8	99	21	57	3	20	0	70	72	2.72	- 1.45	1.16	7	10	0.0	0	5.8	22	29	E	17	7	12	11	5.9	67
ALASKA												B																				
ANCHORAGE	90	1007.2	1012.1	63	49	55.9	1.4	73	23	42	30	5	0	45	70	1.73	0.75	0.59	14	0	0.0	0	8.1	18	26*	18	5	3	5	22	8.3	41
ANNETTE	110	1010.5	1014.6	64	49	56.4	2.1	80	8	44	21	6	0	48	78	3.82	- 1.85	1.42	14	0	0.0	0	7.9	18	21*	17	23+	1	5	24	8.4	
BARROW	22	1016.3	1016.9	35	29	31.9	- 1.2	43	16	24	3	0	27	29	88	0.36	0.00	0.35	2	0	1.1	1	12.3	9	25*	23	5	4	3	23	7.9	
BARTER ISLAND	39	1014.0	1015.8	37	29	32.6	- 1.6	52	7	24	10	0	28	30	88	0.55	0.04	0.20	8	0	2.9	1	11.9	8	35*	27	6	3	6	21	7.9	
BETHEL	125	1011.1	1012.3	62	43	52.5	0.9	76	13+	30	2	6	1	45	78	0.79	- 0.39	0.37	10	1	0.0	0	10.6	32	22*	32	22+	3	9	18	7.6	
COLD BAY	94	1008.0	1011.8	52	41	46.4	1.1	63	1	34	26+	0	0	41	83	1.85	- 0.10	1.18	11	0	0.0	0	15.4	15	39*	15	10	1	5	24	8.9	
CORDOVA	40	1011.2	1012.8	60	43	51.6	1.4	78	2	34	4	5	0	46	80	7.30	3.82	2.06	17	0	0.0	0	4.9	8	16*	14	25+	1	5	24	8.8	
FAIRBANKS	436	993.1	1009.9	70	50	60.1	1.7	79	4+	37	26	19	0	44	59	1.33	- 0.06	0.64	5	1	0.0	0	6.9	22	23*	24	23	5	11	14	6.5	
JUNEAU	17	1012.9	1013.8	61	46	53.6	1.3	74	8	40	22	4	0	47	81	3.37	- 0.02	0.80	16	0	0.0	0	7.2	36	21*	12	21	2	1	27	8.9	31
KING SALMON	43	1009.4	1011.4	63	42	52.2	0.8	76	24+	32	30	5	1	41	70	0.47	- 0.93	0.19	10	0	0.0	0	10.2	22	32*	9	13	5	4	21	7.7	
KOTZEBUE	10	1012.5	1012.8	45	34	39.3	- 4.5	68	14	27	4	0	16	35	86	0.14	- 0.35	0.11	3	0	0.2	4	11.1	29	29*	29	20	10	11	9	5.3	
MC GRATH	334	998.1	1010.6	67	47	57.1	0.6	81	13	38	2	12	0	44	64	2.44	0.78	1.21	12	1	0.0	0	6.2	36	18*	32	22+	3	6	21	8.2	
NOME	13	1011.9	1012.3	56	39	47.8	1.9	73	8	29	1	1	2	38	72	0.04	- 0.89	0.03	2	0	0.0	T	11.3	26	31*	26	23+	10	12	8	5.2	56
ST. PAUL ISLAND	22	1010.7	1011.5	46	38	41.9	1.1	56	15	31	2	0	2	39	92	0.68	- 0.47	0.29	8	0	0.0	0	12.1	6	26*	32	4+	2	4	24	8.5	
SHEMYA	122	1009.4	1010.4	45	40	42.4	0.6	49	11	36	1	0	0	40	92	2.02	0.70	0.81	11	0	0.0	0	17.6	33	39*	15	21	0	4	26	9.3	
YAKUTAT	28	1013.6	1014.7	58	47	52.4	1.9	68	1	39	4	0	0	46	81	9.05	3.99	4.42	21	0	0.0	0	6.4	9	17*	13	19+	0	6	24	9.0	
ARIZONA																																
FLAGSTAFF	6993	790.8	1012.8	75	40	57.4	- 2.1	86	24	28	11	0	3	27	34	0.17	- 0.52	0.15	3	3	0.0	0	9.0	18	30*	17	7	20	6	4	2.8	
PHOENIX	1117	969.8	1007.9	100	66	82.6	- 1.0	111	24	57	11	27	0	41	23	0.00	- 0.09	0.00	0	0	0.0	0	7.1	27	38Y	E	24	24	4	2	1.6	96
PRESCOTT	5014	846.4	1010.7	84	53	68.4	- 2.0	95	24	40	11	7	0	29	26	0.42	0.10	0.40	3	4	0.0	0	11.0	19	44	SW	7	20	6	4	2.4	94
TUCSON	2584	922.6	1008.3	97	67	82.0	- 0.7	104	30+	58	9	29	0	31	18	0.01	- 0.28	0.01	1	2	0.0	0	9.1	16	36	SW	17	23	6	1	1.8	92
WINSLOW	4880	850.6	1011.1	90	51	70.2	- 4.1	98	30	40	11	16	0	28	24	0.17	- 0.09	0.17	2	2	0.0	0	9.9	22	35*	21	17+	19	7	4	2.7	
YUMA	199	1002.8	1007.9	99	70	84.8	- 2.4	112	24	60	10+	27	0	43	25	0.00	- 0.01	0.00	0	0	0.0	0	8.3	30	38	W	7	23	7	0	1.5	98
ARKANSAS																																
FORT SMITH	449	997.9	1014.5	92	64	78.1	- 0.5	99	22+	47	3	23	0	64	65	0.63	- 3.72	0.54	3	3	0.0	0	6.9	22	23	SW	15	11	10	9	5.0	72
LITTLE ROCK	257	1002.4	1015.3	93	68	80.6	1.7	100	28+	53	2	21	0	66	66	0.31	- 3.30	0.24	4	0	0.0	0	8.1	24	34	SE	27	14	10	6	4.5	77
TEXARKANA	361	1001.5	1015.1	90	70	79.9	0.5	95	28	56	1	20	0	70	75	2.75	- 1.14	2.11	5	5	0.0	0	5.8	19								
CALIFORNIA																																
BAKERSFIELD	494	994.3	1011.7	91	63	76.9	- 0.2	111	25	52	11	17	0	43	33	0.01	- 0.08	0.01	1	0	0.0	0	7.7	33	31*	32	8	20	7	3	2.6	
BISHOP	4108	870.8		89	51	70.0	0.2	101	25	36	10	17	0			T	- 0.09	T	0	0	0.0	0						18	7	5	3.6	
BLUE CANYON	5280	838.5		63	47	54.7	- 4.5	80	25+	31	8	0	1			2.72	1.79	1.28	7	1	T	0	6.7		28*	6	21	12	6	12	5.1	
BURBANK	699	987.1	1012.9	78	54	66.0	- 2.0	99	25	47	10	2	0	51	67	0.27	0.22	0.27	2	0	0.0	0	7.7	19	18*	21	8	10	13	7	4.4	
EUREKA U	43	1015.2		59	51	54.8	- 0.7	71	4	47	28+	0	0			0.72	- 0.02	0.29	8	0	0.0	0	7.5	N#	28	N	8	5	5	20	7.7	57
FRESNO	326	999.9	1011.6	90	57	73.3	- 1.4	110	25	48	8	16	0	47	43	0.06	- 0.01	0.06	1	0	0.0	0	9.2	30	26	NW	6	20	6	4	2.9	89
LONG BEACH	34	1012.2	1013.7	71	55	63.1	- 4.4	83	30	50	29	0	0	53	75	0.14	0.11	0.14	1	0	0.0	0	6.3	18	20*	27	7	7	17	6	5.1	
LOS ANGELFS	97	1010.1	1013.9	68	57	62.2	- 2.6	73	30	53	10	0	0	54	77	0.29	0.24	0.29	2	0	0.0	0	9.7	26	23*	W	7	8	11	11	6.1	
LOS ANGELES U	312			73	56	64.8	- 3.2	85	30	52	10+	0	0			0.32	0.26	0.32	1	0	0.0	0	5.8	W#	19	W	7	12	12	6	4.4	66
MT SHASTA R	3544	891.5		71	45	57.6	- 2.7	90	24+	35	8	2	0			1.10	- 0.15	0.40	7	1	T	0						11	8	11	5.4	
OAKLAND	3	1014.4	1014.7	66	55	60.1	- 2.7	83	22	51	1	0	0	52	78	0.43	0.31	0.40	4	0	0.0	0	10.8	29	26*	29	18	12	8	10	5.1	
POINT ARGUELLO R	367	1001.1		62	49	55.7	- 1.2	68	22	47	14+	0	0			0.12	0.07	0.03	7	0	0.0	0	8.2		26*	29	7	3	11	16	7.2	
RED BLUFF	341	999.5	1011.9	87	60	73.0	- 3.2	105	24+	48	9	12	0	44	41	0.59	0.14	0.29	5	2	0.0	0	8.1	18	28	NW	26	14	8	8	4.5	76
SACRAMENTO	17	1011.5	1012.9	85	55	70.0	- 0.5	106	24	49	30+	8	0	51	60	0.39	0.29	0.32	4	0	0.0	0	9.1	22	26	SW	26	15	8	7	4.2	80
SACRAMENTO U	23			83	56	69.3	- 0.7	103	24+	50	30	7	0			0.41	0.29	0.34	4	0	0.0	0										
SANDBERG R	4517	861.9		74	52	63.2	- 1.6	95	25+	36	9	3	0			0.00	- 0.03	0.00	0	0	0.0	0	13.4		35*	34	5	19	6	5	3.0	
SAN DIEGO	13	1010.6	1013.7	69	59	64.0	- 2.2	77	30	53	10	0	0	54	76	0.08	0.03	0.07	2	0	0.0	0	8.0	20	18	S	8	6	15	9	6.2	48
SAN FRANCISCO	8	1014.4	1015.1	70	53	61.3	0.0	91	22	49	11+	1	0	51	75	0.60	0.49	0.60	1	0	0.0	0	14.4	26	42	W	7	11	8	11	5.2	
SAN FRANCISCO U	52			64	52	57.8	- 1.3	81	22	49	9	0	0			0.57	0.43	0.54	3	0	0.0	0	10.3	W#	31	W	14					69
SANTA CATALINA	1568	957.9		69	53	61.1	- 0.8	88	25	49	11+	0	0			0.27	0.16	0.27	2	0	0.0	0						14	7	9	4.4	
SANTA MARIA	238	1006.4		68	48	58.0	- 1.6	73	25+	43	11+	0	0			0.09	- 0.05	0.06	4	0	0.0	0						17	10	3	4.1	
STOCKTON	28	1011.8	1013.3	86	55	70.9	- 1.9	108	23	48	10	10	0	49	53	0.66	0.59	0.53	2	0	0.0	0	9.6	27	25*	27	26	16	6	8	4.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M p.h.							%
COLORADO																																
ALAMOSA	7536	772.6		77	41	58.8	-1.2	85	15	32	23+	0	3			0.39	-0.10	0.14	7	5	0.0	0						20	7	3	2.7	
COLORADO SPRINGS	6173	810.8	1010.8	79	51	65.0	0.3	91	28+	40	2+	3	0	38	43	0.96	-0.63	0.56	7	10	0.0	0	10.9	17	37*	36	25	12	12	6	4.6	
DENVER	5283	836.4	1010.1	80	50	65.0	-1.5	95	27	43	23+	5	0	45	53	0.82	-0.62	0.31	10	7	0.0	0	7.8	18	36	W	17	9	15	6	5.3	74
GRAND JUNCTION	4849	857.1	1009.2	86	55	70.2	-1.1	95	25	42	22	8	0	33	29	0.16	-0.26	0.08	5	4	0.0	0	9.4	12	47	NW	21	10	11	9	5.2	73
PUEBLO	4639	854.9	1009.9	86	53	69.4	-1.7	98	16	42	23+	11	0	39	39	0.13	-1.09	0.06	6	4	0.0	0	10.7	12	57	NW	3	13	12	5	3.9	78
CONNECTICUT																																
BRIDGEPORT	7	1014.9	1015.5	77	58	67.4	-0.6	93	30	45	3	2	0	55	71	1.41	-1.99	0.50	8	4	0.0	0	11.6	23	31*	32	16	13	7	10	5.2	
HARTFORD	169	1009.1	1014.5	81	55	68.3	-0.4	100	30	37	6	4	0	53	64	1.68	-2.02	0.65	11	4	0.0	0	8.2	18	31	NW	16	8	10	12	5.9	66
NEW HAVEN	6	1014.5		76	57	66.2	0.0	93	30	42	3	1	0			2.05	-1.48	0.58	8	4	0.0	0	7.4		26	NW	16	10	7	13	5.3	69
DELAWARE																																
WILMINGTON	78	1012.8	1016.1	83	61	72.1	0.7	98	30	46	4	8	0	56	61	1.02	-3.05	0.72	4	4	0.0	0	9.5	18	28*	23	15	10	8	12	5.6	
DIST.OF COLUMBIA																																
WASHINGTON U	72			86	65	75.3		98	30+	52	4	11	0			1.11		0.43	8													
WASH NATL AP	14	1011.0	1015.5	87	65	76.0	1.8	100	10	52	4	13	0	59	58	1.30	-1.91	0.61	9	8	0.0	0	8.8	18	26	N	16	8	10	12	6.0	70
FLORIDA																																
APALACHICOLA U	13	1014.2		87	74	80.6	0.4	91	21+	68	4+	5	0			2.43	-2.87	0.77	10	10	0.0	0	5.8					12	16	2	4.0	74
DAYTONA BEACH	31	1015.4	1017.0	90	71	80.6	2.2	97	17	68	3	19	0	70	74	4.73	-1.08	1.54	6	8	0.0	0	7.5	9	28*	14	27	8	13	9	5.5	
FORT MYERS	13	1015.5		92	71	81.8	1.0	97	21+	68	24+	25	0			4.58	-4.38	1.77	15	17	0.0	0	7.8		23*	19	27+	5	19	6	5.7	
JACKSONVILLE	24	1014.3	1016.1	93	72	82.3	1.5	99	17+	63	4	23	0	70	72	4.67	-1.66	2.66	9	7	0.0	0	8.6	27	48	NE	6	12	11	7	4.9	72
KEY WEST	5	1015.0	1016.2	88	78	83.0	1.2	91	8	71	10	7	0	73	73	5.42	1.45	2.26	15	13	0.0	0	10.8	11	40	NW	5	6	17	7	6.0	76
LAKELAND U	214			92	72	82.0	1.4	97	18	70	11+	25	0			5.79	-1.41	1.86	11	14	0.0	0	5.9					5	19	6	5.7	65
MIAMI BEACH	9			85	77	80.9	-0.2	87	20	72	5	0	0			6.66	1.03	3.30	12		0.0	0	12.9					7	13	10	5.9	60
MIAMI	7	1015.3	1016.5	87	75	81.2	0.4	91	20+	70	10	3	0	73	78	10.48	3.11	3.91	15	14	0.0	0	6.4	11	23*	26	10+	1	16	13	7.0	
ORLANDO	106	1012.2	1016.8	93	72	82.4	1.1	97	17+	69	4	25	0	70	74	6.11	-0.85	2.28	11	12	0.0	0	7.2	18	46*	2	10	5	17	8	5.7	
PENSACOLA	13			89	71	80.1	-1.0	96	21	60	2	14	0			4.30	-1.13	1.72	9	9	0.0	0	6.1	20	28	NE	21					70
TALLAHASSEE	58	1014.0	1016.6	92	70	80.6	0.4	98	20	59	4	21	0	69	74	8.16	1.62	3.50	11	18	0.0	0	6.9	20	25*	35	21	7	14	9	5.6	
TAMPA	19	1014.7	1016.2	92	71	81.8	1.2	97	20	65	1	25	0	71	74	6.64	-0.64	1.96	10	15	0.0	0	8.9	12	67*	31	25	6	18	6	5.5	81
WEST PALM BEACH	15	1016.4	1016.7	88	72	80.4	-0.6	92	19+	69	12+	13	0	72	80	10.23	2.70	2.82	10	8	0.0	0	7.1	12	23*	9	26+	9	9	12	6.2	
GEORGIA																																
ATHENS	803	988.2	1016.7	91	67	79.1	1.5	103	21	54	3	17	0	65	67	3.51	-0.37	1.66	8	8	0.0	0	6.9	29	23*	26	23	9	13	8	5.4	
ATLANTA	1005	975.7	1016.8	88	68	77.8	1.0	98	22	56	4	14	0	64	67	2.88	-0.95	1.19	7	5	0.0	0	6.6	32	42	W	1	10	14	6	5.1	72
AUGUSTA	143	1009.4	1016.2	93	69	80.6	1.7	98	11+	57	3	22	0	67	68	5.32	2.28	3.25	10	12	0.0	0	6.7	12	28*	13	23	3	17	10	6.2	
COLUMBUS	385	1002.2		91	69	79.9	0.5	99	21	58	3	19	0			3.91	0.23	1.64	9	8	0.0	0	6.3		28*	36	22	8	14	8	5.4	
MACON	356	1003.0	1016.5	93	70	81.5	0.8	103	21	59	3	22	0	66	64	1.53	-1.81	0.44	7	9	0.0	0	7.0	24	24	SW	1	6	18	6	5.3	73
ROME	637	994.0		91	64	77.1	0.7	100	22	49	3	19	0			3.05	-0.71	1.14	7	11	0.0	0						12	13	5	4.7	
SAVANNAH	48	1013.8	1016.4	92	71	81.4	1.7	100	16+	63	5+	20	0	70	72	2.55	-2.54	0.70	8	9	0.0	0	9.2	18	34	SW	18	12	13	5	4.8	81
THOMASVILLE U	283			91	70	80.4	-0.4	98	20+	63	3	19	0			9.29	4.47	2.74	10	12	0.0	0										
HAWAII																																
HILO	31	1015.5	1017.1	83	67	75.0	0.7	86	20	63	24	0	0	67	78	7.01	0.22	1.29	23	0	0.0	0	8.5	25	25*	7	14	5	9	16	6.9	42
HONOLULU	7	1016.1	1016.4	85	71	77.9	0.0	87	20+	65	11	0	0	62	62	0.08	-0.25	0.03	5	0	0.0	0	10.5	6	29	NE	16	5	15	10	5.8	49
KAHULUI	44	1013.3	1016.1	85	69	76.6	-0.6	89	20+	64	11+	0	0	67	75	0.07	-0.11	0.04	5	0	0.0	0	13.1	4	35	NE	16	13	9	8	5.0	76
LIHUE	115	1012.6	1018.0	84	72	77.8	1.2	86	17	65	4	0	0	68	73	1.02	-0.44	0.33	16	0	0.0	0	12.8	6	27	E	25	5	14	11	6.5	56
IDAHO																																
BOISE	2838	917.2	1012.3	74	51	62.5	-3.3	95	26	41	19	3	0	47	62	2.00	1.11	0.55	13	7	0.0	0	8.1	13	34	SE	26	5	8	17	6.9	58
IDAHO FALLS 42NW R	4790			71	44	57.4	-2.4	89	26	31	20	0	1			3.35	2.11	0.71	16				7.8		30A	SSW	18					
IDAHO FALLS 46W R	4933	847.1		70	44	57.1	-2.7	91	26	31	20	1	1			2.23	1.14	0.56	14	9	0.0	0	8.6		31A	WSW	2					
LEWISTON	1413	961.3		76	53	64.4	-0.4	91	23	44	28	1	0			3.11	1.38	1.07	13	6	0.0	0						6	9	15	6.5	
POCATELLO	4444	863.5	1012.8	73	47	60.0	-2.8	93	26	38	20	2	0	46	65	2.08	1.12	0.74	14	7	0.0	0	10.5	18	36	SE	26	6	7	17	6.6	60
ILLINOIS																																
CAIRO U	314	1002.4		89	70	79.6	1.7	98	22	55	4	17	0			0.98	-3.15	0.42	6	4	0.0	0	8.3	S#	32	SW	9	12	6	12	5.3	63
CHICAGO O HARE	658	990.2	1014.6	82	56	69.0	1.0	92	8	39	2	9	0	58	69	2.86	-1.10	1.36	10	6	0.0	0	9.2	23	32*	23	9	7	10	13	5.9	
CHICAGO MIDWAY	610	992.3	1014.9	84	62	73.1	2.6	96	29+	47	3	11	0	57	61	1.94	-2.13	0.65	9	5	0.0	0	9.5	21	41	NW	22	9	10	11	5.8	65

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
MOLINE	582	992.3	1014.3	84	61	72.3	0.9	95	29+	44	2	9	0	59	66	3.89	- 0.48	1.93	10	8	0.0	0	8.4	25	40	SW	9	8	9	13	5.9	62
PEORIA	652	992.9	1015.0	84	61	72.7	1.0	96	19	41	3	9	0	61	71	4.22	0.14	2.80	11	7	0.0	0	8.1	18	27	SW	9	10	10	10	5.5	69
ROCKFORD	728	987.1	1014.0	81	56	68.6	- 1.1	93	8	42	16+	4	0	57	70	6.51	2.21	2.31	9	8	0.0	0	9.9	18	30*	27	9	8	9	13	5.8	
SPRINGFIELD	588	991.4	1014.3	87	64	75.1	1.1	97	28+	46	3	12	0	61	63	2.26	- 2.19	0.96	7	7	0.0	0	10.3	18	48	W	21	11	9	10	5.1	74
INDIANA																																
EVANSVILLE	381	1000.4	1016.0	88	64	75.6	- 0.2	97	28	44	4	14	0	65	72	1.58	- 2.16	0.99	7	5	0.0	0	6.3	22	22	SW	9	9	12	9	5.4	68
FORT WAYNE	791	984.9	1015.7	81	60	70.6	0.0	92	30+	46	3	7	0	60	71	3.73	- 0.44	1.08	13	10	0.0	0	8.2	18	40	SW	12	9	10	11	5.5	75
INDIANAPOLIS	793	986.3	1015.8	84	63	73.4	2.3	94	12	48	3	9	0	61	67	2.73	- 1.89	0.88	9	6	0.0	0	8.6	22	49	W	12	9	9	12	5.6	72
SOUTH BEND	768	987.2	1014.9	83	60	71.1	2.1	95	19+	43	3+	7	0	56	60	4.45	0.87	1.27	9	7	0.0	0	9.6	24	46*	27	19	10	11	9	5.7	
IOWA																																
BURLINGTON	694	990.0	1014.7	83	62	72.2	0.1	94	29	46	3	7	0	60	69	4.15	- 0.86	2.05	9	9	0.0	0	9.0	24	72	NW	20	6	13	11	5.8	66
DES MOINES	948	983.1	1014.0	80	60	69.9	- 2.5	90	29	45	1	1	0	59	70	6.49	1.78	2.29	11	9	0.0	0	11.4	13	42	SW	9	8	10	12	5.8	58
DUBUQUE	1065	989.1		80	58	68.5	0.6	90	29+	43	3+	2	0			6.23	2.02	2.45	11	10	0.0	0			53*	24	9	8	9	13	5.8	
SIOUX CITY	1095	971.8	1012.3	80	59	69.9	- 1.5	91	8	44	3+	2	0	60	71	2.71	- 1.62	0.92	12	10	0.0	0	11.8	16	42	W	9	12	8	10	4.9	61
WATERLOO	868	981.5	1013.0	81	57	69.1	- 1.0	92	29	38	1	4	0	59	72	4.01	- 0.82	2.69	11	8	0.0	0	9.2	18	38*	26	9	9	9	12	5.6	
KANSAS																																
CONCORDIA	1470	962.4	1011.5	84	59	71.6	- 2.6	99	19	41	1	7	0	60	69	8.51	4.31	2.72	10	11	0.0	0	11.5	16	52	W	21	14	7	9	4.4	76
DODGE CITY	2594	925.0	1011.1	88	60	73.9	- 0.5	98	19	45	1	15	0	54	56	2.17	- 0.86	1.64	7	8	0.0	0	13.5	17	47	SW	10	15	6	9	4.2	85
GOODLAND	3645	886.1	1010.6	85	54	69.0	- 0.7	97	28+	40	2	11	0	48	53	1.50	- 1.16	1.10	6	8	0.0	0	14.9	17	48*	32	22	18	7	5	3.5	
TOPEKA	877	977.6	1012.8	82	62	72.1	- 2.6	90	20+	42	1	2	0	63	75	8.10	3.59	2.03	11	11	0.0	0	12.2	18	46	S	8	9	7	14	5.8	56
WICHITA	1321	963.9	1011.5	88	66	76.9	0.4	101	20	47	1	17	0	63	64	3.73	- 0.48	1.54	7	10	0.0	0	12.2	18	56	NW	30	13	9	8	4.6	69
KENTUCKY																																
COVINGTON	869	984.4	1015.9	84	60	71.9	0.1	94	29+	44	4	10	0	61	70	4.32	0.43	1.85	13	10	0.0	0	7.2	20	27*	30	23	8	10	12	5.4	
LEXINGTON	979	981.3	1016.6	86	63	74.3	0.7	93	28+	47	4+	9	0	60	64	3.55	- 1.17	1.64	8	9	0.0	0	8.0	18	23*	25	18+	10	15	5	4.7	
LOUISVILLE	474	996.9	1015.7	86	64	75.1	1.7	94	23+	46	4	14	0	64	71	2.24	- 1.75	1.45	7	5	0.0	0	6.7	18	26	NW	18	9	11	10	5.2	79
LOUISIANA																																
ALEXANDRIA	92	1011.6	1016.1	89	65	77.3	- 2.4	94	24+	52	2	19	0	68	78	0.96	- 3.33	0.46	6	6	0.0	0	5.0	20	29*	2	24	6	17	7	5.6	
BATON ROUGE	64	1013.1	1016.0	91	70	80.7	- 0.2	97	19	57	2	22	0	69	71	1.41	- 2.68	0.78	5	8	0.0	0	6.0	23	40*	3	24	7	16	7	5.4	
LAKE CHARLES	14	1014.2	1015.7	88	71	79.0	- 2.2	92	24+	59	2	12	0	69	75	5.87	1.15	4.98	5	3	0.0	0	8.2	18	23*	2	24	8	13	9	5.6	
NEW ORLEANS	3	1014.0	1016.0	89	69	78.9	- 1.2	92	22+	58	2	15	0	73	81	5.52	1.09	1.69	9	11	0.0	0	5.8	22	18*	14	29+	13	9	8	4.8	
NEW ORLEANS AUDUBON	6	1009.0		91	71	80.9	- 0.2	97	20+	59	2	20	0			2.91	- 2.68	1.24	10	13			3.4		11	W	20	6	16	8	5.5	51
SHREVEPORT	252	1006.6	1015.7	91	71	81.0	0.4	96	9	58	2+	24	0	68	68	1.87	- 1.47	1.38	5	5	0.0	0	9.1	18	35*	12	27	1	23	6	5.8	66
MAINE																																
CARIBOU	624	987.8		70	48	58.8	- 0.2	87	23	35	16	0	0			1.80	- 2.27	0.38	13	4	T	0						4	10	16	7.1	
PORTLAND	61	1009.1	1013.2	76	50	62.6	0.5	93	20	37	6	1	0	50	66	2.01	- 1.17	1.21	9	4	0.0	0	9.6	18	31	SW	10	12	9	9	5.3	59
MARYLAND																																
BALTIMORE	146	1011.0	1015.8	85	60	72.7	0.2	98	15	46	4	10	0	59	67	2.40	- 0.89	0.60	9	8	0.0	0	7.9	27	41	W	15	8	13	9	5.6	60
BALTIMORE U	14			85	67	76.3	1.6	98	30+	55	4	12	0			1.79	- 2.08	0.70	8													
MASSACHUSETTS																																
BLUE HILL OBS R	629	990.0		76	55	65.3	0.2	94	30	43	5	2	0			1.39	- 2.36	0.58	9		0.0	0	13.8	SSW	42	NW	16					67
BOSTON	15	1009.3	1014.0	77	58	67.1	- 0.7	94	30+	49	6+	2	0	53	65	1.91	- 1.57	0.87	11	4	0.0	0	12.3	20	34	W	20+	12	8	10	5.1	71
NANTUCKET	43	1014.3	1014.9	70	55	62.7	1.4	83	21	47	6	0	0	54	78	0.59	- 2.33	0.32	8	2	0.0	0	12.9	20	33	W	17+	9	6	15	6.2	66
PITTSFIELD	1170			75	49	61.7	- 1.4	91	30	33	6	1	0			1.92	- 2.36	0.90	10		0.0	0										
WORCESTER	986	978.0	1014.3	75	54	64.3	- 0.3	92	30	40	5	1	0	50	62	1.77	- 2.07	0.88	7	2	0.0	0	9.7	23	31*	34	16	10	11	9	5.3	
MICHIGAN																																
ALPENA	689	992.3		76	46	61.0	0.4	97	30	28	3	6	5			1.12	- 1.55	0.57	6	2	0.0	0	7.0	24	27	SW	9	8	14	8	5.8	84
DETROIT	619	989.0	1015.4	80	59	69.6	- 0.1	95	30+	45	16	8	0	56	65	2.35	- 0.48	0.73	9	8	0.0	0	9.5	18	56	W	19	7	13	10	5.8	67
DETROIT M WAYNE CO	633	991.6	1015.8	78	54	66.2	- 2.2	93	30+	41	11+	5	0	56	71	3.84	0.53	2.24	9	9	0.0	0	7.3	23				6	14	10	5.9	
DETROIT WILLOW RUN	711	987.2	1015.4	79	56	67.6	- 2.0	94	30+	41	1	7	0	58	73	3.13	- 0.15	1.91	9	8	0.0	0	8.2	24	37*	4	7	7	12	11	5.8	
FLINT	766	988.3	1016.0	79	54	66.6	0.9	92	29	38	1	6	0	55	68	3.98	0.86	1.95	9	8	0.0	0	8.5	24	31*	27	9	8	15	7	5.5	
GRAND RAPIDS	689	989.3	1014.9	81	57	68.9	1.5	94	30+	38	2	5	0	57	68	4.12	0.81	2.65	6	6	0.0	0	9.0	25	58	W	9	8	14	8	5.4	70

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
LANSING	852	983.3	1015.0	82	56	69.1	1.7	96	29+	36	2	7	0	54	60	2.79	- 0.55	1.57	12	8	0.0	0	6.2	27	36	SW	9	8	15	7	5.2	75
MARQUETTE U	677	986.6		70	48	58.8	- 1.3	96	29	35	4+	3	0			2.50	- 0.96	1.48	13	4	0.0	0	8.2	SW#	42	NW	9	10	10	10	5.5	71
MUSKEGON	627	992.2	1015.2	79	56	67.6	0.9	93	29	37	2	3	0	55	66	1.41	- 1.29	0.74	7	6	0.0	0	8.8	22	29*	30	22+	11	11	8	5.2	
SAULT STE MARIE	721	991.4	1014.1	69	46	57.7	- 1.4	89	29	28	2	0	1	48	72	2.14	- 1.16	0.53	11	4	0.0	0	10.5	30	44*	34	26	8	13	9	5.6	70
MINNESOTA																																
DULUTH	1426	971.7	1013.1	70	47	58.4	- 0.4	87	29+	31	4	0	2	46	67	3.50	- 0.77	1.34	13	7	0.0	0	10.2	10	42	W	23	6	9	15	6.7	62
INTERNATIONAL FALLS	1179	970.2	1011.1	71	48	59.7	- 0.2	92	28	23	1	2	2	50	73	7.39	3.52	3.80	12	4	0.0	0	10.1	18	30*	21	29	4	11	15	7.0	
MINNEAPOLIS	822	979.1	1012.1	80	57	68.7	1.9	94	29+	41	3	7	0	54	62	2.18	- 1.82	1.05	13	9	0.0	0	10.5	17	38	SW	18	10	7	13	5.4	70
ROCHESTER	1297	976.8	1013.5	79	55	67.2	0.2	92	29+	38	1	5	0	53	63	1.08	- 3.38	0.63	10	5	0.0	0	13.1	18	37*	19	18	9	10	11	5.6	
ST CLOUD	1034	974.2		79	54	66.4	1.2	97	25	35	4+	5	0			1.30	- 3.19	0.41	9	7	0.0	0						9	6	15	5.9	
MISSISSIPPI																																
JACKSON	305	1004.2	1016.1	92	70	80.7		97	22+	56	4+	22	0	68	70	2.45		0.66	7	10	0.0	0	6.8	20	25*	E	11	8	16	6	5.1	
MERIDIAN	292	1003.0	1016.6	92	66	79.1	- 0.4	101	21	53	3	19	0	68	75	4.87	0.80	1.56	8	10	0.0	0	5.5	20	28*	1	22	4	18	8	5.8	
VICKSBURG U	234	1006.6		88	71	79.3	- 0.4	93	22+	59	1	15	0			2.09	- 1.37	1.19	6	5			6.9		22	SE	12	12	10	8	5.0	77
MISSOURI																																
COLUMBIA	778	985.7	1013.7	82	64	73.0	- 1.0	91	29+	46	3	5	0	62	71	2.98	- 1.36	1.21	11	10	0.0	0	9.5	18	31	W	15	9	8	13	5.6	61
KANSAS CITY	742	978.7	1012.9	83	65	73.7	- 2.2	91	22	51	1	5	0	61	67	5.40	0.83	1.32	14	11	0.0	0	9.1	18	34	W	22	8	11	11	5.6	70
ST JOSEPH	809	979.0		81	61	70.8	- 3.2	90	22+	44	1	4	0			11.84	5.91	5.83	11	10	0.0	0	9.2	12	31*	22	22	9	11	10	5.3	
ST LOUIS	535	994.4	1015.0	84	65	74.8	0.7	94	29+	49	3	8	0	64	72	2.73	- 1.56	1.37	10	6	0.0	0	9.9	18	60	SE	29	10	11	9	5.1	73
ST LOUIS RFC	465			86	68	77.0	0.4	95	28+	54	3	13	0			1.82	- 2.10	0.91	9		0.0	0										
SPRINGFIELD	1265	967.7	1014.6	83	63	72.8	- 1.4	90	22+	43	3	3	0	65	79	6.95	1.93	2.73	12	11	0.0	0	9.1	18	30	SE	29	10	11	9	5.0	62
MONTANA																																
BILLINGS	3567	888.7	1011.1	73	53	62.7	- 2.4	90	27	43	2+	1	0	49	64	5.13	2.58	1.90	18	10	0.0	0	10.0	24	33	S	26	6	13	11	6.1	52
GLASGOW	2277	937.0		76	52	63.9	1.6	94	27	38	1	2	0			2.78	- 0.20	1.61	12	5	0.0	0						5	10	15	6.9	
GREAT FALLS	3662	886.2	1011.5	74	51	62.5	2.6	91	26	43	21+	1	0	45	57	4.34	1.44	2.74	11	8	0.0	0	10.9	24	34	SW	26	4	8	18	7.1	69
HAVRE	2582	923.3		75	49	61.7	0.7	94	26	34	1	2	0			1.88	- 0.85	0.87	10	7	0.0	0	8.2	SW#	35	SW	26	4	9	17	6.8	57
HELENA	3893	871.9	1012.6	71	47	59.0	- 0.5	87	25+	41	22+	0	0	43	59	2.98	0.75	0.65	14	8	0.0	0	7.3	24	35	SW	26	8	8	14	6.4	57
KALISPELL	2965	909.9		70	44	56.8	- 1.8	84	23	32	28	0	1			3.56	1.35	1.36	12	6	0.0	0	6.0					7	8	15	6.6	
MILES CITY	2629		1010.4	79	54	66.4	0.8	101	27	37	1	4	0	48	58	4.72	2.01	2.71	12	10	0.0	0	8.6	26	58*	27	16					
MISSOULA	3190	900.4	1014.0	69	45	57.0	- 1.5	87	25+	33	28	0	0	46	71	3.13	1.22	1.61	16	2	0.0	0	7.2	33	26	NW	27	8	5	17	6.7	49
NEBRASKA																																
GRAND ISLAND	1841	946.7	1011.8	84	58	70.8	- 0.2	98	8	39	2	9	0	56	63	4.50	0.71	1.18	11	12	0.0	0	12.0	16	57*	32	11	14	6	10	4.3	
LINCOLN U	1150			83	61	71.7	- 1.4	94	8	43	2	7	0			8.56	4.06	2.92	11	11	0.0	0	11.2	SE#	44	SE	8	13	7	10	4.9	67
NORFOLK	1544	957.0		83	58	70.2	- 0.7	98	8	38	2	7	0			7.46	3.20	2.82	9	10	0.0	0						12	9	9	4.8	
NORTH PLATTE	2779	912.9	1010.3	81	53	67.2	- 1.9	92	29+	35	2	6	0	52	61	4.78	1.53	2.01	10	9	0.0	0	11.1	12	65	W	22	13	8	9	4.6	72
OMAHA	978	973.1	1012.4	83	61	71.9	- 1.2	95	8	44	2	8	0	58	64	6.39	1.86	2.11	12	10	0.0	0	8.9	15	49	NW	20	14	4	12	4.8	65
OMAHA N OMAHA AP	1323	965.1		80	60	69.8	- 1.5	90	8	43	2	1	0			6.30	1.68	1.62	12	10	0.0	0						10	10	10	5.2	
SCOTTSBLUFF	3950	876.7	1010.4	81	52	66.4	- 0.5	97	27	33	2	9	0	47	55	1.47	- 1.63	0.67	12	9	0.0	0	10.7	12	37*	32	22+	6	11	13	6.1	
VALENTINE	2587	920.9		82	54	67.9	0.4	96	26	38	2	8	0			2.79	- 0.32	1.16	13	13	0.0	0	12.5	S#	57	SW	8	10	12	8	4.9	64
NEVADA																																
ELKO	5075	843.6	1012.7	73	41	56.9	- 3.1	91	25	33	10	2	0	39	56	2.24	1.53	0.87	14	5	T	0	6.6	24	24*	16	2	8	7	15	6.1	
ELY	6257	808.1	1011.0	73	40	56.6	- 2.0	87	25	29	10	0	3	35	50	2.44	1.94	1.48	7	5	T	0	8.2	19	37	S	6	7	11	12	5.9	79
LAS VEGAS	2162	943.7	1008.4	95	66	80.9	- 2.0	108	25	52	8	24	0	29	18	0.03	- 0.01	0.03	1	2	0.0	0	12.2	18	53*	34	7	18	10	2	2.9	92
RENO	4404	861.5	1013.1	79	44	61.3	1.2	98	24	37	27+	4	0	36	41	0.29	- 0.08	0.20	3	0	0.0	0	7.9	29	33	NW	6	11	7	12	5.2	96
WINNEMUCCA	4299	866.1		75	44	59.2	- 2.3	95	25	34	19	3	0			2.03	1.27	1.10	9	0	0.0	0	8.0	27	34	SW	26	7	7	16	8.5	48
NEW HAMPSHIRE																																
CONCORD	339	1002.8	1013.6	80	51	65.6	1.1	97	30+	32	6	3	1	51	63	0.81	- 2.79	0.53	7	3	0.0	0	8.2	18	41*	32	17	10	11	9	5.0	72
MT WASHINGTON OBS	6262	806.2		50	36	42.9	- 2.0	62	21	19	16	0	11			5.62	- 0.88	1.00	19	3	6.1	2	29.6	W#	110Y	W	17	5	8	17	7.2	38
NEW JERSEY																																
ATLANTIC CITY	58	1014.0	1016.3	82	60	70.9	0.9	97	30+	48	17	7	0	58	66	0.84	- 1.99	0.54	6	5	0.0	0	8.7	18	37*	29	15	10	7	13	5.5	73
ATLANTIC CITY U	10			76	63	69.7	0.7	95	14	52	17	2	0			1.21	- 1.83	0.54	7				11.4		29*	SSW	19					
NEWARK	11	1014.4	1015.7	81	62	71.2	- 1.1	99	30	48	4	6	0	55	61	3.09	- 0.35	1.17	9	4	0.0	0	10.2	23	29*	34	16	11	7	12	5.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
TRENTON U	56	1007.6		82	61	71.5	0.5	98	30	50	4	7	0			1.37	- 2.23	0.84	7	6	0.0	0	8.5	NW#	33	NW	15	10	8	12	5.7	64
NEW MEXICO																																
ALBUQUERQUE	5310	847.2	1009.2	90	58	73.6	- 1.3	99	15	44	1	17	0	30	22	T	- 0.57	T	0	1	0.0	0	8.0	18	36	W	28	21	7	2	2.2	92
CLAYTON	4969	845.0		86	55	70.8	0.6	95	17	37	1	11	0			1.00	- 0.48	0.42	6	8	0.0	0						18	8	4	2.9	
RATON	6379	806.2		83	50	66.0	0.6	90	28	35	1	1	0			1.88	0.18	0.84	4	7	0.0	0						16	9	5	3.6	
ROSWELL	3619	891.1		96	58	76.7	- 0.4	104	7	46	1	27	0			1.10	0.05	1.10	1	4	0.0	0	9.6		40	SW	13	18	11	1	2.6	89
SILVER CITY	5373	835.8		88	55	71.6	- 3.0	94	30+	41	1	7	0			0.04	- 0.54	0.04	1	1	0.0	0						23	6	1	1.7	
NEW YORK																																
ALBANY	277	1011.2	1015.0	79	54	66.5	- 0.8	98	30	36	3	3	0	52	62	0.65	- 2.60	0.21	8	2	0.0	0	9.3	17	34	NW	10	9	10	11	5.6	58
BINGHAMTON	1590	957.6	1015.7	73	51	62.0	- 1.5	92	30	38	5	1	0	51	71	1.22	- 2.63	0.38	9	3	0.0	0	10.0	34	34	NW	16	5	11	14	6.5	65
BUFFALO	705	987.5	1015.2	76	56	65.7	0.9	92	23	38	5	1	0	55	71	1.55	- 0.99	0.54	9	3	0.0	0	10.1	24	34	W	24+	4	17	9	6.2	71
NEW YORK U	132	1004.9		81	62	71.6	0.2	99	30	51	5	7	0			2.67	- 0.64	0.76	9	4	0.0	0	7.6	SW#	25	NW	16	14	7	9	4.5	63
NEW YORK LA GUARDIA	19	1013.1	1015.2	79	63	71.3	- 0.2	97	30	53	5	5	0	56	63	2.85	- 0.53	0.90	10	5	0.0	0	10.7	18	31	NW	16	11	8	11	5.4	
ROCHESTER	543	996.5	1015.6	78	54	65.8	- 1.1	96	30	37	5	4	0	52	63	1.13	- 1.43	0.34	6	4	0.0	0	8.7	25	33	SW	10	12	13	5	5.0	78
SCHENECTADY	217			78	54	66.4	- 1.9	95	30	41	5+	4	0			0.70	- 2.80	0.26	5	0	0.0	0	4.9		30	W	16+	19	10	1	3.0	
SYRACUSE	417	993.1	1014.7	78	54	66.0	- 1.3	93	30	36	5	5	0	53	65	1.41	- 1.55	0.52	9	4	0.0	0	9.3	28	38	NW	26	10	14	6	5.1	67
NORTH CAROLINA																																
ASHEVILLE U	2203	939.3		84	61	72.8	1.0	94	22	49	3	7	0			0.80	- 2.72	0.31	5	6	0.0	0	5.8	NW#	31	NW	13	5	19	6	5.7	70
CAPE HATTERAS R	7	1015.7	1016.5	82	67	74.5	- 0.7	92	15	53	12	1	0	66	76	1.87	- 2.27	0.78	11	6	0.0	0	10.3	23	24	SE	7	8	10	12	5.8	70
CHARLOTTE	735	989.1	1016.7	89	67	77.7	0.6	99	21	58	3	15	0	64	66	2.11	- 1.50	1.01	7	6	0.0	0	7.0	22	24	NW	13	8	13	9	5.7	71
GREENSBORO	891	985.7	1017.2	87	65	75.7	0.9	98	21	52	4	11	0	64	71	3.07	- 0.40	1.38	7	8	0.0	0	6.2	23	26	NW	15	6	14	10	6.0	64
RALEIGH	433	1002.7	1016.4	87	64	75.6	0.5	99	21+	55	8	13	0	64	72	3.41	- 0.29	1.49	11	7	0.0	0	7.0	18	25*	26	13	6	15	9	6.1	67
WILMINGTON	30	1014.2	1017.0	87	69	77.9	0.2	97	15	60	4	10	0	69	78	5.02	0.76	1.83	11	8	0.0	0	8.6	23	36	N	3	7	14	9	6.1	61
WINSTON SALEM	967	982.3	1016.9	87	67	77.1	1.4	99	22+	56	3	13	0	65	69	3.03	- 0.61	1.43	8	8	0.0	0	6.4	25	25*	35	22	6	16	8	5.9	
NORTH DAKOTA																																
BISMARCK	1647	950.9	1010.6	75	51	63.0	- 1.5	93	25	36	2	2	0	51	68	5.71	2.31	1.92	12	14	0.0	0	10.2	7	52	NE	8	7	7	16	6.7	60
FARGO	900	977.3	1010.5	80	55	67.2	2.4	98	28	34	4	5	0	57	72	4.85	1.81	2.74	10	6	0.0	0	9.9	18	49	S	18	8	8	14	6.5	56
WILLISTON	1899	943.3		75	51	62.9	- 0.2	98	27	32	1	2	1			5.92	2.61	2.20	14	4	0.0	0	9.9	SE#	49	W	27	6	9	15	6.5	57
OHIO																																
AKRON	1209	978.6	1016.6	80	56	68.0	- 1.4	93	23	42	17+	4	0	55	66	1.17	- 3.09	0.41	8	7	0.0	0	7.8	24	30*	33	15	6	12	12	6.3	
CINCINNATI OBS	761			85	63	74.0	0.6	94	27+	50	3	10	0			6.58	2.40	2.22	10	8	0.0	0	5.0	S#	19	SW	30+					65
CINCINNATI U	553	992.6		87	65	75.5	0.2	97	22	51	4	15	0			5.11	0.88	1.69	9	9	0.0	0										
CLEVELAND	777	988.1	1015.8	78	57	67.5	0.3	92	23+	41	17	4	0	57	70	2.06	- 1.37	0.91	8	6	0.0	0	9.3	22	31	W	3	8	13	9	5.7	74
COLUMBUS	812	987.0	1016.7	82	59	70.3	- 0.5	95	23	46	4+	6	0	59	70	5.71	1.55	2.49	12	7	0.0	0	8.0	20	40	W	20	7	12	11	5.9	56
COLUMBUS U	724			83	63	72.9	0.2	95	23	51	3	7	0			5.55	1.76	1.76	11	8	0.0	0										
DAYTON	997	983.8	1016.1	83	62	72.7	1.2	94	27	50	4+	9	0	59	66	3.15	- 0.95	1.21	12	8	0.0	0	9.8	20	39	W	20+	10	10	10	5.3	66
MANSFIELD	1296			79	57	68.0	0.2	91	29+	42	11	2	0			3.03	- 1.20	1.37	11	7	0.0	0						8	10	12	5.7	
TOLEDO	676	990.3	1015.5	81	56	68.8	0.5	95	29	42	17	8	0	54	62	1.89	- 1.90	0.47	10	7	0.0	0	8.6	22	37	SW	12	7	13	10	5.5	76
YOUNGSTOWN	1178	974.2	1016.5	79	55	66.8	- 0.3	90	30+	37	2	4	0	55	67	3.55	- 0.03	1.37	9	6	0.0	0	9.0	24	35*	26	23	7	12	11	6.1	
OKLAHOMA																																
OKLAHOMA CITY	1280	969.9	1012.5	89	66	77.4	- 0.6	97	30+	49	1	19	0	64	66	0.77	- 3.70	0.48	7	7	0.0	0	13.2	16	42	E	15	10	12	8	4.6	64
TULSA	676	989.3	1013.4	88	68	78.2	0.9	94	10	51	1	16	0	67	71	5.79	1.10	1.21	14	12	0.0	0	11.1	18	34	W	14+	10	12	8	5.0	66
OREGON																																
ASTORIA	8	1016.4	1017.1	62	48	55.2	- 2.1	72	22	42	28+	0	0	51	84	2.70	- 0.32	0.66	16	0	0.0	0	8.9	33	23*	33	25+	2	8	20	8.3	
BURNS U	4151	871.3		71	43	57.0	- 2.8	88	25+	36	27	0	0			1.93	1.05	0.68	9	3	0.0	0						8	7	15	6.3	
EUGENE	361	1003.2		72	48	59.8	- 1.1	86	22	40	28+	0	0			1.29	- 0.13	0.53	7	1	0.0	0	5.9		20*	34	28	5	5	20	7.3	
MEACHAM	4050			63	43	52.7	- 1.0	80	23	35	28	0	0			2.17	- 0.28	0.41	18	3	0.0	0						6	5	19	7.1	
MEDFORD	1298	968.0	1015.2	78	49	63.3	- 0.9	96	25+	40	28	5	0	47	62	0.79	- 0.23	0.27	10	0	0.0	0	5.9	30	23*	2	26	8	8	14	6.0	
PENDLETON	1482	960.5	1013.6	77	53	64.9	- 0.9	92	23	43	28	2	0	42	50	1.01	- 0.16	0.34	9	2	0.0	0	11.4	26	38*	26	26	8	6	16	6.2	
PORTLAND	21	1010.7	1016.3	68	49	58.7	- 3.3	83	22	42	28	0	0	49	72	1.96	0.29	0.48	14	0	0.0	0	7.5	32	20	NW	28	5	5	20	7.5	46
PORTLAND U	30			70	53	61.2	- 2.2	86	22	48	8	0	0			2.22	0.54	0.67	11		0.0	0										
ROSEBURG	505	998.2		73	49	61.1	- 0.4	90	22	39	27	1	0			1.50	0.00	0.33	9	0	0.0	0	5.0	N#	17	NW	2	6	7	17	6.8	53
SALEM	195	1009.8	1017.1	72	49	60.3	- 0.3	84	22	41	8	0	0	51	74	1.73	0.28	0.67	11	0	0.0	0	6.6	18	20*	32	26	4	6	20	7.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
OREGON																																
SEXTON SUMMIT R	3836	884.0		64	42	53.4	- 2.3	84	23+	33	27+	0	0			1.42	- 0.11	0.64	9	0	0.0	0	10.2					11	6	13	5.8	
PACIFIC AREA																																
CANTON ISLAND	11	1009.0	1009.4	87	77	82.1	- 1.7	88	30+	75	14	0	0	72	71	0.20	- 2.45	0.20	1	1	0.0	0	13.8	9	25*	8	10	5	20	5	5.1	
ENIWETOK	16	1009.5		88	78	82.9	0.1	89	22+	73	28	0	0			4.78	1.41	0.63	23	2	0.0	0	12.2									
TAGUAC GUAM R	361	997.6		87	73	80.0	- 0.2	90	3	69	4+	1	0			7.49	1.62	1.31	22	5			6.4		20	SE	27+					82
JOHNSTON	7	1013.4	1014.0	83	77	80.0	- 0.3	85	1	70	27	0	0	71	76	1.42	0.58	1.14	9	0	0.0	0	14.7	9	40	SE	27	2	20	8	6.3	63
KOROR R	94	1005.5	1009.3	87	76	81.5	0.4	91	4	73	30+	4	0	77	89	12.12	- 0.86	1.97	23	7	0.0	0	5.5	6	22	SW	29+	0	0	30	10.0	59
KWAJALEIN	8	1009.5	1009.7	86	77	81.5	0.1	89	11+	71	22	0	0	75	83	9.59	0.91	2.73	20	2	0.0	0	10.9	7	28*	10	5+	1	5	24	8.7	
PONAPE R	123	1004.6	1009.2	86	73	79.7	- 0.4	89	5	69	5	0	0	75	87	13.16	- 3.54	1.86	24	2	0.0	0	5.3	6	17	E	13+	2	6	22	8.4	46
TRUK MOEN ISLAND	5	1008.4	1008.7	87	75	81.2	0.5	90	19	72	10+	1	0	75	81	9.99	- 1.88	3.33	22	2	0.0	0	8.6	4	25	S	4	0	6	24	8.9	60
WAKE	11	1012.3	1012.7	88	78	82.6	1.2	90	23	72	27+	1	0	72	73	5.25	3.35	2.58	16	3	0.0	0	7.9	7	22*	6	25	6	13	11	6.1	
YAP R	53	1007.4	1008.6	86	76	81.0	- 0.9	90	9	73	29	1	0	86	76	6.74	- 3.98	1.84	24	6	0.0	0	6.1	4	37	NE	9	0	3	27	9.4	30
PENNSYLVANIA																																
ALLENTOWN	376	998.5	1016.1	80	58	68.8	- 0.6	97	30	45	4+	5	0	56	67	3.82	- 0.25	1.43	8	7	0.0	0	8.3	29	81*	27	15	12	6	12	5.6	
ERIE	732	990.0	1016.0	76	57	66.6	- 0.1	92	23+	40	5+	2	0	55	69	2.26	- 0.79	0.64	8	9	0.0	0	11.9	18	35*	27	23	7	17	6	5.4	
HARRISBURG	335	1002.4	1016.1	82	60	71.4	0.1	97	30	45	3	7	0	58	65	4.20	0.78	1.30	12	12	0.0	0	7.7	27	27	NW	3	5	12	13	6.4	64
PHILADELPHIA	5	1011.4	1015.8	84	60	72.4	1.4	100	30	44	17	9	0	56	60	0.21	- 3.84	0.07	7	3	0.0	0	8.3	24	26	N	16	10	7	13	5.7	69
PITTSBURGH	1137	985.8	1016.4	80	56	67.9	- 0.5	89	29	38	2	0	0	56	68	3.84	0.06	0.92	16	9	0.0	0	8.2	23	35*	27	23	4	12	14	6.3	70
PITTSBURGH U	749			82	60	71.1	- 0.8	92	29	44	2	7	0			5.62	1.67	1.35	13		0.0	0										61
READING U	266	1003.6		82	62	71.8	- 0.4	98	30	48	3	8	0			2.72	- 1.00	0.90	9	9	0.0	0	9.1	W#	49	SW	24	11	8	11	5.2	64
SCRANTON	940	982.0	1015.9	78	56	67.4	- 0.8	97	30	40	5	1	0	54	65	5.00	1.09	1.98	8	5	0.0	0	7.7	24	24	NW	16+	10	9	11	5.6	58
WILLIAMSPORT	527	997.4	1016.3	80	56	68.4	- 0.8	98	30	39	5	5	0	55	67	2.60	- 0.63	1.38	12	6	0.0	0	8.0	32	21*	26	10	8	11	11	6.0	
RHODE ISLAND																																
BLOCK ISLAND	110	1010.2		70	56	62.8	- 0.1	83	21	48	3	0	0			1.32	- 1.24	0.51	8	3	0.0	0						12	5	13	5.5	
PROVIDENCE	55	1008.2	1014.2	77	55	66.3	0.1	94	30	43	3	3	0	54	68	2.34	- 0.42	1.69	7	3	0.0	0	10.0	18	26*	27	17+	11	8	11	5.4	62
SOUTH CAROLINA																																
CHARLESTON	41	1014.4	1016.4	89	71	80.0	0.8	96	16+	61	8+	15	0	71	78	6.95	1.97	2.44	10	9	0.0	0	8.6	18	39Y	N	1	8	12	10	5.7	60
CHARLESTON U	9			87	75	80.7	1.1	97	16+	67	8+	8	0			6.81	2.56	3.67	11		0.0	0	10.5		32	SE	7					
COLUMBIA	217	1003.7	1016.2	92	69	80.5	0.8	99	21+	60	5	18	0	67	68	2.97	- 0.88	0.93	12	9	0.0	0	6.8	27	20*	10	26	5	17	8	5.5	65
FLORENCE	146	1010.6	1016.3	90	68	78.8	0.0	101	20	60	5+	15	0	68	75	4.10	- 0.18	1.21	10	8	0.0	0	7.8	18	26*	21	20	5	14	11	5.9	
GNVLE SPARTANBURG	957	980.2	1016.8	87	68	77.6	- 0.7	98	21	60	4+	12	0	66	69	8.07	5.18	4.21	7	8	0.0	0	6.8	4	29	W	13	8	13	9	5.5	67
SOUTH DAKOTA																																
HURON	1282	963.9	1010.2	84	54	69.2	1.6	100	26+	32	2	9	1	54	62	1.61	- 1.53	0.48	8	7	0.0	0	12.3	17	43	SW	8	8	10	12	5.6	73
RAPID CITY	3165	898.7	1011.0	77	53	64.9	0.0	97	27	39	2+	5	0	51	65	4.69	1.61	1.96	15	12	0.0	0	10.8	34	43	NW	9	7	12	11	6.0	58
SIOUX FALLS	1420	960.8	1011.5	83	57	70.1	2.0	95	28+	37	2	8	0	56	64	1.68	- 2.67	0.57	11	8	0.0	0	12.1	18	40*	21	17	10	10	10	5.1	
TENNESSEE																																
BRISTOL	1507	963.3	1016.9	87	62	74.2	1.0	95	28	49	4	15	0	61	68	1.14	- 2.24	0.46	5	4	0.0	0	3.8	28	21*	31	15	7	15	8	5.5	
CHATTANOOGA	670	989.7	1016.8	88	66	77.0	- 1.1	97	28+	55	5+	17	0	66	74	4.06	0.36	1.70	7	8	0.0	0	4.7	2	17	NE	25+	10	9	11	5.6	75
KNOXVILLE	950	982.2	1017.1	87	64	75.1	- 0.6	96	28	52	4	15	0	61	66	0.97	- 2.36	0.73	5	3	0.0	0	6.5	24	28	NW	24	7	11	12	6.0	75
MEMPHIS	263	1001.1	1015.4	89	69	79.3	0.8	97	22+	54	4+	16	0	67	67	1.39	- 2.29	0.56	5	3	0.0	0	7.9	18	28	N	10	11	13	6	4.6	86
MEMPHIS U	271			89	72	80.2	1.1	97	22	58	1	17	0			2.56	- 1.08	1.65	4		0.0	0										
NASHVILLE	577	996.2	1015.9	89	67	77.7	0.3	99	22	51	2	17	0	65	68	1.21	- 2.04	0.69	8	7	0.0	0	7.2	16	47	NW	15	12	12	6	4.9	74
OAK RIDGE	905	984.7		88	63	75.4	0.9	97	22	51	4	15	0			0.86	- 2.38	1.03	5	6	0.0	0	4.4		26Y		24	13	9	8	4.9	
TEXAS																																
ABILENE	1759	951.7	1011.5	93	70	81.3	1.0	101	7	47	1	23	0	58	49	1.55	- 1.12	1.22	4	2	0.0	0	12.2	18	42	NW	4	18	6	6	3.9	85
AMARILLO	3607	887.3	1009.9	91	62	76.5	- 0.5	101	7	43	1	18	0	50	46	1.90	- 0.99	0.81	8	7	0.0	0	14.5	21	47	SW	11	18	9	3	3.1	81
AUSTIN	597	992.2	1013.8	91	72	81.3	- 0.6	96	28+	55	1	22	0	67	67	7.54	4.32	6.50	6	6	0.0	0	10.0	18	29	SE	14	10	14	6	5.1	72
BROWNSVILLE	16	1010.8	1013.3	89	74	81.6	- 1.1	93	30+	64	2	19	0	72	77	0.59	- 2.37	0.30	4	3	0.0	0	13.0	15	31	SE	18	9	17	4	4.8	69
CORPUS CHRISTI	43	1012.8	1013.9	91	72	81.3	- 1.0	97	24	59	1	22	0	72	78	0.38	- 2.01	0.29	3	4	0.0	0	12.2	15	31	N	25	7	14	9	5.7	60
DALLAS	481	995.4	1013.7	92	72	81.8	0.5	97	20	53	1	23	0	66	61	0.30	- 2.94	0.23	3	2	0.0	0	13.3	18	35	S	8	15	10	5	4.1	73
DEL RIO	1026	977.8	1011.1	97	73	84.9		102	30	57	1	27	0	62	51	0.03		0.03	1	3	0.0	0	11.6	14	23	36	24+	5	18	7	5.4	
EL PASO	3918	884.1	1008.1	95	68	81.5	0.5	100	30+	51	1	29	0	40	24	T	- 0.69	T	0	1	0.0	0	9.6	27	40	SW	17	21	7	2	2.1	97
FORT WORTH	544	993.2	1013.7	92	70	81.0	- 0.5	98	20	51	1	23	0	66	63	0.40	- 2.58	0.26	3	2	0.0	0	12.1	18	29*	19	18+	15	10	5	4.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
GALVESTON U	7			84	77	80.6	-1.1	91	24	65	1	1	0			1.29	-1.36	0.78	4	0	0.0	0	11.9	S#	33	S	15					74
HOUSTON U	41			90	75	82.3	0.1	95	24	61	1	19	0			2.32	-1.51	1.16	8		0.0	0										
HOUSTON	50	1011.8	1014.4	89	71	80.4	-1.2	96	24	59	3+	19	0	70	74	1.89	-1.80	0.96	5	5	0.0	0	10.0	16	30*	7	26+	7	15	8	5.9	82
LAREDO	500	996.9	1012.0	96	74	85.1	-0.6	101	20+	64	1	27	0	65	57	1.55	-0.41	1.44	4	2	0.0	0	13.8	14	28*	10	14	11	15	4	4.4	
LUBBOCK	3243	901.8	1011.1	91	62	76.7	-0.8	102	9	45	1	17	0	56	55	5.00	2.47	2.10	9	9	0.0	0	14.3	18	58*	25	21	16	9	5	3.5	
MIDLAND	2854	913.1	1009.3	97	70	83.5	2.3	106	19+	51	1	29	0	56	44	0.40	-1.23	0.19	7	7	0.0	0	11.8	18	38*	24	4	15	9	6	3.9	
PORT ARTHUR	16	1013.4	1014.9	90	72	81.1	0.5	96	24	60	2+	21	0	72	79	1.62	-2.67	0.78	4	4	0.0	0	8.8	18	27	SW	14	7	17	6	5.3	73
SAN ANGELO	1903	945.1	1010.7	96	70	83.1	0.6	104	7	48	1	27	0	58	47	0.16	-1.66	0.15	2	1	0.0	0	11.7	16	26*	16	17+	18	7	5	3.9	
SAN ANTONIO	792	989.0	1013.6	94	71	82.4	0.5	98	30+	53	2	26	0	66	63	4.88	1.93	3.78	6	4	0.0	0	10.5	16	30	NW	5	10	15	5	4.8	79
VICTORIA	104	1009.4		92	74	83.1	1.8	99	24	60	2+	23	0			3.77	0.73	2.78	7	2	0.0	0	10.2		37Y		15	6	14	10	5.8	
WACO	500	992.7	1013.4	94	71	82.6	0.6	99	13+	52	1	25	0	64	58	4.32	1.65	3.99	7	5	0.0	0	12.3	18	30*	26	4	14	11	5	4.3	
WICHITA FALLS	994	975.9	1012.0	93	68	80.4	-1.4	101	30+	51	1	21	0	64	61	2.16	-1.04	1.12	3	5	0.0	0	12.9	18	31*	17	8	15	10	5	3.5	
UTAH																																
MILFORD	5028	842.4		82	45	63.3	-2.1	96	25	36	11+	6	0			1.00	0.57	0.64	2	1	0.0	0						14	9	7	4.6	
SALT LAKE CITY	4220	866.3	1012.7	76	50	63.2	-4.2	95	26	42	20	4	0	43	53	2.61	1.63	0.98	12	10	0.0	0	9.2	16	38	SW	2	7	6	17	6.5	56
WENDOVER	4237	868.6		75	56	65.3	-4.5	96	26	44	10	3	0			3.01	2.55	1.33	12	13	0.0	0						10	8	12	5.6	
VERMONT																																
BURLINGTON	331	998.6	1013.1	76	50	63.0	-1.2	93	30+	37	6	3	0	51	66	3.00	-0.49	0.88	9	7	0.0	0	9.4	18	33	NW	16	7	12	11	5.7	77
VIRGINIA																																
LYNCHBURG	947	991.6		86	61	73.6	0.6	99	20	43	4	11	0			0.67	-3.39	0.28	5	6	0.0	0	5.0		22	NE	21	8	12	10	5.6	71
NORFOLK	26	1015.5	1016.8	85	64	74.5	-1.1	101	10	54	4	10	0	62	69	2.58	-1.03	1.79	7	6	0.0	0	9.0	20	30	N	20	8	12	10	5.6	69
RICHMOND	162	1010.2	1016.4	86	60	73.1	-2.0	98	10	45	4	12	0	61	69	2.40	-1.35	0.82	9	7	0.0	0	7.5	18	31	SW	15	7	13	10	5.5	73
ROANOKE	1174	975.4	1017.0	87	63	74.6	1.2	98	21	45	4	13	0	59	63	1.97	-1.83	1.02	6	5	0.0	0	5.8	27	18*	32	23	9	12	9	5.6	
WASHINGTON																																
OLYMPIA	190	1008.8	1016.2	67	45	56.1	-3.0	81	22	36	28	0	0	50	81	2.35	0.56	0.60	13	1	0.0	0	7.3	20	22*	26	26	3	5	22	8.3	
SEATTLE TACOMA	400	1002.3	1016.4	66	50	57.9	-1.9	79	9	46	28	0	0	49	77	3.82	2.24	0.85	13	1	0.0	0	8.5	22	25*	25	27	3	5	22	8.2	
SEATTLE U	14			67	54	60.3	-1.1	81	22	50	28+	0	0			3.68	2.27	1.22	11		0.0	0			29	S	27					43
SPOKANE	2356	944.5	1012.7	72	49	60.4	-1.5	86	26	39	28	0	0	42	56	3.06	1.57	2.07	13	3	0.0	0	9.8	21	26	SW	27	5	10	15	6.6	53
STAMPEDE PASS R	3958	879.2		53	39	46.3	-2.6	70	22	34	28+	0	0			4.63	0.54	1.62	20	0	T	125						3	3	24	8.2	
TATOOSH ISLAND R	101	1013.6		57	48	52.7	-1.2	60	23+	45	2	0	0			3.00	0.16	1.33	16	0	0.0	0	10.1	27	31	S	27+	2	6	22	8.5	44
WALLA WALLA U	949			77	55	66.3	-0.9	92	23	46	8	2	0			1.22	0.00	0.42	9	3	0.0	0										
YAKIMA	1061	974.4	1012.9	77	48	62.0	-2.4	88	30+	35	28	0	0	42	51	1.18	0.37	0.42	7	3	0.0	0	8.2	32	24*	29	10	5	8	17	6.8	
WEST INDIES																																
SAN JUAN P.R.	5	1013.4	1016.2	88	75	81.6	1.6	94	10+	70	6	4	0	73	77	4.50	-1.16	1.46	16	4	0.0	0	9.1	7	26	E	12	4	19	7	6.0	72
SWAN ISLAND	28	1011.1		85	77	81.3	-1.0	87	29+	73	2	0	0			6.82	36	1.65	17	8								0	15	15	7.4	
WEST VIRGINIA																																
BECKLEY	2504	931.0	1017.6	79	56	67.6		90	23	41	17+	1	0	56	70	1.98		0.74	9	7	0.0	0	7.5	24	28*	29	18	6	8	16	6.7	
CHARLESTON	939	981.6	1016.7	85	61	72.9	0.9	94	21	44	4	11	0	61	70	3.82	0.13	1.07	10	5	0.0	0	5.7	22	35*	28	15	7	15	8	5.8	
ELKINS	1970	949.0	1017.7	78	53	65.7	-1.4	88	23	40	17	0	0	57	79	5.01	-0.18	1.01	14	11	0.0	0	5.2	25	35*	36	20	3	12	15	6.9	
HUNTINGTON	827	987.2	1017.1	84	59	71.7	-0.3	94	23	44	17+	10	0	61	73	1.97	-2.13	0.41	11	9	0.0	0	5.5	18	20*	24	15	6	16	8	5.7	
PARKERSBURG U	615			83	60	71.6	-1.0	94	23	45	2	8	0			4.85	0.58	1.84	13	10	0.0	0	6.1		28	SW	23					58
WISCONSIN																																
GREEN BAY	682	990.7	1013.9	78	53	65.4	-0.1	96	29	35	16	7	0	55	70	1.05	-2.31	0.47	8	6	0.0	0	9.1	24	38	SW	9	9	13	8	5.3	61
LA CROSSE	652	987.7	1013.7	81	59	70.0	1.2	95	26	41	1	8	0	56	66	3.13	-1.07	2.54	7	3	0.0	0	10.2	18	36*	20	9	11	10	9	5.0	
MADISON	858	979.3	1014.0	82	55	68.5	2.4	94	29	33	16	9	0	55	64	2.28	-1.67	0.85	8	7	0.0	0	8.3	23	43	W	19	7	11	12	6.1	59
MILWAUKEE	672	990.1	1014.8	78	55	66.5	3.2	95	30+	40	3	7	0	56	70	1.70	-1.94	0.90	7	4	0.0	0	9.3	3	46	SW	19	10	11	9	5.4	72
WYOMING																																
CASPER	5319	836.0	1010.9	75	48	61.1	-2.0	91	27+	36	2	2	0	40	51	0.59	-0.66	0.25	10	8	0.0	0	11.3	23	35*	25	13	4	12	14	6.5	
CHEYENNE	6126	813.0	1011.6	74	47	60.5	-2.5	89	26	34	2	0	0	39	52	1.01	-1.10	0.27	10	10	0.0	0	12.8	29	45	NW	22	7	8	15	6.3	54
LANDER	5563	834.1	1011.5	71	47	59.1	-2.9	88	26	37	20+	0	0	41	55	2.10	0.74	0.54	12	6	0.0	0	7.5	24	47	SW	27	6	11	13	6.3	63
SHERIDAN	3942	882.2	1011.9	72	48	60.1	-1.8	95	27	36	2+	1	0	48	66	5.11	2.54	2.18	12	12	0.0	0	8.4	31	47	NW	5	6	8	16	6.5	60

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32 2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	991.9	1016.9	31.7	20.0	25.7	-0.7	37.2	22	11.7	4	12	0	19.4	73	104	2	86	7	9	0	0	2.3	3	11.2	SE	26	7	11	12	6.1	67
HUNTSVILLE	184	993.7	1016.6	31.7	20.0	26.0	0.1	36.1	22	13.3	3+	17	0	18.3	64	109	23	48	5	6	0	0	2.4	18	10.3*	5	23	9	14	7	5.5	
MOBILE	64	1013.6	1015.8	32.2	21.1	26.9	-0.6	36.1	22	15.0	2	19	0	20.6	75	108	- 50	45	12	15	0	0	3.4	18	13.0*	4	22	4	20	6	5.8	
MONTGOMERY	59	1008.3	1016.3	31.1	22.2	26.7	-1.0	33.3	24+	19.4	6	8	0	22.2	81	69	37	29	7	10	0	0	2.6	22	13.0	E	17	7	12	11	5.9	67
ALASKA												B																				
ANCHORAGE	27	1007.2	1012.1	17.2	9.4	13.3	0.8	22.8	23	5.6	30	5	0	7.2	70	44	19	15	14	0	0	0	3.6	18	11.6*	18	5	3	5	22	8.3	41
ANNETTE	34	1010.5	1014.6	17.8	9.4	13.6	1.2	26.7	8	6.7	21	6	0	8.9	78	97	- 47	36	14	0	0	0	3.5	18	9.4*	17	23+	1	5	24	8.4	
BARROW	7	1016.3	1016.9	1.7	- 1.7	- 0.1	-0.7	6.1	16	- 4.4	3	0	27	- 1.7	88	9	0	9	2	0	28	25	5.5	9	11.2*	23	5	4	3	23	7.9	
BARTER ISLAND	12	1014.0	1015.8	2.8	- 1.7	0.3	-0.9	11.1	7	- 4.4	10	0	28	- 1.1	88	14	1	5	8	0	74	25	5.3	8	15.6*	27	6	3	6	21	7.9	
BETHEL	38	1011.1	1012.3	16.7	6.1	11.4	0.5	24.4	13+	- 1.1	2	6	1	7.2	78	20	- 10	9	10	1	0	0	4.7	32	9.8*	32	22+	3	9	18	7.6	
COLD BAY	29	1008.0	1011.8	11.1	5.0	8.0	0.6	17.2	1	1.1	26+	0	0	5.0	83	47	- 3	30	11	0	0	0	6.9	15	17.4*	15	10	1	5	24	8.9	
CORDOVA	12	1011.2	1012.8	15.6	6.1	10.9	0.8	25.6	2	1.1	4	5	0	7.8	80	185	97	52	17	0	0	0	2.2	8	7.2*	14	25+	1	5	24	8.8	
FAIRBANKS	133	993.1	1009.9	21.1	10.0	15.6	0.9	26.1	4+	2.8	26	19	0	6.7	59	34	- 2	16	5	1	0	0	3.1	22	10.3*	24	23	5	11	14	6.5	
JUNEAU	5	1012.9	1013.8	16.1	7.8	12.0	0.7	23.3	8	4.4	22	4	0	8.3	81	86	- 1	20	16	0	0	0	3.2	36	9.4*	12	21	2	1	27	8.9	31
KING SALMON	13	1009.4	1011.4	17.2	5.6	11.2	0.4	24.4	24+	0.0	30	5	1	5.0	70	12	- 24	5	10	0	0	0	4.6	22	14.3*	9	13	5	4	21	7.7	
KOTZEBUE	3	1012.5	1012.8	7.2	1.1	4.1	-2.5	20.0	14	- 2.8	4	0	16	1.7	86	4	- 9	3	3	0	5	102	5.0	29	13.0*	29	20	10	11	9	5.3	
MC GRATH	102	998.1	1010.6	19.4	8.3	13.9	0.3	27.2	13	3.3	2	12	0	6.7	64	62	20	31	12	1	0	0	2.8	36	8.0*	32	22+	3	6	21	8.2	
NOME	4	1011.9	1012.3	13.3	3.9	8.8	1.1	22.8	8	- 1.7	1	1	2	3.3	72	1	- 23	1	2	0	0	T	5.1	26	13.9*	26	23+	10	12	8	5.2	56
ST. PAUL ISLAND	7	1010.7	1011.5	7.8	3.3	5.5	0.6	13.3	15	- 0.6	2	0	2	3.9	92	17	- 12	7	8	0	0	0	5.4	6	11.6*	32	4+	2	4	24	8.5	
SHEMYA	37	1009.4	1010.4	7.2	4.4	5.8	0.3	9.4	11	2.2	1	0	0	4.4	92	51	18	21	11	0	0	0	7.9	33	17.4*	15	21	0	4	26	9.3	
YAKUTAT	9	1013.6	1014.7	14.4	8.3	11.3	1.1	20.0	1	3.9	4	0	0	7.8	81	230	101	112	21	0	0	0	2.9	9	7.6*	13	19+	0	6	24	9.0	
ARIZONA																																
FLAGSTAFF	2131	790.8	1012.8	23.9	4.4	14.1	-1.2	30.0	24	- 2.2	11	0	3	- 2.8	34	4	- 13	4	3	3	0	0	4.0	18	13.4*	17	7	20	6	4	2.8	
PHOENIX	340	969.8	1007.9	37.8	18.9	28.1	-0.6	43.9	24	13.9	11	27	0	5.0	23	0	- 2	0	0	0	0	0	3.2	27	17.0Y	E	24	24	4	2	1.6	96
PRESCOTT	1528	846.4	1010.7	28.9	11.7	20.2	-1.1	35.0	24	4.4	11	7	0	- 1.7	26	11	3	10	3	4	0	0	4.9	19	19.7	SW	7	20	6	4	2.4	94
TUCSON	788	922.6	1008.3	36.1	19.4	27.8	-0.4	40.0	30+	14.4	9	29	0	- 0.6	18	T	- 7	T	1	2	0	0	4.1	16	16.1	SW	17	23	6	1	1.8	92
WINSLOW	1487	850.6	1011.1	32.2	10.6	21.2	-2.3	36.7	30	4.4	11	16	0	- 2.2	24	4	- 2	4	2	2	0	0	4.4	22	15.6*	21	17+	19	7	4	2.7	
YUMA	61	1002.8	1007.9	37.2	21.1	29.3	-1.3	44.4	24	15.6	10+	27	0	6.1	25	0		0	0	0	0	0	3.7	30	17.0	W	7	23	7	0	1.5	98
ARKANSAS																																
FORT SMITH	137	997.9	1014.5	33.3	17.8	25.6	-0.3	37.2	22+	8.3	3	23	0	17.8	65	16	- 94	14	3	3	0	0	3.1	22	10.3	SW	15	11	10	9	5.0	72
LITTLE ROCK	78	1002.4	1015.3	33.9	20.0	27.0	0.9	37.8	28+	11.7	2	21	0	18.9	66	8	- 84	6	4	0	0	0	3.6	24	15.2	SE	27	14	10	6	4.5	77
TEXARKANA	110	1001.5	1015.1	32.2	21.1	26.6	0.3	35.0	28	13.3	1	20	0	21.1	75	70	- 29	54	5	5	0	0	2.6	19								
CALIFORNIA																																
BAKERSFIELD	151	994.3	1011.7	32.8	17.2	24.9	-0.1	43.9	25	11.1	11	17	0	6.1	33	T	- 2	T	1	0	0	0	3.4	33	13.9*	32	8	20	7	3	2.6	
BISHOP	1252	870.8		31.7	10.6	21.1	0.1	38.3	25	2.2	10	17	0			T	- 2	T	0	0	0	0						18	7	5	3.6	
BLUE CANYON	1609	838.5		17.2	8.3	12.6	-2.5	26.7	25+	- 0.6	8	0	1			69	45	33	7	1	T	0	3.0		12.5*	6	21	12	6	12	5.1	
BURBANK	213	987.1	1012.9	25.6	12.2	18.9	-1.1	37.2	25	8.3	10	2	0	10.6	67	7	6	7	2	0	0	0	3.4	19	8.0*	21	8	10	13	7	4.4	
EUREKA U	13	1015.2		15.0	10.6	12.7	-0.4	21.7	4	8.3	28+	0	0			18	- 1	7	8	0	0	0	3.4	N#	12.5	N	8	5	5	20	7.7	57
FRESNO	99	999.9	1011.6	32.2	13.9	22.9	-0.8	43.3	25	8.9	8	16	0	8.3	43	2		2	1	0	0	0	4.1	30	11.6	NW	6	20	6	4	2.9	89
LONG BEACH	10	1012.2	1013.7	21.7	12.8	17.3	-2.4	28.3	30	10.0	29	0	0	11.7	75	4	3	4	1	0	0	0	2.8	18	8.9*	27	7	7	17	6	5.1	
LOS ANGELES	30	1010.1	1013.9	20.0	13.9	16.8	-1.4	22.8	30	11.7	10	0	0	12.2	77	7	6	7	2	0	0	0	4.3	26	10.3*	W	7	8	11	11	6.1	
LOS ANGELES U	95			22.8	13.3	18.2	-1.8	29.4	30	11.1	10+	0	0			8	7	8	1	0	0	0	2.6	W#	8.5	W	7	12	12	6	4.4	66
MT SHASTA R	1080	891.5		21.7	7.2	14.2	-1.5	32.2	24+	1.7	8	2	0			28	- 4	10	7	1	T	0						11	8	11	5.4	
OAKLAND	1	1014.4	1014.7	18.9	12.8	15.6	-1.5	28.3	22	10.6	1	0	0	11.1	78	11	8	10	4	0	0	0	4.8	29	11.6*	29	18	12	8	10	5.1	
POINT ARGUELLO R	112	1001.1		16.7	9.4	13.2	-0.7	20.0	22	8.3	14+	0	0			3	2	1	7	0	0	0	3.7		11.6*	29	7	3	11	16	7.2	
RED BLUFF	104	999.5	1011.9	30.6	15.6	22.8	-1.8	40.6	24+	8.9	9	12	0	6.7	41	15	4	7	5	2	0	0	3.6	18	12.5	NW	26	14	8	8	4.5	76
SACRAMENTO	5	1011.5	1012.9	29.4	12.8	21.1	-0.3	41.1	24	9.4	30+	8	0	10.6	60	10	7	8	4	0	0	0	4.1	22	11.6	SW	26	15	8	7	4.2	80
SACRAMENTO U	7			28.3	13.3	20.7	-0.4	39.4	24+	10.0	30	7	0			10	7	9	4	0	0	0										
SANDBERG R	1377	861.9		23.3	11.1	17.3	-0.9	35.0	25+	2.2	9	3	0			0	- 1	0	0	0	0	0	6.0		15.6*	34	5	19	6	5	3.0	
SAN DIEGO	4	1010.6	1013.7	20.6	15.0	17.8	-1.2	25.0	30	11.7	10	0	0	12.2	76	2	1	2	2	0	0	0	3.6	20	8.0	S	8	6	15	9	6.2	48
SAN FRANCISCO	2	1014.4	1015.1	21.1	11.7	16.3	0.0	32.8	22	9.4	11+	1	0	10.6	75	15	12	15	1	0	0	0	6.4	26	18.8	W	7	11	8	11	5.2	
SAN FRANCISCO U	16			17.8	11.1	14.3	-0.7	27.2	22	9.4	9	0	0			14	11	14	3	0	0	0	4.6	W#	13.9	W	14					69
SANTA CATALINA	478	957.9		20.6	11.7	16.2	-0.4	31.1	25	9.4	11+	0	0			7	4	7	2	0	0	0						14	7	9	4.4	
SANTA MARIA	73	1006.4		20.0	8.9	14.4	-0.9	22.8	25+	6.1	11+	0	0			2	- 1	2	4	0	0	0						17	10	3	4.1	
STOCKTON	9	1011.8	1013.3	30.0	12.8	21.6	-1.1	42.2	23	8.9	10	10	0	9.4	53	17	15	13	2	0	0	0	4.3	27	11.2*	27	26	16	6	8	4.0	
COLORADO																																
ALAMOSA	2297	772.6		25.0	5.0	14.9	-0.7	29.4	15	0.0	23+	0	3			10	- 3	4	7	5	0	0						20	7	3	2.7	
COLORADO SPRINGS	1882	810.8	1010.8	26.1	10.6	18.3	0.2	32.8	28+	4.4	2+	3	0	3.3	43	24	- 16	14	7	10	0	0	4.9	17	16.5*	36	25	12	12	6	4.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total•	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M.p.s.		M.p.s							%
COLORADO																																
DENVER	1610	836.4	1010.1	26.7	10.0	18.3	-0.8	35.0	27	6.1	23+	5	0	7.2	53	21	- 16	8	10	7	0	0	3.5	18	16.1	W	17	9	15	6	5.3	74
GRAND JUNCTION	1478	857.1	1009.2	30.0	12.8	21.2	-0.6	35.0	25	5.6	22	8	0	0.6	29	4	- 7	2	5	4	0	0	4.2	12	21.0	NW	21	10	11	9	5.2	73
PUEBLO	1414	854.9	1009.9	30.0	11.7	20.8	-0.9	36.7	16	5.6	23+	11	0	3.9	39	3	- 28	2	6	4	0	0	4.8	12	25.5	NW	3	13	12	5	3.9	78
CONNECTICUT																																
BRIDGEPORT	2	1014.9	1015.5	25.0	14.4	19.7	-0.3	33.9	30	7.2	3	2	0	12.8	71	36	- 51	13	8	4	0	0	5.2	23	13.9*	32	16	13	7	10	5.2	
HARTFORD	52	1009.1	1014.5	27.2	12.8	20.2	-0.2	37.8	30	2.8	6	4	0	11.7	64	43	- 51	17	11	4	0	0	3.7	18	13.9	NW	16	8	10	12	5.9	66
NEW HAVEN	2	1014.5		24.4	13.9	19.0	0.0	33.9	30	5.6	3	1	0			52	- 38	15	8	4	0	0	3.3		11.6	NW	16	10	7	13	5.3	69
DELAWARE																																
WILMINGTON	24	1012.8	1016.1	28.3	16.1	22.3	0.4	36.7	30	7.8	4	8	0	13.3	61	26	- 77	18	4	4	0	0	4.2	18	12.5*	23	15	10	8	12	5.6	
DIST.OF COLUMBIA																																
WASHINGTON U	22			30.0	18.3	24.1		36.7	30+	11.1	4	11	0			28		11	8													
WASH NATL AP	4	1011.0	1015.5	30.6	18.3	24.4	1.0	37.8	10	11.1	4	13	0	15.0	58	33	- 49	15	9	8	0	0	3.9	18	11.6	N	16	8	10	12	6.0	70
FLORIDA																																
APALACHICOLA U	4	1014.2		30.6	23.3	27.0	0.2	32.8	21+	20.0	4+	5	0			62	- 73	20	10	10	0	0	2.6					12	16	2	4.0	74
DAYTONA BEACH	9	1015.4	1017.0	32.2	21.7	27.0	1.2	36.1	17	20.0	3	19	0	21.1	74	120	- 27	39	6	8	0	0	3.4	9	12.5*	14	27	8	13	9	5.5	
FORT MYERS	4	1015.5		33.3	21.7	27.7	0.6	36.1	21+	20.0	24+	25	0			116	-111	45	15	17	0	0	3.5		10.3*	19	27+	5	19	6	5.7	
JACKSONVILLE	7	1014.3	1016.1	33.9	22.2	27.9	0.8	37.2	17+	17.2	4	23	0	21.1	72	119	- 42	68	9	7	0	0	3.8	27	21.5	NE	6	12	11	7	4.9	72
KEY WEST	2	1015.0	1016.2	31.1	25.6	28.3	0.7	32.8	8	21.7	10	7	0	22.8	73	138	37	57	15	13	0	0	4.8	11	17.9	NW	5	6	17	7	6.0	76
LAKELAND U	65			33.3	22.2	27.8	0.8	36.1	18	21.1	11+	25	0			147	- 36	47	11	14	0	0	2.6					5	19	6	5.7	65
MIAMI BEACH	3			29.4	25.0	27.2	-0.1	30.6	20	22.2	5	0	0			169	26	84	12		0	0	5.8					7	13	10	5.9	60
MIAMI	2	1015.3	1016.5	30.6	23.9	27.3	0.2	32.8	20+	21.1	10	3	0	22.8	78	266	79	99	15	14	0	0	2.9	11	10.3*	26	10+	1	16	13	7.0	
ORLANDO	32	1012.2	1016.8	33.9	22.2	28.0	0.6	36.1	17+	20.6	4	25	0	21.1	74	155	- 22	58	11	12	0	0	3.2	18	20.6*	2	10	5	17	8	5.7	
PENSACOLA	4			31.7	21.7	26.7	-0.6	35.6	21	15.6	2	14	0			109	- 29	44	9	9	0	0	2.7	20	12.5	NE	21					70
TALLAHASSEE	18	1014.0	1016.6	33.3	21.1	27.0	0.2	36.7	20	15.0	4	21	0	20.6	74	207	41	89	11	18	0	0	3.1	20	11.2*	35	21	7	14	9	5.6	
TAMPA	6	1014.7	1016.2	33.3	21.7	27.7	0.7	36.1	20	18.3	1	25	0	21.7	74	169	- 16	50	10	15	0	0	4.0	12	30.0*	31	25	6	18	6	5.5	81
WEST PALM BEACH	5	1016.4	1016.7	31.1	22.2	26.9	-0.3	33.3	19+	20.6	12+	13	0	22.2	80	260	69	72	10	8	0	0	3.2	12	10.3*	9	26+	9	9	12	6.2	
GEORGIA																																
ATHENS	245	988.2	1016.7	32.8	19.4	26.2	0.8	39.4	21	12.2	3	17	0	18.3	67	89	- 9	42	8	8	0	0	3.1	29	10.3*	26	23	9	13	8	5.4	
ATLANTA	306	975.7	1016.8	31.1	20.0	25.4	0.6	36.7	22	13.3	4	14	0	17.8	67	73	- 24	30	7	5	0	0	3.0	32	18.8	W	1	10	14	6	5.1	72
AUGUSTA	44	1009.4	1016.2	33.9	20.6	27.0	0.9	36.7	11+	13.9	3	22	0	19.4	68	135	58	83	10	12	0	0	3.0	12	12.5*	13	23	3	17	10	6.2	
COLUMBUS	117	1002.2		32.8	20.6	26.6	0.3	37.2	21	14.4	3	19	0			99	6	42	9	8	0	0	2.8		12.5*	36	22	8	14	8	5.4	
MACON	109	1003.0	1016.5	33.9	21.1	27.5	0.4	39.4	21	15.0	3	22	0	18.9	64	39	- 46	11	7	9	0	0	3.1	24	10.7	SW	1	6	18	6	5.3	73
ROME	194	994.0		32.8	17.8	25.1	0.4	37.8	22	9.4	3	19	0			77	- 18	29	7	11	0	0						12	13	5	4.7	
SAVANNAH	15	1013.8	1016.4	33.3	21.7	27.4	0.9	37.8	16+	17.2	5+	20	0	21.1	72	65	- 65	18	8	9	0	0	4.1	18	15.2	SW	18	12	13	5	4.8	81
THOMASVILLE U	86			32.8	21.1	26.9	-0.2	36.7	20+	17.2	3	19	0			236	114	70	10	12	0	0										
HAWAII																																
HILO	9	1015.5	1017.1	28.3	19.4	23.9	0.4	30.0	20	17.2	24	0	0	19.4	78	178	6	33	23	0	0	0	3.8	25	11.2*	7	14	5	9	16	6.9	42
HONOLULU	2	1016.1	1016.4	29.4	21.7	25.5	0.0	30.6	20+	18.3	11	0	0	16.7	62	2	- 6	1	5	0	0	0	4.7	6	13.0	NE	16	5	15	10	5.8	49
KAHULUI	13	1013.3	1016.1	29.4	20.6	24.8	-0.3	31.7	20+	17.8	11+	0	0	19.4	75	2	- 3	1	5	0	0	0	5.9	4	15.6	NE	16	13	9	8	5.0	76
LIHUE	35	1012.6	1018.0	28.9	22.2	25.4	0.7	30.0	17	18.3	4	0	0	20.0	73	26	- 11	8	16	0	0	0	5.7	6	12.1	E	25	5	14	11	6.5	56
IDAHO																																
BOISE	865	917.2	1012.3	23.3	10.6	16.9	-1.8	35.0	26	5.0	19	3	0	8.3	62	51	28	14	13	7	0	0	3.6	13	15.2	SE	26	5	8	17	6.9	58
IDAHO FALLS 42NW R	1460			21.7	6.7	14.1	-1.3	31.7	26	- 0.6	20	0	1			85	54	18	16				3.5		13.4A	SSW	18					
IDAHO FALLS 46W R	1504	847.1		21.1	6.7	13.9	-1.5	32.8	26	- 0.6	20	1	1			57	29	14	14	9	0	0	3.8		13.9A	WSW	2					
LEWISTON	431	961.3		24.4	11.7	18.0	-0.2	32.8	23	6.7	28	1	0			79	35	27	13	6	0	0						6	9	15	6.5	
POCATELLO	1355	863.5	1012.8	22.8	8.3	15.6	-1.6	33.9	26	3.3	20	2	0	7.8	65	53	28	19	14	7	0	0	4.7	18	16.1	SE	26	6	7	17	6.6	60
ILLINOIS																																
CAIRO U	96	1002.4		31.7	21.1	26.4	0.9	36.7	22	12.8	4	17	0			25	- 80	11	6	4	0	0	3.7	S#	14.3	SW	9	12	6	12	5.3	63
CHICAGO O HARE	201	990.2	1014.6	27.8	13.3	20.6	0.6	33.3	8	3.9	2	9	0	14.4	69	73	- 28	35	10	6	0	0	4.1	23	14.3*	23	9	7	10	13	5.9	
CHICAGO MIDWAY	186	992.3	1014.9	28.9	16.7	22.8	1.4	35.6	29+	8.3	3	11	0	13.9	61	49	- 54	17	9	5	0	0	4.2	21	18.3	NW	22	9	10	11	5.8	65
MOLINE	177	992.3	1014.3	28.9	16.1	22.4	0.5	35.0	29+	6.7	2	9	0	15.0	66	99	- 12	49	10	8	0	0	3.8	25	17.9	SW	9	8	9	13	5.9	62
PEORIA	199	992.9	1015.0	28.9	16.1	22.6	0.6	35.6	19	5.0	3	9	0	16.1	71	107	4	71	11	7	0	0	3.6	18	12.1	SW	9	10	10	10	5.5	69
ROCKFORD	222	987.1	1014.0	27.2	13.3	20.3	-0.6	33.9	8	5.6	16+	4	0	13.9	70	165	56	59	9	8	0	0	4.4	18	13.4*	27	9	8	9	13	5.8	
SPRINGFIELD	179	991.4	1014.3	30.6	17.8	23.9	0.6	36.1	28+	7.8	3	12	0	16.1	63	57	- 56	24	7	7	0	0	4.6	18	21.5	W	21	11	9	10	5.1	74

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CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
EVANSVILLE	116	1000.4	1016.0	31.1	17.8	24.2	-0.1	36.1	28	6.7	4	14	0	18.3	72	40	- 55	25	7	5	0	0	2.8	22	9.8	SW	9	9	12	9	5.4	68
FORT WAYNE	241	984.9	1015.7	27.2	15.6	21.4	0.0	33.3	30+	7.8	3	7	0	15.6	71	95	- 11	27	13	10	0	0	3.7	18	17.9	SW	12	9	10	11	5.5	75
INDIANAPOLIS	242	986.3	1015.8	28.9	17.2	23.0	1.3	34.4	12	8.9	3	9	0	16.1	67	69	- 48	22	9	6	0	0	3.8	22	21.9	W	12	9	9	12	5.6	72
SOUTH BEND	234	987.2	1014.9	28.3	15.6	21.7	1.2	35.0	19+	6.1	3+	7	0	13.3	60	113	22	32	9	7	0	0	4.3	24	20.6*	27	19	10	11	9	5.7	
IOWA																																
BURLINGTON	212	990.0	1014.7	28.3	16.7	22.3	0.1	34.4	29	7.8	3	7	0	15.6	69	105	- 22	52	9	9	0	0	4.0	24	32.2	NW	20	6	13	11	5.8	66
DES MOINES	289	983.1	1014.0	26.7	15.6	21.1	-1.4	32.2	29	7.2	1	1	0	15.0	70	165	45	58	11	9	0	0	5.1	13	18.8	SW	9	8	10	12	5.8	58
DUBUQUE	325	989.1		26.7	14.4	20.3	0.3	32.2	29+	6.1	3+	2	0			158	51	62	11	10	0	0			23.7*	24	9	8	9	13	5.8	
SIOUX CITY	334	971.8	1012.3	26.7	15.0	21.1	-0.8	32.8	8	6.7	3+	2	0	15.6	71	69	- 41	23	12	10	0	0	5.3	16	18.8	W	9	12	8	10	4.9	61
WATERLOO	265	981.5	1013.0	27.2	13.9	20.6	-0.6	33.3	29	3.3	1	4	0	15.0	72	102	- 21	68	11	8	0	0	4.1	18	17.0*	26	9	9	9	12	5.6	
KANSAS																																
CONCORDIA	448	962.4	1011.5	28.9	15.0	22.0	-1.4	37.2	19	5.0	1	7	0	15.6	69	216	109	69	10	11	0	0	5.1	16	23.2	W	21	14	7	9	4.4	76
DODGE CITY	791	925.0	1011.1	31.1	15.6	23.3	-0.3	36.7	19	7.2	1	15	0	12.2	56	55	- 22	42	7	8	0	0	6.0	17	21.0	SW	10	15	6	9	4.2	85
GOODLAND	1111	886.1	1010.6	29.4	12.2	20.6	-0.4	36.1	28+	4.4	2	11	0	8.9	53	38	- 29	28	6	8	0	0	6.7	17	21.5*	32	22	18	7	5	3.5	
TOPEKA	267	977.6	1012.8	27.8	16.7	22.3	-1.4	32.2	20+	5.6	1	2	0	17.2	75	206	91	52	11	11	0	0	5.5	18	20.6	S	8	9	7	14	5.8	56
WICHITA	403	963.9	1011.5	31.1	18.9	24.9	0.2	38.3	20	8.3	1	17	0	17.2	64	95	- 12	39	7	10	0	0	5.5	18	25.0	NW	30	13	9	8	4.6	69
KENTUCKY																																
COVINGTON	265	984.4	1015.9	28.9	15.6	22.2	0.1	34.4	29+	6.7	4	10	0	16.1	70	110	11	47	13	10	0	0	3.2	20	12.1*	30	23	8	10	12	5.4	
LEXINGTON	298	981.3	1016.6	30.0	17.2	23.5	0.4	33.9	28+	8.3	4+	9	0	15.6	64	90	- 30	42	8	9	0	0	3.6	18	10.3*	25	18+	10	15	5	4.7	
LOUISVILLE	144	996.9	1015.7	30.0	17.8	23.9	0.9	34.4	23+	7.8	4	14	0	17.8	71	57	- 44	37	7	5	0	0	3.0	18	11.6	NW	18	9	11	10	5.2	79
LOUISIANA																																
ALEXANDRIA	28	1011.6	1016.1	31.7	18.3	25.2	-1.3	34.4	24+	11.1	2	19	0	20.0	78	24	- 85	12	6	6	0	0	2.2	20	13.0*	2	24	6	17	7	5.6	
BATON ROUGE	20	1013.1	1016.0	32.8	21.1	27.1	-0.1	36.1	19	13.9	2	22	0	20.6	71	36	- 68	20	5	8	0	0	2.7	23	17.9*	3	24	7	16	7	5.4	
LAKE CHARLES	4	1014.2	1015.7	31.1	21.7	26.1	-1.2	33.3	24+	15.0	2	12	0	20.6	75	149	29	126	5	3	0	0	3.7	18	10.3*	2	24	8	13	9	5.6	
NEW ORLEANS	1	1014.0	1016.0	31.7	20.6	26.1	-0.7	33.3	22+	14.4	2	15	0	22.8	81	140	28	43	9	11	0	0	2.6	22	8.0*	14	29+	13	9	8	4.8	
NEW ORLEANS AUDUBON	2	1009.0		32.8	21.7	27.2	-0.1	36.1	20+	15.0	2	20	0			74	- 68	31	10	13			1.5		4.9	W	20	6	16	8	5.5	51
SHREVEPORT	77	1006.6	1015.7	32.8	21.7	27.2	0.2	35.6	9	14.4	2+	24	0	20.0	68	47	- 37	35	5	5	0	0	4.1	18	15.6*	12	27	1	23	6	5.8	66
MAINE																																
CARIBOU	190	987.8		21.1	8.9	14.9	-0.1	30.6	23	1.7	16	0	0			46	- 58	10	13	4	T	0						4	10	16	7.1	
PORTLAND	19	1009.1	1013.2	24.4	10.0	17.0	0.3	33.9	20	2.8	6	1	0	10.0	66	51	- 30	31	9	4	0	0	4.3	18	13.9	SW	10	12	9	9	5.3	59
MARYLAND																																
BALTIMORE	45	1011.0	1015.8	29.4	15.6	22.6	0.1	36.7	15	7.8	4	10	0	15.0	67	61	- 23	15	9	8	0	0	3.5	27	18.3	W	15	8	13	9	5.6	60
BALTIMORE U	4			29.4	19.4	24.6	0.9	36.7	30+	12.8	4	12	0			45	- 53	18	8													
MASSACHUSETTS																																
BLUE HILL OBS R	192	990.0		24.4	12.8	18.5	0.1	34.4	30	6.1	5	2	0			35	- 60	15	9		0	0	6.2	SSW	18.8	NW	16					67
BOSTON	5	1009.3	1014.0	25.0	14.4	19.5	-0.4	34.4	30+	9.4	6+	2	0	11.7	65	49	- 40	22	11	4	0	0	5.5	20	15.2	W	20+	12	8	10	5.1	71
NANTUCKET	13	1014.3	1014.9	21.1	12.8	17.1	0.8	28.3	21	8.3	6	0	0	12.2	78	15	- 59	8	8	2	0	0	5.8	20	14.8	W	17+	9	6	15	6.2	66
PITTSFIELD	357			23.9	9.4	16.5	-0.8	32.8	30	0.6	6	1	0			49	- 60	23	10		0	0										
WORCESTER	301	978.0	1014.3	23.9	12.2	17.9	-0.2	33.3	30	4.4	5	1	0	10.0	62	45	- 53	22	7	2	0	0	4.3	23	13.9*	34	16	10	11	9	5.3	
MICHIGAN																																
ALPENA	210	992.3		24.4	7.8	16.1	0.2	36.1	30	- 2.2	3	6	5			28	- 39	14	6	2	0	0	3.1	24	12.1	SW	9	8	14	8	5.8	84
DETROIT	189	989.0	1015.4	26.7	15.0	20.9	-0.1	35.0	30+	7.2	16	8	0	13.3	65	60	- 12	19	9	8	0	0	4.2	18	25.0	W	19	7	13	10	5.8	67
DETROIT M WAYNE CO	193	991.6	1015.8	25.6	12.2	19.0	-1.2	33.9	30+	5.0	11+	5	0	13.3	71	98	13	57	9	9	0	0	3.3	23				6	14	10	5.9	
DETROIT WILLOW RUN	217	987.2	1015.4	26.1	13.3	19.8	-1.1	34.4	30+	5.0	1	7	0	14.4	73	80	- 4	49	9	8	0	0	3.7	24	16.5*	4	7	7	12	11	5.8	
FLINT	233	988.3	1016.0	26.1	12.2	19.2	0.5	33.3	29	3.3	1	6	0	12.8	68	101	22	50	9	8	0	0	3.8	24	13.9*	27	9	8	15	7	5.5	
GRAND RAPIDS	210	989.3	1014.9	27.2	13.9	20.5	0.8	34.4	30+	3.3	2	5	0	13.9	68	105	21	67	6	6	0	0	4.0	25	25.9	W	9	8	14	8	5.4	70
LANSING	260	983.3	1015.0	27.8	13.3	20.6	0.9	35.6	29+	2.2	2	7	0	12.2	60	71	- 14	40	12	8	0	0	2.8	27	16.1	SW	9	8	15	7	5.2	75
MARQUETTE U	206	986.6		21.1	8.9	14.9	-0.7	35.6	29	1.7	4+	3	0			64	- 24	38	13	4	0	0	3.7	SW#	18.8	NW	9	10	10	10	5.5	71
MUSKEGON	191	992.2	1015.2	26.1	13.3	19.8	0.5	33.9	29	2.8	2	3	0	12.8	66	36	- 33	19	7	6	0	0	3.9	22	13.0*	30	22+	11	11	8	5.2	
SAULT STE MARIE	220	991.4	1014.1	20.6	7.8	14.3	-0.8	31.7	29	- 2.2	2	0	1	8.9	72	54	- 29	13	11	4	0	0	4.7	30	19.7*	34	26	8	13	9	5.6	70
MINNESOTA																																
DULUTH	435	971.7	1013.1	21.1	8.3	14.7	-0.2	30.6	29+	- 0.6	4	0	2	7.8	67	89	- 20	34	13	7	0	0	4.6	10	18.8	W	23	6	9	15	6.7	62
INTERNATIONAL FALLS	359	970.2	1011.1	21.7	8.9	15.4	-0.1	33.3	28	- 5.0	1	2	2	10.0	73	188	89	97	12	4	0	0	4.5	18	13.4*	21	29	4	11	15	7.0	
MINNEAPOLIS	251	979.1	1012.1	26.7	13.9	20.4	1.1	34.4	29+	5.0	3	7	0	12.2	62	55	- 46	27	13	9	0	0	4.7	17	17.0	SW	18	10	7	13	5.4	70

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	976.8	1013.5	26.1	12.8	19.6	0.1	33.3	29+	3.3	1	5	0	11.7	63	27	- 86	16	10	5	0	0	5.9	18	16.5*	19	18	9	10	11	5.6	
ST CLOUD	315	974.2		26.1	12.2	19.1	0.7	36.1	25	1.7	4+	5	0			33	- 81	10	9	7	0	0						9	6	15	5.9	
MISSISSIPPI																																
JACKSON	93	1004.2	1016.1	33.3	21.1	27.1		36.1	22+	13.3	4+	22	0	20.0	70	62		17	7	10	0	0	3.0	20	11.2*	E	11	8	16	6	5.1	
MERIDIAN	89	1003.0	1016.6	33.3	18.9	26.2	-0.2	38.3	21	11.7	3	19	0	20.0	75	124	20	40	8	10	0	0	2.5	20	12.5*	1	22	4	18	8	5.8	
VICKSBURG U	71	1006.6		31.1	21.7	26.3	-0.2	33.9	22+	15.0	1	15	0			53	- 35	30	6	5			3.1		9.8	SE	12	12	10	8	5.0	77
MISSOURI																																
COLUMBIA	237	985.7	1013.7	27.8	17.8	22.8	-0.6	32.8	29+	7.8	3	5	0	16.7	71	76	- 35	31	11	10	0	0	4.2	18	13.9	W	15	9	8	13	5.6	61
KANSAS CITY	226	978.7	1012.9	28.3	18.3	23.2	-1.2	32.8	22	10.6	1	5	0	16.1	67	137	21	34	14	11	0	0	4.1	18	15.2	W	22	8	11	11	5.6	70
ST JOSEPH	247	979.0		27.2	16.1	21.6	-1.8	32.2	22+	6.7	1	4	0			301	150	148	11	10	0	0	4.1	12	13.9*	22	22	9	11	10	5.3	
ST LOUIS	163	994.4	1015.0	28.9	18.3	23.8	0.4	34.4	29+	9.4	3	8	0	17.8	72	69	- 40	35	10	6	0	0	4.4	18	26.8	SE	29	10	11	9	5.1	73
ST LOUIS RFC	142			30.0	20.0	25.0	0.2	35.0	28+	12.2	3	13	0			46	- 53	23	9		0	0										
SPRINGFIELD	386	967.7	1014.6	28.3	17.2	22.7	-0.8	32.2	22+	6.1	3	3	0	18.3	79	177	49	69	12	11	0	0	4.1	18	13.4	SE	29	10	11	9	5.0	62
MONTANA																																
BILLINGS	1087	888.7	1011.1	22.8	11.7	17.1	-1.3	32.2	27	6.1	2+	1	0	9.4	64	130	66	48	18	10	0	0	4.5	24	14.8	S	26	6	13	11	6.1	52
GLASGOW	694	937.0		24.4	11.1	17.7	0.9	34.4	27	3.3	1	2	0			71	- 5	41	12	5	0	0						5	10	15	6.9	
GREAT FALLS	1116	886.2	1011.5	23.3	10.6	16.9	1.4	32.8	26	6.1	21+	1	0	7.2	57	110	37	70	11	8	0	0	4.9	24	15.2	SW	26	4	8	18	7.1	69
HAVRE	787	923.3		23.9	9.4	16.5	0.4	34.4	26	1.1	1	2	0			48	- 22	22	10	7	0	0	3.7	SW#	15.6	SW	26	4	9	17	6.8	57
HELENA	1187	871.9	1012.6	21.7	8.3	15.0	-0.3	30.6	25+	5.0	22+	0	0	6.1	59	76	19	17	14	8	0	0	3.3	24	15.6	SW	26	8	8	14	6.4	57
KALISPELL	904	909.9		21.1	6.7	13.8	-1.0	28.9	23	0.0	28	0	1			90	34	35	12	6	0	0	2.7					7	8	15	6.6	
MILES CITY	801		1010.4	26.1	12.2	19.1	0.4	38.3	27	2.8	1	4	0	8.9	58	120	51	69	12	10	0	0	3.8	26	25.9*	27	16					
MISSOULA	972	900.4	1014.0	20.6	7.2	13.9	-0.8	30.6	25+	0.6	28	0	0	7.8	71	80	31	41	16	2	0	0	3.2	33	11.6	NW	27	8	5	17	6.7	49
NEBRASKA																																
GRAND ISLAND	561	946.7	1011.8	28.9	14.4	21.6	-0.1	36.7	8	3.9	2	9	0	13.3	63	114	18	30	11	12	0	0	5.4	16	25.5*	32	11	14	6	10	4.3	
LINCOLN U	351			28.3	16.1	22.1	-0.8	34.4	8	6.1	2	7	0			217	103	74	11	11	0	0	5.0	SE#	19.7	SE	8	13	7	10	4.9	67
NORFOLK	471	957.0		28.3	14.4	21.2	-0.4	36.7	8	3.3	2	7	0			189	81	72	9	10	0	0						12	9	9	4.8	
NORTH PLATTE	847	912.9	1010.3	27.2	11.7	19.6	-1.1	33.3	29+	1.7	2	6	0	11.1	61	121	39	51	10	9	0	0	5.0	12	29.1	W	22	13	8	9	4.6	72
OMAHA	298	973.1	1012.4	28.3	16.1	22.2	-0.7	35.0	8	6.7	2	8	0	14.4	64	162	47	54	12	10	0	0	4.0	15	21.9	NW	20	14	4	12	4.8	65
OMAHA N OMAHA AP	403	965.1		26.7	15.6	21.0	-0.8	32.2	8	6.1	2	1	0			160	43	41	12	10	0	0						10	10	10	5.2	
SCOTTSBLUFF	1204	876.7	1010.4	27.2	11.1	19.1	-0.3	36.1	27	0.6	2	9	0	8.3	55	37	- 41	17	12	9	0	0	4.8	12	16.5*	32	22+	6	11	13	6.1	
VALENTINE	789	920.9		27.8	12.2	19.9	0.2	35.6	26	3.3	2	8	0			71	- 8	29	13	13	0	0	5.6	S#	25.5	SW	8	10	12	8	4.9	64
NEVADA																																
ELKO	1547	843.6	1012.7	22.8	5.0	13.8	-1.7	32.8	25	0.6	10	2	0	3.9	56	57	39	22	14	5	T	0	3.0	24	10.7*	16	2	8	7	15	6.1	
ELY	1907	808.1	1011.0	22.8	4.4	13.7	-1.1	30.6	25	- 1.7	10	0	3	1.7	50	62	49	38	7	5	T	0	3.7	19	16.5	S	6	7	11	12	5.9	79
LAS VEGAS	659	943.7	1008.4	35.0	18.9	27.2	-1.1	42.2	25	11.1	8	24	0	- 1.7	18	1		1	1	2	0	0	5.5	18	23.7*	34	7	18	10	2	2.9	92
RENO	1342	861.5	1013.1	26.1	6.7	16.3	0.7	36.7	24	2.8	27+	4	0	2.2	41	7	- 2	5	3	0	0	0	3.5	29	14.8	NW	6	11	7	12	5.2	96
WINNEMUCCA	1310	866.1		23.9	6.7	15.1	-1.3	35.0	25	1.1	19	3	0			52	32	28	9	0	0	0	3.6	27	15.2	SW	26	7	7	16	8.5	48
NEW HAMPSHIRE																																
CONCORD	103	1002.8	1013.6	26.7	10.6	18.7	0.6	36.1	30+	0.0	6	3	1	10.6	63	21	- 71	13	7	3	0	0	3.7	18	18.3*	32	17	10	11	9	5.0	72
MT WASHINGTON OBS	1909	806.2		10.0	2.2	6.1	-1.1	16.7	21	- 7.2	16	0	11			143	- 22	25	19	3	155	51	13.2	W#	49.2Y	W	17	5	8	17	7.2	38
NEW JERSEY																																
ATLANTIC CITY	18	1014.0	1016.3	27.8	15.6	21.6	0.5	36.1	30+	8.9	17	7	0	14.4	66	21	- 51	14	6	5	0	0	3.9	18	16.5*	29	15	10	7	13	5.5	73
ATLANTIC CITY U	3			24.4	17.2	20.9	0.4	35.0	14	11.1	17	2	0			31	- 46	14	7				5.1		13.0*	SSW	19					
NEWARK	3	1014.4	1015.7	27.2	16.7	21.8	-0.6	37.2	30	8.9	4	6	0	12.8	61	78	- 9	30	9	4	0	0	4.6	23	13.0*	34	16	11	7	12	5.4	
TRENTON U	17	1007.6		27.8	16.1	21.9	0.3	36.7	30	10.0	4	7	0			35	- 57	21	7	6	0	0	3.8	NW#	14.8	NW	15	10	8	12	5.7	64
NEW MEXICO																																
ALBUQUERQUE	1618	847.2	1009.2	32.2	14.4	23.1	-0.7	37.2	15	6.7	1	17	0	- 1.1	22	T	- 14	T	0	1	0	0	3.6	18	16.1	W	28	21	7	2	2.2	92
CLAYTON	1515	845.0		30.0	12.8	21.6	0.3	35.0	17	2.8	1	11	0			25	- 12	11	6	8	0	0						18	8	4	2.9	
RATON	1944	806.2		28.3	10.0	18.9	0.3	32.2	28	1.7	1	1	0			48	5	21	4	7	0	0						16	9	5	3.6	
ROSWELL	1103	891.1		35.6	14.4	24.8	-0.2	40.0	7	7.8	1	27	0			28	1	28	1	4	0	0	4.3		17.9	SW	13	18	11	1	2.6	89
SILVER CITY	1638	835.8		31.1	12.8	22.0	-1.7	34.4	30+	5.0	1	7	0			1	- 14	1	1	1	0	0						23	6	1	1.7	
NEW YORK																																
ALBANY	84	1011.2	1015.0	26.1	12.2	19.2	-0.4	36.7	30	2.2	3	3	0	11.1	62	17	- 66	5	8	2	0	0	4.2	17	15.2	NW	10	9	10	11	5.6	58
BINGHAMTON	485	957.6	1015.7	22.8	10.6	16.7	-0.8	33.3	30	3.3	5	1	0	10.6	71	31	- 67	10	9	3	0	0	4.5	34	15.2	NW	16	5	11	14	6.5	65

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s		M.p.s.							%
NEW YORK																																
BUFFALO	215	987.5	1015.2	24.4	13.3	18.7	0.5	33.3	23	3.3	5	1	0	12.8	71	39	- 25	14	9	3	0	0	4.5	24	15.2	W	24+	4	17	9	6.2	71
NEW YORK U	40	1004.9		27.2	16.7	22.0	0.1	37.2	30	10.6	5	7	0			68	- 16	19	9	4	0	0	3.4	SW#	11.2	NW	16	14	7	9	4.5	63
NEW YORK LA GUARDIA	6	1013.1	1015.2	26.1	17.2	21.8	-0.1	36.1	30	11.7	5	5	0	13.3	63	72	- 13	23	10	5	0	0	4.8	18	13.9	NW	16	11	8	11	5.4	
ROCHESTER	166	996.5	1015.6	25.6	12.2	18.8	-0.6	35.6	30	2.8	5	4	0	11.1	63	29	- 36	9	6	4	0	0	3.9	25	14.8	SW	10	12	13	5	5.0	78
SCHENECTADY	66			25.6	12.2	19.1	-1.1	35.0	30	5.0	5+	4	0			18	- 71	7	5	0	0	0	2.2		13.4	W	16+	19	10	1	3.0	
SYRACUSE	127	993.1	1014.7	25.6	12.2	18.9	-0.7	33.9	30	2.2	5	5	0	11.7	65	36	- 39	13	9	4	0	0	4.2	28	17.0	NW	26	10	14	6	5.1	67
NORTH CAROLINA																																
ASHEVILLE U	671	939.3		28.9	16.1	22.7	0.6	34.4	22	9.4	3	7	0			20	- 69	8	5	6	0	0	2.6	NW#	13.9	NW	13	5	19	6	5.7	70
CAPE HATTERAS R	2	1015.7	1016.5	27.8	19.4	23.6	-0.4	33.3	15	11.7	12	1	0	18.9	76	47	- 58	20	11	6	0	0	4.6	23	10.7	SE	7	8	10	12	5.8	70
CHARLOTTE	224	989.1	1016.7	31.7	19.4	25.4	0.3	37.2	21	14.4	3	15	0	17.8	66	54	- 38	26	7	6	0	0	3.1	22	10.7	NW	13	8	13	9	5.7	71
GREENSBORO	272	985.7	1017.2	30.6	18.3	24.3	0.5	36.7	21	11.1	4	11	0	17.8	71	78	- 10	35	7	8	0	0	2.8	23	11.6	NW	15	6	14	10	6.0	64
RALEIGH	132	1002.7	1016.4	30.6	17.8	24.2	0.3	37.2	21+	12.8	8	13	0	17.8	72	87	- 7	38	11	7	0	0	3.1	18	11.2*	26	13	6	15	9	6.1	67
WILMINGTON	9	1014.2	1017.0	30.6	20.6	25.5	0.1	36.1	15	15.6	4	10	0	20.6	78	128	19	46	11	8	0	0	3.8	23	16.1	N	3	7	14	9	6.1	61
WINSTON SALEM	295	982.3	1016.9	30.6	19.4	25.1	0.8	37.2	22+	13.3	3	13	0	18.3	69	77	- 15	36	8	8	0	0	2.9	25	11.2*	35	22	6	16	8	5.9	
NORTH DAKOTA																																
BISMARCK	502	950.9	1010.6	23.9	10.6	17.2	-0.8	33.9	25	2.2	2	2	0	10.6	68	145	59	49	12	14	0	0	4.6	7	23.2	NE	8	7	7	16	6.7	60
FARGO	274	977.3	1010.5	26.7	12.8	19.6	1.3	36.7	28	1.1	4	5	0	13.9	72	123	46	70	10	6	0	0	4.4	18	21.9	S	18	8	8	14	6.5	56
WILLISTON	579	943.3		23.9	10.6	17.2	-0.1	36.7	27	0.0	1	2	1			150	66	56	14	4	0	0	4.4	SE#	21.9	W	27	6	9	15	6.5	57
OHIO																																
AKRON	369	978.6	1016.6	26.7	13.3	20.0	-0.8	33.9	23	5.6	17+	4	0	12.8	66	30	- 78	10	8	7	0	0	3.5	24	13.4*	33	15	6	12	12	6.3	
CINCINNATI OBS	232			29.4	17.2	23.3	0.3	34.4	27+	10.0	3	10	0			167	61	56	10	8	0	0	2.2	S#	8.5	SW	30+					65
CINCINNATI U	169	992.6		30.6	18.3	24.2	0.1	36.1	22	10.6	4	15	0			130	22	43	9	9	0	0										
CLEVELAND	237	988.1	1015.8	25.6	13.9	19.7	0.2	33.3	23+	5.0	17	4	0	13.9	70	52	- 35	23	8	6	0	0	4.2	22	13.9	W	3	8	13	9	5.7	74
COLUMBUS	247	987.0	1016.7	27.8	15.0	21.3	-0.3	35.0	23	7.8	4+	6	0	15.0	70	145	39	63	12	7	0	0	3.6	20	17.9	W	20	7	12	11	5.9	56
COLUMBUS U	221			28.3	17.2	22.7	0.1	35.0	23	10.6	3	7	0			141	45	45	11	8	0	0										
DAYTON	304	983.8	1016.1	28.3	16.7	22.6	0.7	34.4	27	10.0	4+	9	0	15.0	66	80	- 24	31	12	8	0	0	4.4	20	17.4	W	20+	10	10	10	5.3	66
MANSFIELD	395			26.1	13.9	20.0	0.1	32.8	29+	5.6	11	2	0			77	- 30	35	11	7	0	0						8	10	12	5.7	
TOLEDO	206	990.3	1015.5	27.2	13.3	20.4	0.3	35.0	29	5.6	17	8	0	12.2	62	48	- 48	12	10	7	0	0	3.8	22	16.5	SW	12	7	13	10	5.5	76
YOUNGSTOWN	359	974.2	1016.5	26.1	12.8	19.3	-0.2	32.2	30+	2.8	2	4	0	12.8	67	90	- 1	35	9	6	0	0	4.0	24	15.6*	26	23	7	12	11	6.1	
OKLAHOMA																																
OKLAHOMA CITY	390	969.9	1012.5	31.7	18.9	25.2	-0.3	36.1	30+	9.4	1	19	0	17.8	66	20	- 94	12	7	7	0	0	5.9	16	18.8	E	15	10	12	8	4.6	64
TULSA	206	989.3	1013.4	31.1	20.0	25.7	0.5	34.4	10	10.6	1	16	0	19.4	71	147	28	31	14	12	0	0	5.0	18	15.2	W	14+	10	12	8	5.0	66
OREGON																																
ASTORIA	2	1016.4	1017.1	16.7	8.9	12.9	-1.2	22.2	22	5.6	28+	0	0	10.6	84	69	- 8	17	16	0	0	0	4.0	33	10.3*	33	25+	2	8	20	8.3	
BURNS U	1265	871.3		21.7	6.1	13.9	-1.6	31.1	25+	2.2	27	0	0			49	27	17	9	3	0	0						8	7	15	6.3	
EUGENE	110	1003.2		22.2	8.9	15.4	-0.6	30.0	22	4.4	28+	0	0			33	- 3	13	7	1	0	0	2.6		8.9*	34	28	5	5	20	7.3	
MEACHAM	1234			17.2	6.1	11.5	-0.6	26.7	23	1.7	28	0	0			55	- 7	10	18	3	0	0						6	5	19	7.1	
MEDFORD	396	968.0	1015.2	25.6	9.4	17.4	-0.5	35.6	25+	4.4	28	5	0	8.3	62	20	- 6	7	10	0	0	0	2.6	30	10.3*	2	26	8	8	14	6.0	
PENDLETON	452	960.5	1013.6	25.0	11.7	18.3	-0.5	33.3	23	6.1	28	2	0	5.6	50	26	- 4	9	9	2	0	0	5.1	26	17.0*	26	26	8	6	16	6.2	
PORTLAND	6	1010.7	1016.3	20.0	9.4	14.8	-1.8	28.3	22	5.6	28	0	0	9.4	72	50	7	12	14	0	0	0	3.4	32	8.9	NW	28	5	5	20	7.5	46
PORTLAND U	9			21.1	11.7	16.2	-1.2	30.0	22	8.9	8	0	0			56	14	17	11		0	0										
ROSEBURG	154	998.2		22.8	9.4	16.2	-0.2	32.2	22	3.9	27	1	0			38	0	8	9	0	0	0	2.2	N#	7.6	NW	2	6	7	17	6.8	53
SALEM	59	1009.8	1017.1	22.2	9.4	15.7	-0.2	28.9	22	5.0	8	0	0	10.6	74	44	7	17	11	0	0	0	3.0	18	8.9*	32	26	4	6	20	7.3	
SEXTON SUMMIT R	1169	884.0		17.8	5.6	11.9	-1.3	28.9	23+	0.6	27+	0	0			36	- 3	16	9	0	0	0	4.6					11	6	13	5.8	
PACIFIC AREA																																
CANTON ISLAND	3	1009.0	1009.4	30.6	25.0	27.8	-0.9	31.1	30+	23.9	14	0	0	22.2	71	5	- 62	5	1	1	0	0	6.2	9	11.2*	8	10	5	20	5	5.1	
ENIWETOK	5	1009.5		31.1	25.6	28.3	0.1	31.7	22+	22.8	28	0	0			121	36	16	23	2	0	0	5.5									
TAGUAC GUAM R	110	997.6		30.6	22.8	26.7	-0.1	32.2	3	20.6	4+	1	0			190	41	33	22	5			2.9		8.9	SE	27+					82
JOHNSTON	2	1013.4	1014.0	28.3	25.0	26.7	-0.2	29.4	1	21.1	27	0	0	21.7	76	36	15	29	9	0	0	0	6.6	9	17.9	SE	27	2	20	8	6.3	63
KOROR R	29	1005.5	1009.3	30.6	24.4	27.5	0.2	32.8	4	22.8	30+	4	0	25.0	89	308	- 22	50	23	7	0	0	2.5	6	9.8	SW	29+	0	0	30	10.0	59
KWAJALEIN	2	1009.5	1009.7	30.0	25.0	27.5	0.1	31.7	11+	21.7	22	0	0	23.9	83	244	23	69	20	2	0	0	4.9	7	12.5*	10	5+	1	5	24	8.7	
PONAPE R	37	1004.6	1009.2	30.0	22.8	26.5	-0.2	31.7	5	20.6	5	0	0	23.9	87	334	- 90	47	24	2	0	0	2.4	6	7.6	E	13+	2	6	22	8.4	46
TRUK MOEN ISLAND	2	1008.4	1008.7	30.6	23.9	27.3	0.3	32.2	19	22.2	10+	1	0	23.9	81	254	- 48	85	22	2	0	0	3.8	4	11.2	S	4	0	6	24	8.9	60
WAKE	3	1012.3	1012.7	31.1	25.6	28.1	0.7	32.2	23	22.2	27+	1	0	22.2	73	133	85	66	16	3	0	0	3.5	7	9.8*	6	25	6	13	11	6.1	
YAP R	16	1007.4	1008.6	30.0	24.4	27.2	-0.5	32.2	9	22.8	29	1	0	30.0	76	171	-101	47	24	6	0	0	2.7	4	16.5	NE	9	0	3	27	9.4	30

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M.p.s.		M p.s							%
PENNSYLVANIA																																
ALLENTOWN	115	998.5	1016.1	26.7	14.4	20.4	-0.3	36.1	30	7.2	4+	5	0	13.3	67	97	- 6	36	8	7	0	0	3.7	29	36.2*	27	15	12	6	12	5.6	
ERIE	223	990.0	1016.0	24.4	13.9	19.2	-0.1	33.3	23+	4.4	5+	2	0	12.8	69	57	- 20	16	8	9	0	0	5.3	18	15.6*	27	23	7	17	6	5.4	
HARRISBURG	102	1002.4	1016.1	27.8	15.6	21.9	0.1	36.1	30	7.2	3	7	0	14.4	65	107	20	33	12	12	0	0	3.4	27	12.1	NW	3	5	12	13	6.4	64
PHILADELPHIA	2	1011.4	1015.8	28.9	15.6	22.4	0.8	37.8	30	6.7	17	9	0	13.3	60	5	- 98	2	7	3	0	0	3.7	24	11.6	N	16	10	7	13	5.7	69
PITTSBURGH	347	985.8	1016.4	26.7	13.3	19.9	-0.3	31.7	29	3.3	2	0	0	13.3	68	98	2	23	16	9	0	0	3.7	23	15.6*	27	23	4	12	14	6.3	70
PITTSBURGH U	228			27.8	15.6	21.7	-0.4	33.3	29	6.7	2	7	0			143	42	34	13		0	0										61
READING U	81	1003.6		27.8	16.7	22.1	-0.2	36.7	30	8.9	3	8	0			69	- 25	23	9	9	0	0	4.1	W#	21.9	SW	24	11	8	11	5.2	64
SCRANTON	287	982.0	1015.9	25.6	13.3	19.7	-0.4	36.1	30	4.4	5	1	0	12.2	65	127	28	50	8	5	0	0	3.4	24	10.7	NW	16+	10	9	11	5.6	58
WILLIAMSPORT	161	997.4	1016.3	26.7	13.3	20.2	-0.4	36.7	30	3.9	5	5	0	12.8	67	66	- 16	35	12	6	0	0	3.6	32	9.4*	26	10	8	11	11	6.0	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.2		21.1	13.3	17.1	-0.1	28.3	21	8.9	3	0	0			34	- 31	13	8	3	0	0						12	5	13	5.5	
PROVIDENCE	17	1008.2	1014.2	25.0	12.8	19.1	0.1	34.4	30	6.1	3	3	0	12.2	68	59	- 11	43	7	3	0	0	4.5	18	11.6*	27	17+	11	8	11	5.4	62
SOUTH CAROLINA																																
CHARLESTON	12	1014.4	1016.4	31.7	21.7	26.7	0.4	35.6	16+	16.1	8+	15	0	21.7	78	177	50	62	10	9	0	0	3.8	18	17.4Y	N	1	8	12	10	5.7	60
CHARLESTON U	3			30.6	23.9	27.1	0.6	36.1	16+	19.4	8+	8	0			173	65	93	11		0	0	4.7		14.3	SE	7					
COLUMBIA	66	1003.7	1016.2	33.3	20.6	26.9	0.4	37.2	21+	15.6	5	18	0	19.4	68	75	- 22	24	12	9	0	0	3.0	27	8.9*	10	26	5	17	8	5.5	65
FLORENCE	45	1010.6	1016.3	32.2	20.0	26.0	0.0	38.3	20	15.6	5+	15	0	20.0	75	104	- 5	31	10	8	0	0	3.5	18	11.6*	21	20	5	14	11	5.9	
GNVLE SPARTANBURG	292	980.2	1016.8	30.6	20.0	25.3	-0.4	36.7	21	15.6	4+	12	0	18.9	69	205	132	107	7	8	0	0	3.0	4	13.0	W	13	8	13	9	5.5	67
SOUTH DAKOTA																																
HURON	391	963.9	1010.2	28.9	12.2	20.7	0.9	37.8	26+	0.0	2	9	1	12.2	62	41	- 39	12	8	7	0	0	5.5	17	19.2	SW	8	8	10	12	5.6	73
RAPID CITY	965	898.7	1011.0	25.0	11.7	18.3	0.0	36.1	27	3.9	2+	5	0	10.6	65	119	41	50	15	12	0	0	4.8	34	19.2	NW	9	7	12	11	6.0	58
SIOUX FALLS	433	960.8	1011.5	28.3	13.9	21.2	1.1	35.0	28+	2.8	2	8	0	13.3	64	43	- 68	14	11	8	0	0	5.4	18	17.9*	21	17	10	10	10	5.1	
TENNESSEE																																
BRISTOL	459	963.3	1016.9	30.6	16.7	23.4	0.6	35.0	28	9.4	4	15	0	16.1	68	29	- 57	12	5	4	0	0	1.7	28	9.4*	31	15	7	15	8	5.5	
CHATTANOOGA	204	989.7	1016.8	31.1	18.9	25.0	-0.6	36.1	28+	12.8	5+	17	0	18.9	74	103	9	43	7	8	0	0	2.1	2	7.6	NE	25+	10	9	11	5.6	75
KNOXVILLE	290	982.2	1017.1	30.6	17.8	23.9	-0.3	35.6	28	11.1	4	15	0	16.1	66	25	- 60	19	5	3	0	0	2.9	24	12.5	NW	24	7	11	12	6.0	75
MEMPHIS	80	1001.1	1015.4	31.7	20.6	26.3	0.4	36.1	22+	12.2	4+	16	0	19.4	67	35	- 58	14	5	3	0	0	3.5	18	12.5	N	10	11	13	6	4.6	86
MEMPHIS U	83			31.7	22.2	26.8	0.6	36.1	22	14.4	1	17	0			65	- 27	42	4		0	0										
NASHVILLE	176	996.2	1015.9	31.7	19.4	25.4	0.2	37.2	22	10.6	2	17	0	18.3	68	31	- 52	18	8	7	0	0	3.2	16	21.0	NW	15	12	12	6	4.9	74
OAK RIDGE	276	984.7		31.1	17.2	24.1	0.5	36.1	22	10.6	4	15	0			22	- 60	26	5	6	0	0	2.0		11.6Y		24	13	9	8	4.9	
TEXAS																																
ABILENE	536	951.7	1011.5	33.9	21.1	27.4	0.6	38.3	7	8.3	1	23	0	14.4	49	39	- 28	31	4	2	0	0	5.5	18	18.8	NW	4	18	6	6	3.9	85
AMARILLO	1099	887.3	1009.9	32.8	16.7	24.7	-0.3	38.3	7	6.1	1	18	0	10.0	46	48	- 25	21	8	7	0	0	6.5	21	21.0	SW	11	18	9	3	3.1	81
AUSTIN	182	992.2	1013.8	32.8	22.2	27.4	-0.3	35.6	28+	12.8	1	22	0	19.4	67	192	110	165	6	6	0	0	4.5	18	13.0	SE	14	10	14	6	5.1	72
BROWNSVILLE	5	1010.8	1013.3	31.7	23.3	27.6	-0.6	33.9	30+	17.8	2	19	0	22.2	77	15	- 60	8	4	3	0	0	5.8	15	13.9	SE	18	9	17	4	4.8	69
CORPUS CHRISTI	13	1012.8	1013.9	32.8	22.2	27.4	-0.6	36.1	24	15.0	1	22	0	22.2	78	10	- 51	7	3	4	0	0	5.5	15	13.9	N	25	7	14	9	5.7	60
DALLAS	147	995.4	1013.7	33.3	22.2	27.7	0.3	36.1	20	11.7	1	23	0	18.9	61	8	- 75	6	3	2	0	0	5.9	18	15.6	S	8	15	10	5	4.1	73
DEL RIO	313	977.8	1011.1	36.1	22.8	29.4		38.9	30	13.9	1	27	0	16.7	51	1		1	1	3	0	0	5.2	14	10.3	36	24+	5	18	7	5.4	
EL PASO	1194	884.1	1008.1	35.0	20.0	27.5	0.3	37.8	30+	10.6	1	29	0	4.4	24	T	- 18	T	0	1	0	0	4.3	27	17.9	SW	17	21	7	2	2.1	97
FORT WORTH	166	993.2	1013.7	33.3	21.1	27.2	-0.3	36.7	20	10.6	1	23	0	18.9	63	10	- 66	7	3	2	0	0	5.4	18	13.0*	19	18+	15	10	5	4.0	
GALVESTON U	2			28.9	25.0	27.0	-0.6	32.8	24	18.3	1	1	0			33	- 35	20	4	0	0	0	5.3	S#	14.8	S	15					74
HOUSTON U	12			32.2	23.9	27.9	0.1	35.0	24	16.1	1	19	0			59	- 38	29	8		0	0										
HOUSTON	15	1011.8	1014.4	31.7	21.7	26.9	-0.7	35.6	24	15.0	3+	19	0	21.1	74	48	- 46	24	5	5	0	0	4.5	16	13.4*	7	26+	7	15	8	5.9	82
LAREDO	152	996.9	1012.0	35.6	23.3	29.5	-0.3	38.3	20+	17.8	1	27	0	18.3	57	39	- 10	37	4	2	0	0	6.2	14	12.5*	10	14	11	15	4	4.4	
LUBBOCK	988	901.8	1011.1	32.8	16.7	24.8	-0.4	38.9	9	7.2	1	17	0	13.3	55	127	63	53	9	9	0	0	6.4	18	25.9*	25	21	16	9	5	3.5	
MIDLAND	870	913.1	1009.3	36.1	21.1	28.6	1.3	41.1	19+	10.6	1	29	0	13.3	44	10	- 31	5	7	7	0	0	5.3	18	17.0*	24	4	15	9	6	3.9	
PORT ARTHUR	5	1013.4	1014.9	32.2	22.2	27.3	0.3	35.6	24	15.6	2+	21	0	22.2	79	41	- 68	20	4	4	0	0	3.9	18	12.1	SW	14	7	17	6	5.3	73
SAN ANGELO	580	945.1	1010.7	35.6	21.1	28.4	0.3	40.0	7	8.9	1	27	0	14.4	47	4	- 42	4	2	1	0	0	5.2	16	11.6*	16	17+	18	7	5	3.9	
SAN ANTONIO	241	989.0	1013.6	34.4	21.7	28.0	0.3	36.7	30+	11.7	2	26	0	18.9	63	124	49	96	6	4	0	0	4.7	16	13.4	NW	5	10	15	5	4.8	79
VICTORIA	32	1009.4		33.3	23.3	28.4	1.0	37.2	24	15.6	2+	23	0			96	19	71	7	2	0	0	4.6		16.5Y		15	6	14	10	5.8	
WACO	152	992.7	1013.4	34.4	21.7	28.1	0.3	37.2	13+	11.1	1	25	0	17.8	58	110	42	101	7	5	0	0	5.5	18	13.4*	26	4	14	11	5	4.3	
WICHITA FALLS	303	975.9	1012.0	33.9	20.0	26.9	-0.8	38.3	30+	10.6	1	21	0	17.8	61	55	- 26	28	3	5	0	0	5.8	18	13.9*	17	8	15	10	5	3.5	
UTAH																																
MILFORD	1533	842.4		27.8	7.2	17.4	-1.2	35.6	25	2.2	11+	6	0			25	14	16	2	1	0	0						14	9	7	4.6	
SALT LAKE CITY	1286	866.3	1012.7	24.4	10.0	17.3	-2.3	35.0	26	5.6	20	4	0	6.1	53	66	41	25	12	10	0	0	4.1	16	17.0	SW	2	7	6	17	6.5	56
WENDOVER	1291	868.6		23.9	13.3	18.5	-2.5	35.6	26	6.7	10	3	0			76	65	34	12	13	0	0						10	8	12	5.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind						No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	998.6	1013.1	24.4	10.0	17.2	-0.7	33.9	30+	2.8	6	3	0	10.6	66	76	- 12	22	9	7	0	0	4.2	18	14.8	NW	16	7	12	11	5.7	77
VIRGINIA																																
LYNCHBURG	289	991.6		30.0	16.1	23.1	0.3	37.2	20	6.1	4	11	0			17	- 86	7	5	6	0	0	2.2		9.8	NE	21	8	12	10	5.6	71
NORFOLK	8	1015.5	1016.8	29.4	17.8	23.6	-0.6	38.3	10	12.2	4	10	0	16.7	69	66	- 26	45	7	6	0	0	4.0	20	13.4	N	20	8	12	10	5.6	69
RICHMOND	49	1010.2	1016.4	30.0	15.6	22.8	-1.1	36.7	10	7.2	4	12	0	16.1	69	61	- 34	21	9	7	0	0	3.4	18	13.9	SW	15	7	13	10	5.5	73
ROANOKE	358	975.4	1017.0	30.6	17.2	23.7	0.7	36.7	21	7.2	4	13	0	15.0	63	50	- 46	26	6	5	0	0	2.6	27	8.0*	32	23	9	12	9	5.6	
WASHINGTON																																
OLYMPIA	58	1008.8	1016.2	19.4	7.2	13.4	-1.7	27.2	22	2.2	28	0	0	10.0	81	60	14	15	13	1	0	0	3.3	20	9.8*	26	26	3	5	22	8.3	
SEATTLE TACOMA	122	1002.3	1016.4	18.9	10.0	14.4	-1.1	26.1	9	7.8	28	0	0	9.4	77	97	57	22	13	1	0	0	3.8	22	11.2*	25	27	3	5	22	8.2	
SEATTLE U	4			19.4	12.2	15.7	-0.6	27.2	22	10.0	28+	0	0			93	58	31	11		0	0			13.0	S	27					43
SPOKANE	718	944.5	1012.7	22.2	9.4	15.8	-0.8	30.0	26	3.9	28	0	0	5.6	56	78	40	53	13	3	0	0	4.4	21	11.6	SW	27	5	10	15	6.6	53
STAMPEDE PASS R	1206	879.2		11.7	3.9	7.9	-1.4	21.1	22	1.1	28+	0	0			118	14	41	20	0	T	3175						3	3	24	8.2	
TATOOSH ISLAND R	31	1013.6		13.9	8.9	11.5	-0.7	15.6	23+	7.2	2	0	0			76	4	34	16	0	0	0	4.5	27	13.9	S	27+	2	6	22	8.5	44
WALLA WALLA U	289			25.0	12.8	19.1	-0.5	33.3	23	7.8	8	2	0			31	0	11	9	3	0	0										
YAKIMA	323	974.4	1012.9	25.0	8.9	16.7	-1.3	31.1	30+	1.7	28	0	0	5.6	51	30	9	11	7	3	0	0	3.7	32	10.7*	29	10	5	8	17	6.8	
WEST INDIES																																
SAN JUAN P.R.	2	1013.4	1016.2	31.1	23.9	27.6	0.9	34.4	10+	21.1	6	4	0	22.8	77	114	- 29	37	16	4	0	0	4.1	7	11.6	E	12	4	19	7	6.0	72
SWAN ISLAND	9	1011.1		29.4	25.0	27.4	-0.6	30.6	29+	22.8	2	0	0			173	9	42	17	8								0	15	15	7.4	
WEST VIRGINIA																																
BECKLEY	763	931.0	1017.6	26.1	13.3	19.8		32.2	23	5.0	17+	1	0	13.3	70	50		19	9	7	0	0	3.4	24	12.5*	29	18	6	8	16	6.7	
CHARLESTON	286	981.6	1016.7	29.4	16.1	22.7	0.5	34.4	21	6.7	4	11	0	16.1	70	97	3	27	10	5	0	0	2.5	22	15.6*	28	15	7	15	8	5.8	
ELKINS	600	949.0	1017.7	25.6	11.7	18.7	-0.8	31.1	23	4.4	17	0	0	13.9	79	127	- 5	26	14	11	0	0	2.3	25	15.6*	36	20	3	12	15	6.9	
HUNTINGTON	252	987.2	1017.1	28.9	15.0	22.1	-0.2	34.4	23	6.7	17+	10	0	16.1	73	50	- 54	10	11	9	0	0	2.5	18	8.9*	24	15	6	16	8	5.7	
PARKERSBURG U	187			28.3	15.6	22.0	-0.6	34.4	23	7.2	2	8	0			123	15	47	13	10	0	0	2.7		12.5	SW	23					58
WISCONSIN																																
GREEN BAY	208	990.7	1013.9	25.6	11.7	18.6	-0.1	35.6	29	1.7	16	7	0	12.8	70	27	- 59	12	8	6	0	0	4.1	24	17.0	SW	9	9	13	8	5.3	61
LA CROSSE	199	987.7	1013.7	27.2	15.0	21.1	0.7	35.0	26	5.0	1	8	0	13.3	66	80	- 27	65	7	3	0	0	4.6	18	16.1*	20	9	11	10	9	5.0	
MADISON	262	979.3	1014.0	27.8	12.8	20.3	1.3	34.4	29	0.6	16	9	0	12.8	64	58	- 42	22	8	7	0	0	3.7	23	19.2	W	19	7	11	12	6.1	59
MILWAUKEE	205	990.1	1014.8	25.6	12.8	19.2	1.8	35.0	30+	4.4	3	7	0	13.3	70	43	- 49	23	7	4	0	0	4.2	3	20.6	SW	19	10	11	9	5.4	72
WYOMING																																
CASPER	1621	836.0	1010.9	23.9	8.9	16.2	-1.1	32.8	27+	2.2	2	2	0	4.4	51	15	- 17	6	10	8	0	0	5.1	23	15.6*	25	13	4	12	14	6.5	
CHEYENNE	1867	813.0	1011.6	23.3	8.3	15.8	-1.4	31.7	26	1.1	2	0	0	3.9	52	26	- 28	7	10	10	0	0	5.7	29	20.1	NW	22	7	8	15	6.3	54
LANDER	1696	834.1	1011.5	21.7	8.3	15.1	-1.6	31.1	26	2.8	20+	0	0	5.0	55	53	19	14	12	6	0	0	3.4	24	21.0	SW	27	6	11	13	6.3	63
SHERIDAN	1202	882.2	1011.9	22.2	8.9	15.6	-1.0	35.0	27	2.2	2+	1	0	8.9	66	130	65	55	12	12	0	0	3.8	31	21.0	NW	5	6	8	16	6.5	60

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1963 - 1964

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ALABAMA														
Birmingham	0	0	4	35	350	869	680	639	348	71	5	0	3001	2779
Huntsville	0	0	9	35	390	958	744	693	392	80	8	0	3309	3070
Mobile	0	0	0	17	186	616	486	488	188	25	0	0	2006	1659
Montgomery	0	0	0	34	292	719	609	568	261	39	1	0	2523	2291
ALASKA														
Anchorage	192	242	383	866	1583	1237	1573	1297	1476	936	733	263	10781	10864
Annette	174	108	235	493	814	792	905	754	870	717	534	254	6650	7159
Barrow	864	877	1055	1653	2112	2139	2647	2725	2743	2277	1458	987	21537	20174
Barter Island	765	771	995	1548	2182	2029	2584	2602	2720	2256	1360	965	20777	19862
Bethel	330	472	492	1231	1868	1541	1859	1920	1919	1361	1047	368	14408	13196
Cold Bay	439	436	488	823	1090	1022	1081	1118	1101	961	830	550	9939	9883
Cordova	345	330	417	721	1189	990	1168	1051	1293	889	753	396	9542	9764
Fairbanks	169	312	505	1189	2267	1890	2509	1862	2085	1166	810	148	14912	14279
Juneau	288	244	375	625	1093	993	1098	835	1118	785	610	336	8400	9075
King Salmon	310	333	410	1022	1694	1239	1548	1464	1509	1099	827	378	11833	11343
Kotzebue	464	511	649	1452	2090	1792	2232	2502	2334	1772	1248	764	17810	16105
McGrath	219	393	560	1317	2188	2029	3446	1901	1985	1234	916	232	16420	14283
Nome	520	577	626	1213	1805	1529	1931	2122	2060	1544	1138	507	15572	14171
St. Paul Is.	600	573	624	891	1052	1080	1189	1433	1298	1063	947	686	11436	11193
Shemya	569	543	514	695	815	989	1087	1083	1006	932	837	670	9740	9671
Yakutat	316	308	383	670	1060	1007	1106	928	1145	861	732	369	8885	9092
ARIZONA														
Flagstaff	0	49	168	467	804	1071	1225	1105	1061	752	477	224	7403	7029
Phoenix (U)	0	0	0	0	110	313	462	352	224	59	15	0	1535	
Phoenix	0	0	0	0	133	403	558	450	277	69	23	0	1913	1598
Prescott	0	0	3	148	526	780	913	818	735	472	200	22	4617	4362
Tucson	0	0	0	2	186	372	533	497	321	107	27	0	2045	1882
Winslow	0	0	0	103	578	1053	1061	942	720	418	137	4	5016	4662
Yuma	0	0	0	0	63	222	349	249	140	38	19	0	1080	878
ARKANSAS														
Ft. Smith	0	0	10	22	376	952	751	706	455	102	16	2	3392	3292
Little Rock	0	0	4	26	350	973	742	673	376	71	9	0	3224	3219
Texarkana	0	0	2	12	235	811	602	574	299	49	2	0	2586	2533
CALIFORNIA														
Bakersfield	0	0	0	41	303	722	568	399	323	138	67	2	2563	2122
Bishop	0	1	21	162	567	724	915	649	627	361	191	24	4242	4275
Blue Canyon	84	57	113	394	668	601	889	715	880	657	566	320	5944	5596
Burbank	0	0	1	15	182	264	385	298	298	219	126	36	1824	1646
Eureka (U)	234	239	163	241	366	456	564	515	591	529	446	299	4643	4643
Fresno	0	0	2	56	382	767	651	502	417	201	92	12	3082	2611
Long Beach	0	0	0	3	149	250	266	265	283	199	163	61	1639	1803
Los Angeles (U)	0	0	0	1	103	145	250	169	211	169	113	36	1197	1349
Los Angeles	0	0	0	1	107	220	297	254	285	214	196	75	1649	2061
Mt. Shasta (R)	77	43	103	433	729	816	990	796	808	582	448	231	6056	5722
Oakland	58	53	12	93	321	601	511	359	371	297	295	152	3123	2870
Point Arguello (R)	198	154	91	165	298	376	470	418	476	416	412	272	3746	3595
Red Bluff	0	0	0	90	418	661	640	377	395	181	87	23	2872	2515
Sacramento (U)	0	0	0	56	364	693	579	386	351	184	106	25	2744	2419
Sacramento	0	0	0	65	398	734	612	448	389	194	99	22	2961	2502
Sandberg (R)	7	18	48	241	543	600	816	691	742	560	345	144	4755	4209
San Diego	0	0	0	6	115	202	296	234	222	154	125	40	1394	1458
San Francisco (U)	166	160	39	67	244	514	427	284	360	338	356	219	3174	3001
San Francisco	96	55	13	88	312	577	515	404	400	318	278	122	3178	3015
San Jose (U)	15	5	0	71	301	548	461	346	347	249	203	76	2622	
Santa Catalina	10	6	8	55	172	178	342	255	347	319	256	151	2099	
Santa Maria	135	70	34	80	275	436	500	441	468	378	347	205	3369	2967
Stockton	0	0	0	60	417	794	653	506	406	186	95	21	3138	
COLORADO														
Alamosa	11	53	209	493	1014	1437	1601	1413	1234	800	412	180	8857	8529
Colorado Springs	0	4	34	211	680	1165	1068	1119	1051	555	253	73	6213	6514
Denver	6	7	29	229	690	1125	1059	1082	982	545	230	72	6056	5982
Grand Junction	0	2	4	145	624	1166	1220	1022	861	437	168	18	5667	5641
Pueblo	0	0	5	142	637	1180	978	1077	956	458	169	28	5630	5462
CONNECTICUT														
Bridgeport	4	7	137	216	482	1144	1029	1013	798	552	173	46	5601	5617
Hartford	11	11	179	246	551	1342	1169	1129	842	481	127	46	6134	6235
Middletown	22	42	225	300	589	1273	1146	1113	862	575	207	81	6435	
New Haven	2	6	143	257	506	1180	1044	1030	817	565	193	59	5802	5897
DELAWARE														
Wilmington	0	3	104	199	502	1128	982	962	669	467	91	21	5128	4930
DIST. OF COLUMBIA														
Washington (U)	0	0	63	90	398	985	829	848	550	350	59	5	4177	
Washington	0	0	70	129	449	1042	882	810	536	339	54	4	4315	4224
FLORIDA														
Apalachicola (U)	0	0	0	18	154	483	441	401	162	13	0	0	1672	1308
Daytona Beach	0	0	0	15	91	321	279	251	106	13	0	0	1076	879
Fort Myers	0	0	0	0	35	189	110	118	12	3	0	0	467	442
Jacksonville	0	0	0	22	161	493	371	361	127	25	0	0	1560	1239
Key West	0	0	0	0	5	27	31	29	0	0	0	0	92	108
Lakeland (U)	0	0	0	4	75	284	221	223	39	3	0	0	849	661
Miami	0	0	0	0	25	85	67	67	4	0	0	0	248	214
Miami Beach	0	0	0	0	12	51	57	63	2	0	0	0	185	141
Orlando	0	0	0	3	72	272	235	199	39	4	0	0	824	782
Pensacola	0	0	0	*26	208	595	491	487	203	30	0	0	2040	1451
Tallahassee	0	0	0	44	238	609	474	457	166	32	0	0	2020	1485
Tampa	0	0	0	15	75	316	216	227	37	4	0	0	890	683
West Palm Beach	0	0	0	0	30	114	82	110	8	4	0	0	348	253
GEORGIA														
Athens	0	0	22	65	371	859	712	687	400	147	23	0	3286	2929
Atlanta	0	0	19	55	398	907	743	713	423	160	32	0	3450	2961
Augusta	0	0	11	75	308	782	630	614	288	81	9	0	2798	2397
Columbus	0	0	3	40	319	747	640	597	306	68	6	0	2726	2383
Macon	0	0	5	43	290	722	614	566	265	65	9	0	2579	2136
Rome	0	0	18	104	454	958	816	766	467	160	24	0	3767	3326
Savannah	0	0	1	42	232	653	514	493	221	50	4	0	2210	1819
Thomasville (U)	0	0	2	27	201	597	461	471	158	23	4	0	1944	1529
IDAHO														
Boise	2	2	21	252	631	1138	1202	1113	843	583	323	127	6237	5835
Idaho Falls 46W (R)	25	34	137	485	1001	1563	1652	1591	1417	758	436	249	9348	8475
Idaho Falls 42NW (R)	14	32	140	503	1004	1578	1748	1666	1493	765	429	237	9609	8760
Lewiston	1	2	45	275	658	956	867	806	713	515	247	73	5158	5542
Pocatello	5	3	53	316	795	1345	1416	1387	1145	661	349	175	7650	7041
ILLINOIS														
Cairo (U)	0	0	11	35	407	1090	809	757	506	122	20	0	3757	3821
Chicago (Midway)	2	6	50	98	579	1454	1090	1043	894	419	83	23	5741	6113
Chicago (O'Hare)	16	24	86	176	684	1599	1149	1106	963	479	139	63	6484	
Moline	0	16	83	108	653	1585	1129	1097	942	405	71	20	6109	6378

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

* Moved to Airport October 11, 1963

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F)

1963 - 1964

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ILLINOIS (Cont'd.)														
Peoria	2	22	64	93	652	1534	1118	1066	891	384	66	17	5909	6025
Rockford	2	17	95	127	647	1605	1181	1133	1008	489	122	56	6482	6830
Springfield	2	18	45	80	589	1420	1055	1034	822	307	47	6	5425	5535
INDIANA														
Evansville	0	0	44	84	532	1258	937	898	601	193	48	[illegible]	4603	4586
Ft. Wayne	0	22	72	140	592	1409	1099	1133	894	420	95	34	5910	6265
Indianapolis	0	20	71	117	590	1437	1056	1037	750	308	64	11	5461	5699
South Bend	9	38	79	144	592	1407	1100	1085	898	437	119	38	5946	6442
IOWA														
Burlington	4	17	52	79	627	1508	1075	1055	903	381	50	17	5768	6114
Des Moines	0	18	54	95	649	1542	1145	1116	1069	504	91	25	6308	6542
Dubuque	4	23	123	145	729	1645	1242	1133	1058	523	108	45	6778	7376
Sioux City	0	13	48	154	702	1530	1202	1071	1053	414	80	33	6300	7010
Waterloo	7	25	101	158	720	1691	1255	1154	1129	530	118	41	6929	7224
KANSAS														
Concorida	0	4	15	89	580	1288	992	958	833	333	78	30	5200	5365
Dodge City	0	0	9	73	549	1186	911	956	742	272	75	14	4787	4986
Goodland	0	0	45	173	701	1260	1006	1065	932	520	201	45	5948	6141
Topeka	0	2	16	64	521	1286	945	882	765	264	51	25	4821	5182
Wichita	0	0	9	50	523	1184	867	831	702	200	41	10	4417	4620
KENTUCKY														
Lexington	0	1	55	84	540	1217	924	952	606	222	55	16	4672	4685
Louisville	0	1	71	86	493	1178	895	910	603	215	55	7	4514	4724
LOUISIANA														
Alexandria	0	0	3	31	280	747	592	554	270	52	2	0	2531	
Baton Rouge	0	0	0	12	180	607	466	444	166	22	0	0	1897	1620
Lake Charles	0	0	0	9	149	576	488	484	202	23	0	0	1931	1491
New Orleans (Audubon Park)	0	0	0	2	95	515	424	393	145	22	0	0	1596	
New Orleans	0	0	0	9	170	583	459	432	180	29	0	0	1862	1475
Shreveport	0	0	0	12	234	772	568	556	254	35	0	0	2431	2211
MAINE														
Caribou	42	189	417	535	905	1741	1595	1417	1259	830	407	198	9535	9767
Greenville (U)	57	189	442	510	889	1684	1460	1413	1233	837	387	216	9317	
Portland	31	94	299	395	691	1497	1251	1214	1020	718	324	111	7645	7511
MARYLAND														
Baltimore (U)	0	0	68	90	404	1010	843	847	553	368	52	4	4239	4111
Baltimore	0	2	95	197	524	1116	959	916	631	425	87	14	4966	4654
Frederick	4	6	123	†216										
MASSACHUSETTS														
Blue Hill Obs. (R)	12	18	223	262	593	1302	1094	1118	875	613	202	78	6390	6368
Boston	1	3	160	198	495	1207	1026	1033	808	559	187	57	5734	5634
Nantucket	10	6	168	279	481	1053	973	989	875	662	331	96	5923	6001
Pittsfield	53	100	321	347	684	1431	1281	1286	985	657	246	149	7540	7578
Worcester	28	46	256	277	655	1383	1167	1187	921	632	224	92	6868	6969
MICHIGAN														
Alpena	48	155	322	335	719	1447	1328	1244	1173	706	300	202	7979	8104
Detroit (City AP)	2	9	100	131	562	1269	1066	1040	886	469	113	52	5699	6275
Detroit (M. Wayne Co.)	11	34	158	221	670	1365	1139	1128	943	519	172	88	6448	6469
Detroit (Willow Run)	6	27	141	195	622	1288	1124	1095	940	497	160	76	6171	6246
Escanaba (U)	36	100	266	295	746	1447	1283	1165	1165	747	323	192	7765	8481
Flint	26	56	190	227	640	1362	1148	1130	954	506	191	101	6531	7007
Grand Rapids	8	36	135	203	620	1345	1157	1154	940	501	149	73	6321	6894
Lansing	18	51	166	231	638	1370	1130	1133	940	487	150	81	6395	6909
Marquette (U)	51	112	242	222	763	1422	1225	1195	1221	717	286	230	7686	8393
Muskegon	18	40	151	216	625	1299	1108	1062	941	529	174	76	6239	7018
S. Ste. Marie	79	132	326	342	780	1502	1371	1388	1308	799	346	252	8625	9255
MINNESOTA														
Duluth	50	107	216	280	874	1715	1487	1407	1396	783	338	238	8891	9927
Internat. Falls	33	95	236	350	1004	1917	1668	1548	1538	770	325	202	9686	10606
Minneapolis	1	32	129	216	793	1703	1390	1186	1209	543	154	49	7405	8392
Rochester	6	54	148	226	780	1714	1347	1180	1216	588	183	69	7511	8179
St. Cloud	3	33	141	263	857	1764	1488	1297	1332	593	204	85	8060	8879
MISSISSIPPI														
Jackson	0	0	3	27	265	810	602	592	280	44	0	0	2623	2239
Meridian	0	0	5	38	332	828	663	636	299	47	2	0	2850	2289
Vicksburg (U)	0	0	5	18	238	801	553	539	240	30	0	0	2424	2041
MISSOURI														
Columbia	0	7	30	51	538	1321	888	917	746	230	43	15	4786	5046
Kansas City	0	1	10	35	448	1225	857	830	714	239	41	12	4412	4868
St. Joseph	0	5	20	58	521	1360	1027	948	839	302	56	30	5166	5484
St. Louis (RFC)	0	11	13	52	475	1222	842	843	669	189	29	1	4346	4484
St. Louis	0	9	33	74	574	1320	932	884	696	216	41	6	4785	4809
Springfield	0	0	26	41	519	1198	861	838	675	201	55	17	4431	4561
MONTANA														
Billings	10	9	61	333	802	1316	1107	972	1025	587	275	111	6608	7083
Butte	109	103	210	544	980	1471	1480	1322	1242	853	538	311	9163	
Glasgow	4	13	72	341	984	1503	1359	1077	1261	602	267	92	7575	8996
Great Falls	23	23	103	338	782	1279	1118	923	1176	674	318	118	6875	7531
Havre	16	19	110	383	988	1508	1318	958	1169	658	322	119	7568	8685
Helena	32	32	131	427	897	1484	1328	1089	1080	690	411	192	7793	8129
Kalispell	106	73	186	591	926	1327	1246	1187	1143	726	470	239	8220	8630
Miles City	0	5	34	294	814	1396	1248	1081	1131	547	259	68	6877	7731
Missoula	76	51	183	535	899	1449	1327	1222	1124	680	492	240	8278	8125
NEBRASKA														
Grand Island	0	12	77	193	670	1328	1102	1084	934	391	85	39	5915	6180
Lincoln (U)	0	6	35	90	558	1362	1028	971	913	354	73	34	5424	5864
Norfolk	0	10	53	168	741	1455	1212	1167	1075	460	110	38	6489	6979
North Platte	0	1	65	219	780	1329	1140	1157	1006	534	190	63	6484	6684
Omaha	0	5	35	96	623	1458	1117	994	964	364	55	19	5730	6218
Omaha N. Omaha AP	0	11	54	98	644	1487	1145	1032	1010	416	84	28	6009	6743
Scottsbluff	0	0	46	236	746	1269	1116	1120	1055	594	234	61	6477	6763
Valentine	0	2	70	214	782	1397	1196	1088	1112	558	177	46	6642	7425
NEVADA														
Elko	26	57	113	422	905	1228	1426	1298	1091	720	458	246	7990	7440
Ely	20	35	152	435	913	1152	1411	1230	1143	755	500	251	7997	7733
Las Vegas	0	0	0	17	295	626	703	557	394	141	72	0	2805	2640
Reno	38	62	82	389	738	921	1002	887	840	585	400	135	6079	6160
Tonopah	2	14	58	294	742	937	1133	926	870	539	308	80	5903	
Winnemucca	6	23	93	359	744	1048	1125	953	886	648	404	184	6473	6761
NEW HAMPSHIRE														
Concord	20	57	267	342	675	1472	1295	1231	964	636	221	70	7250	7612
Mt. Washington Obs.(R)	478	659	779	924	1252	2024	1768	1786	1607	1271	847	657	14052	

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

† Closed October 31, 1963

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65 F)

1963 - 1964

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
NEW JERSEY														
Atlantic City	0	1	102	170	438	1059	916	913	674	461	121	33	4888	4812
Atlantic City (U)	1	7	112	189	447	1020	873	874	690	482	160	22	4877	
Newark	0	0	108	139	454	1100	946	955	687	473	88	21	4971	5067
Trenton (U)	0	1	134	165	442	1097	928	961	677	472	103	22	5002	4980
NEW MEXICO														
Albuquerque	0	0	0	124	573	931	1076	1036	722	391	85	3	4941	4303
Clayton	0	1	15	127	578	1020	942	1035	811	439	134	24	5126	5161
Raton	0	10	51	275	705	1121	1169	1160	934	576	219	47	6267	6228
Roswell	0	0	4	59	508	921	936	853	501	209	18	2	4011	4072
Silver City	0	0	0	109	495	767	924	847	618	352	95	4	4211	
NEW YORK														
Albany	18	29	251	296	612	1446	1266	1233	927	571	145	78	6872	6875
Binghamton	53	94	306	315	714	1409	1265	1333	1018	654	231	151	7543	7358
Buffalo	20	72	240	241	635	1282	1099	1198	955	535	204	98	6579	7213
New York (U)	0	0	125	134	431	1040	902	927	669	454	90	23	4795	4862
New York (LaGuardia)	0	0	83	136	421	1063	944	938	680	452	88	16	4821	4811
Rochester	24	52	253	247	615	1335	1132	1181	939	526	187	98	6589	6748
Schenectady	14	24	236	293	598	1365	1238	1193	933	557	136	71	6658	
Syracuse	14	43	240	276	597	1365	1205	1190	922	546	160	89	6647	6756
NORTH CAROLINA														
Asheville (U)	4	0	51	164	513	1038	826	873	572	251	59	8	4359	4042
Cape Hatteras (R)	0	0	8	77	251	732	558	596	395	194	58	2	2871	2612
Charlotte	0	0	24	81	361	904	721	720	434	178	39	0	3462	3125
Greensboro	0	2	64	163	456	1008	826	785	502	234	61	3	4104	3805
Raleigh	0	0	57	149	413	933	731	735	445	205	54	0	3722	3393
Wilmington	0	0	17	67	283	701	559	548	335	142	13	0	2665	2347
Winston-Salem	0	2	58	126	436	999	807	738	445	190	39	3	3843	3595
NORTH DAKOTA														
Bismarck	3	26	139	311	945	1683	1520	1243	1302	588	268	123	8151	9005
Devils Lake (U)	9	33	164	318	1032	1830	1642	1425	1517	675	306	172	9123	9901
Fargo	5	14	127	262	901	1748	1528	1331	1364	553	177	68	8078	9271
Grand Forks FAA	10	27	152	248	948	1814	1618	1390	1434	666	218	101	8626	
Pembina	11	28	167	308	1018	1901	1738	1536	1545	662	244	159	9317	
Williston	0	24	93	314	1001	1620	1507	1171	1347	581	265	123	8046	
OHIO														
Akron	22	30	134	189	661	1372	1117	1154	849	447	157	68	6200	6339
Cincinnati (U)	0	0	28	55	474	1184	869	885	596	216	40	9	4356	
Cincinnati	1	6	75	119	586	1296	1011	1005	671	273	64	26	5133	5036
Cincinnati Obs.	0	1	43	76	519	1257	929	940	636	242	49	11	4703	4806
Cleveland	30	32	152	191	627	1326	1084	1139	859	481	179	80	6180	6432
Columbus	6	14	93	174	603	1336	1076	1075	735	340	113	40	5605	5444
Columbus (U)	1	5	58	95	553	1283	990	993	709	325	63	22	5097	
Dayton	1	23	79	120	561	1335	1032	1010	740	326	74	17	5318	5606
Mansfield	17	39	131	151	640	1391	1111	1146	872	474	144	64	6180	6403
Sandusky (U)	3	8	‡89											
Toledo	9	33	120	199	646	1399	1121	1128	920	493	146	58	6272	6494
Youngstown	29	55	197	231	661	1368	1145	1198	875	482	174	93	6508	6212
OKLAHOMA														
Oklahoma City	0	0	7	23	381	988	761	762	547	116	27	6	3618	3844
Tulsa	0	0	5	20	376	1038	739	734	553	87	19	1	3572	3688
OREGON														
Astoria	140	116	121	307	510	629	653	652	635	567	477	285	5092	5259
Burns (U)	66	49	109	449	847	1152	1214	1094	950	709	477	240	7356	6957
Eugene	71	25	44	289	530	699	691	671	610	505	360	151	4646	4726
Meacham	196	124	158	518	868	1084	1174	1030	1046	864	607	364	8033	7874
Medford	20	7	6	306	665	893	915	777	655	513	314	86	5157	4713
Pendleton	8	9	57	308	611	993	760	688	662	487	257	70	4910	5254
Portland (U)	28	13	19	229	475	667	632	580	546	441	283	118	4031	4109
Portland	72	24	41	329	561	830	739	718	649	539	380	182	5064	4635
Roseburg	48	17	29	291	521	703	720	679	575	487	298	120	4488	4491
Salem	102	35	43	340	559	770	715	710	658	501	346	135	4914	4656
Sexton Summit (R)	254	112	144	521	733	694	973	770	905	757	560	355	6778	6317
PENNSYLVANIA														
Allentown	3	9	157	234	546	1235	1103	1079	795	523	132	47	5863	5810
Erie	20	28	173	221	594	1222	1077	1158	874	530	195	91	6183	6451
Harrisburg	1	7	149	242	570	1173	1072	1041	753	460	93	34	5595	5205
Philadelphia (U)	0	0	88	91	371	1016	846	867	592	405	58	6	4340	
Philadelphia	0	7	118	242	502	1144	985	955	685	424	76	13	5151	5144
Pittsburgh (U)	7	4	86	135	524	1201	953	993	692	342	87	38	5062	5053
Pittsburgh	21	22	139	196	634	1315	1035	1095	769	395	116	63	5800	5987
Reading (U)	0	1	116	150	465	1115	975	968	693	456	85	26	5050	4945
Scranton	11	20	175	253	588	1254	1140	1198	866	544	139	69	6257	6453
Williamsport	8	19	179	250	593	1220	1143	1102	813	532	119	60	6038	5934
RHODE ISLAND														
Block Island	7	9	162	266	478	1076	988	1024	860	644	309	96	5919	5714
Providence	6	8	173	259	536	1242	1059	1066	835	560	188	52	5984	5954
SOUTH CAROLINA														
Charleston (U)	0	0	5	21	193	609	505	477	231	65	3	0	2109	1794
Charleston	0	0	2	33	233	650	504	500	240	61	4	0	2227	2026
Columbia	0	0	14	70	311	779	640	612	325	112	17	0	2880	2484
Florence	0	0	23	69	305	778	622	602	327	110	23	0	2859	2387
Greenville-Spartanburg	0	0	20	75	362	880	714	698	401	165	20	0	3335	
SOUTH DAKOTA														
Huron	0	17	57	205	849	1658	1361	1117	1207	465	192	52	7180	7983
Pierre	0	4	63	210	788	1429	1231	1130	1130	527	177	46	6735	
Rapid City	4	4	59	205	755	1305	1129	1064	1081	555	237	85	6483	7345
Sioux Falls	0	24	92	222	767	1603	1299	1101	1181	509	174	47	7019	7839
TENNESSEE														
Bristol	5	0	28	88	531	1148	952	878	622	269	55	5	4581	4228
Chattanooga	0	0	10	51	414	940	773	722	458	120	16	0	3504	3382
Knoxville	0	0	18	101	525	1072	884	834	532	160	44	1	4171	3551
Memphis (U)	0	0	8	22	318	969	680	682	394	69	18	0	3160	3015
Memphis	0	0	10	33	352	1034	739	713	406	91	13	0	3391	3116
Nashville	0	0	28	48	465	1062	803	797	490	139	23	0	3855	3578
Oak Ridge	1	0	24	102	508	1064	865	855	539	161	38	0	4157	3769
TEXAS														
Abilene	0	0	2	6	251	725	573	575	258	54	6	3	2453	2624
Amarillo	0	0	11	42	458	1000	855	949	618	235	53	7	4228	4195
Austin	0	0	0	0	137	610	451	475	154	20	0	0	1847	1711
Brownsville	0	0	0	0	48	342	204	190	39	0	0	0	823	600
Corpus Christi	0	0	0	0	69	440	263	324	87	7	0	0	1190	914
Dallas	0	0	2	7	257	749	604	576	255	43	2	0	2495	2363
Del Rio	0	0	0	0	126	587	484	405	91	15	0	0	1708	
El Paso	0	0	0	17	341	683	789	695	354	99	3	0	2981	2578
Fort Worth	0	0	0	4	227	760	651	608	285	65	1	0	2601	2405
Galveston (U)	0	0	0	0	80	480	393	384	154	11	0	0	1502	1235

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

‡ Closed September 30, 1963

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F) 1963 - 1964

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
TEXAS (Cont'd.)														
Galveston	0	0	‡0											
Houston (U)	0	0	0	0	93	480	346	371	98	15	0	0	1403	1278
Houston	0	0	0	0	108	551	413	446	158	19	0	0	1695	1278
Laredo	0	0	0	0	75	456	285	246	36	3	0	0	1101	797
Lubbock	0	0	11	27	425	872	808	821	483	139	13	4	3603	3578
Midland	0	0	1	3	274	761	656	643	287	63	5	0	2693	2591
Port Arthur	0	0	0	4	141	579	447	452	172	22	0	0	1817	1526
San Angelo	0	0	3	4	269	747	609	562	169	30	5	2	2400	2218
San Antonio	0	0	0	0	141	592	428	434	143	23	0	0	1761	1549
Victoria	0	0	0	0	95	499	332	376	112	16	0	0	1430	1173
Waco	0	0	0	2	208	726	562	559	235	42	2	0	2336	2030
Wichita Falls	0	0	1	8	278	825	655	634	366	82	6	0	2855	2954
UTAH														
Milford	0	4	29	265	776	1201	1258	1137	997	596	325	104	6692	6497
Salt Lake City	0	1	18	243	777	1252	1331	1130	1016	576	303	125	6772	5890
Wendover	0	0	21	241	774	1209	1193	1002	868	480	235	88	6111	5778
VERMONT														
Burlington	30	118	343	411	735	1609	1327	1380	1046	677	229	124	8029	7739
VIRGINIA														
Lynchburg	0	2	58	140	456	1070	865	834	585	282	75	23	4390	4166
Norfolk	0	0	44	156	384	920	697	719	482	303	108	4	3817	3421
Richmond	0	0	71	197	439	1004	826	801	537	306	74	12	4267	3914
Roanoke	0	1	64	150	485	1063	852	848	568	265	62	15	4373	4150
WASHINGTON														
Olympia	92	55	87	383	603	721	772	747	705	604	461	263	5493	5236
Seattle (U)	49	19	49	274	514	626	664	599	574	455	289	142	4254	4424
Seattle	36	5	42	268	525	660	663	622	640	475	306	129	4371	4838
Seattle-Tacoma	78	37	71	320	612	743	771	682	640	535	370	204	5063	5251
Spokane	35	28	77	426	802	1186	1098	1030	897	609	369	149	6706	6762
Stampede Pass (R)	430	265	262	677	1015	1181	1192	1024	1129	997	809	553	9534	9283
Tatoosh Island (R)	241	257	195	327	520	578	660	613	666	593	523	367	5540	5719
Walla Walla	2	0	35	246	598	984	742	653	625	451	236	53	4625	
Walla Walla (U)	0	0	36	231	569	971	714	654	625	442	215	54	4511	4805
Yakima	27	34	63	406	721	1093	982	830	757	578	358	110	5959	5941
WEST VIRGINIA														
Beckley	43	31	161	249	653	1288	978	1063	726	340	137	56	5725	
Charleston	10	6	81	177	558	1200	899	917	563	226	54	20	4711	4438
Elkins	53	36	192	367	692	1306	1028	1113	779	411	174	70	6221	
Huntington	9	9	69	144	548	1222	950	947	570	237	56	27	4788	4176
Parkersburg (U)	5	6	72	151	539	1218	918	984	653	272	60	27	4905	4754
WISCONSIN														
Green Bay	12	60	203	266	807	1635	1365	1258	1156	618	196	118	7694	8259
La Crosse	1	29	114	151	714	1623	1258	1104	1078	493	111	47	6723	7650
Madison	2	47	174	228	769	1660	1237	1156	1052	519	133	76	7053	7417
Milwaukee	20	38	135	217	692	1601	1199	1141	1026	598	192	105	6964	7205
WYOMING														
Casper	3	8	56	324	795	1236	1298	1264	1231	751	346	156	7468	7638
Cheyenne	3	10	76	323	742	1174	1203	1229	1160	720	340	166	7146	7562
Lander	4	10	76	351	853	1415	1376	1249	1175	713	358	195	7775	8303
Sheridan	8	7	52	328	820	1293	1189	1103	1116	643	339	169	7067	7903

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Note: "Heating Degree Days" has been discontinued in the June issues of this publication. Data which would usually be shown in that table for June are shown in the last three columns of the above Table.

‡ Closed September 30, 1963

STORM SUMMARY

JUNE 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama										0	0	4	0	2	0	0	0												
Alaska *																													
Arizona										0	1	4	0	0	1	0	0												
Arkansas	3	2	0	3	4	0	0	0	4					2	0	4	0												
California										0	1	3	0																
Colorado	2	2	0	0	0	0	0	4	6	0	0	5	4	0	2	4	0									0	0	4	5
Connecticut						0	0	0	4					0	0	4	0									0	0	3	0
Delaware										0	0	4	0	0	0	3	0												
Florida	7	4	0	1	5	0	0	0	?	1	26	5	?	3	2	0	0												
Georgia						0	0	0	4	0	0	5	3	0	0	3	0												
Hawaii *																													
Idaho								3	4			?		1	1	?													
Illinois						0	0	5	6	0	0	6	4	0	0	5	0									0	0	L 4	5
Indiana	1	1	0	0	0	0	0	4	4	1	2	5	4	1	0	5	0												
Iowa	15	6	0	0	6	0	1	5	5	1	5	6	5	0	1	4	0									0	0	4	0
Kansas	24	11			5			6	5		13	5	4		1													4	4
Kentucky	3	2	0	3	4			?	5			°4	C	1	0	4	0												
Louisiana										0	0	3	0	1	0	0	0												
Maine														0	0	4	0												
Maryland										0	0	5	0	0	4	4	0												
Massachusetts										0	0	5	0	0	2	5	0									0	0	4	2
Michigan						0	0	4	C	0	10	6	C	2	5	5	C												
Minnesota	4	2	0	8	5	0	0	0	5	0	6	5	0	1	3	0	0									0	0	5	5
Mississippi										0	0	4	0	1	2	4	0												
Missouri	11	4	0	1	4	0	0	4	4	1	0	4	4	2	0	4	4									1	0	6	5
Montana	1	1	0	0	0	0	0	4	5	1	0	2	0																
Nebraska	13	4	0	0	5	0	0	7	7	0	0	6	6	2	2	0	0									0	0	6	6
Nevada	1	1	0	0	?					?	0	6	0																
New Hampshire	1	1	0	0	4	0	0	0	2	1	0	4	0																
New Jersey						0	0	3	4	1	9	5	0	0	2	0	0												
New Mexico	8	4	0	1	5																					0	0	°6	C
New York	1	1	0	0	4					0	0	5		0	0	5													
North Carolina						0	0	4	6	0	0	5	4	2	3	5	0									0	0	5	5
North Dakota	3	3	0	0	5	0	0	0	3																				
Ohio	4	2	0	7	6					0	2	°5	C																
Oklahoma	4	3	0	1	4	0	0	4	4	0	1	5	4	0	0	5	0									0	0	5	4
Oregon *																													
Pacific Area *																													
Pennsylvania	4	2	0	6	6					0	0	5	0	0	0	5	0												
Puerto Rico *																													
Rhode Island *																													
South Carolina	4	3	0	0	4	0	0	0	3					0	0	4	0									0	0	5	6
South Dakota	14	3	0	2	5	0	0	5	6	0	10	6	6																
Tennessee						0	0	0	3	0	0	4	0	1	0	4	0									0	6	4	3
Texas	11	8	0	4	5	0	0	0	6	0	3	4	3	0	6	0	0									0	0	5	6
Utah						0	0	4	4	0	0	4	0	0	1	3	0									0	0	4	0
Vermont										0	0	4	0																
U. S. Virgin Is. *																													
Virginia						0	0	0	3	0	2	3	0	1	0	0	0												
Washington								4	5																				
West Virginia										0	0	4	0	0	0	3	0									0	0	F 5	4
Wisconsin	4	3	0	2	4	0	0	5	6	0	0	5	5	1	1	4	0												
Wyoming	3	3	0	0	5	0	0	0	4																				

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
° Includes crop damage
C Crop Damage
L Local flooding
F Floods from excessive rainfall

† Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5,000,000
7	$5,000,000 to $50,000,000
8	$50,000,000 to $500,000,000
9	$500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JUNE 1964

NORTHERN ROCKY MOUNTAIN FLOODS, JUNE 1964

Record floods occurred on tributaries of the upper Missouri River in northwestern Montana east of the Continental Divide and on the Flathead and Clearwater Rivers in the Columbia Basin west of the Divide early in June. Preliminary estimates place flood damages at over $60 million. Twenty-four lives are known to be lost and 7 people are still missing and presumed to be dead.

Flood Area

The flood area extended for several hundred miles, centered on both sides of the Continental Divide in northwestern Montana. The total area involved is estimated to be over 4,000 square miles. Much of the region is mountainous, forested, and largely uninhabited. Portions of three drainage basins are involved, namely: the Missouri, the Columbia, and the Hudson Bay Drainage. Streams with major flooding include the Sun, Teton, Marias, St. Mary, and Flathead in Montana and the Clearwater in Idaho.

Antecedent Conditions

A cold spring delayed the melting of the record snowpack in the Rocky Mountains. Prior to the rains, this melt had been keeping streams high, but within their banks. Surveys showed that the snowpack in the mountains was generally 150 to 200 percent of normal. Snowfall during May was more than 200 percent of normal. On June 8, temperatures in the mountains were in the high 40's and 50's.

Causes of the Flood

Unprecedented rainfall associated with delayed snowmelt resulted in heavy runoff causing record-breaking floods east and west of the Continental Divide. Flooding was intensified by the loss of several earthen dams on tributary streams. See figure 1, for total precipitation in western Montana on June 7 and 8 and figure 2 for representative mass rainfall curves. The heavy rains began around noon on the 7th and continued until the evening of the 8th, lasting about 30 hours. Regular reporting Weather Bureau stations reported rainfall amounts between 3.5 and 8.8 inches. "Bucket Survey" teams reported unofficial rainfall amounts up to 14.5 inches in Glacier County, Mont. The preliminary isohyetal map (figure 1), was drawn from rainfall reports available up to June 30. These include reports from regular Weather Bureau stations plus supplementary reports obtained by the "Bucket Survey" teams and reports received through the mail in response to requests from the Weather Bureau through the press, radio, and television media.

Weather Situation

Surface fronts and Lows.--A weak front and Low moved across the Pacific Northwest on the 5th with light widespread rain. A more intense front entered the Oregon coast by evening of the 6th. Moving rapidly into the first Low, it initiated intense deepening over Colorado and Wyoming on the 7th. This Low had moved eastward into the Northern Plains by the afternoon of the 8th as a Canadian High was pushing southward into Montana, bringing an end to the rain in the main storm center.

Storm moisture.--There was some residual moisture over Montana and Wyoming from the first Low. It was strongly reinforced by influx from the Gulf of Mexico when a strong southerly flow developed on the 6th from the Central Plains southward and was maintained on the 7th by the deepening Plateau Low. During this time the 62°F-1000 mb dew point line moved northward from eastern Texas to central Montana, receding on the evening of the 8th when winds shifted to the north.

Surface winds.--During this time of critically high moisture, lower level winds over the storm area were from east or northeast around the Low to the southeast and strongest on the 7th when the moist easterly flow extended to 500 mbs. This flow direction explains the heavy amounts measured on slopes facing generally in these directions.

Upper Lows.--Two upper Low centers were involved. The first, centered over Idaho on the 7th, reflected the deep surface Low to the southeast and moved with it into the Northern Plains. A cold Low entered the Washington coast on the 7th, deepened and moved southward to northern California on the 8th, then northeastward; it maintained the upper level moist inflow from the east over Montana on the 8th and thus prolonged the storm.

The Floods

One of the most devasting floods in Rocky Mountain history occurred during the second week in June. National Guardsmen, directing search and rescue efforts, called this flood one of the worst natural disasters in this region.

East of the Continental Divide

The first indications that a severe flood was developing came on Monday, June 8. Gibson Dam in the headwaters of the Sun River in Montana began spilling water over its top. This was the first time since the dam was built, 35 years ago, that water had gone over the dam.

People living in the rolling foothills of Montana east of the towering Rockies were the first to feel the onslaught of the rapid rising water. Swift Dam located in the headwaters of Birch Creek in the Marias Basin went out on Monday morning, June 8. A wall of water 30 feet deep rushed down the Valley. Over 100 persons in the Birch Creek section were rescued from their submerged homes by helicopter. The flooding North Fork of the Sun River inundated Augusta, Mont., around noon on the 8th. The main part of town was flooded with several feet of water. Approaches, bridges, and highways leading to Augusta were swept away, isolating the town except from the air. Helicopters and planes were busy evacuating people who were stranded and in need of help. Supplies were also brought in by air.

Other Montana towns that were hard hit by the flooding Sun River were Simms, Fort Shaw, Sun River, and West Great Falls. The rapid rising water caught many persons in the act of evacuating. Many homes and farm buildings were completely inundated. It was estimated that flood stage at Simms, Mont., was exceeded by 6 to 7 feet, 4 to 5 feet higher than in 1953.

The flooding in West Great Falls, Mont., was the worst recorded in that area since 1903. Flooding began about 9 p.m. on the 8th. The river rose slowly during the night and by 9 a.m. on the 9th the river was 1 foot above flood stage. It rose another 2 feet by 6 p.m. with the gage at the 14th Street Bridge reading 18.2 feet. Flood stage at that point is 15 feet. The river rose sharply the next 6 hours and reached a crest of 24.6 feet at 12:45 a.m. on the 10th. This was 5.3 feet higher than the severe flood of 1953. The river continued falling slowly after reaching its crest and was back within its banks on the 16th.

Later on that fateful Monday (June 8) came reports that the Two Medicine Dam near Glacier Park, Mont., on Two Medicine River was out. The discharge from the Swift Dam and the Two Medicine Dam combined to make the Marias River almost 2 miles wide in the plains area sweeping everything before it. The loss of life was heavy in the Marias Basin. Near the flood-stricken town of Dupuyer, a community of 125 residents, a rancher watched helplessly as 15 horses drowned in a 30-foot wave of water from Birch Creek. The Blackfeet Indian Reservation near Browning, Mont., absorbed the brunt of Montana's worst flood in history. Some Indians lost everything -- families, homes, and personal belongings. Here is the survival story of one Indian who spent 28 hours marooned in his farm house while flood waters from the surging Two Medicine River threatened to tear the structure from its foundation:

As told to United Press International by Joe Cadott:

"It was about 7 a.m. Monday and we were preparing a breakfast we never got to eat when we began to notice the rising waters. Water began coming in the doors and we started packing a few clothes. Before we knew it the water was waist deep. I left my son and daughter and began wading for the high ground about 150 feet away to get my horse. I was astride him and coming back to the house when the animal was caught in the current and pulled from beneath me. I guess the horse drowned. But I remembered that my fence ran along that area to the house and I felt my way along the barbed wire until I reached the building. By that time the water was about six feet deep and so cold I was numb; I knew we had to get out so I tied a rope to the "kids" and in turn tied the other end around my waist. That's an old Indian method. We waded outside the door and set out for shore. But every time I looked up the water seemed deeper, swifter, and colder. We turned back. We spent the rest of the day and that night in the attic. During the afternoon we heard some fellows on shore yelling for us to get out. They said Two Medicine Dam was threatened. We knew there was no way we could reach shore and stayed with the house. Several times I felt the house shake as logs and debris hit it and I was afraid it would go -- but it didn't. By dawn the water was receding a little and again we tied the ropes to each other, and waded to shore. The helicopter picked us up about 11 a.m."

The flood disaster on the Teton River in Montana began with the bursting of Eureka Dam on Monday afternoon, June 8. Two thousand residents of Choteau were evacuated. The water poured into the town from the north flooding everything in its path. It overflowed into the Spring Creek, sending water from both streams over the town. A large section of highway 89 and a section of the Teton bridge south of Choteau were flooded to depths of as much as 6 feet. Damage was considered by many to be the worst in Choteau's history. As the crest moved down stream it leveled off as it neared Loma, Mont. This is the point where the Marias and Teton Rivers join the main stem of the Missouri River. The Missouri River at this point exceeded its banks by about 2 feet. About 33,000 acres of bottom land along a 25-mile stretch of the Missouri River from Grand Island to the mouth of the Musselshell were inundated.

Two Medicine River and Badger Creek produced runoff peaks of over 100 c.f.s. per square mile, as did Waterton River, Grinnell, and Swiftcurrent Creeks. The Marias, Teton, and Sun River peaks far exceeded their previous highs of record. (See tables 2 and 3).

Flooding also occurred on the Jefferson River from Twin Bridges to Three Forks, Mont., on June 11 to 14 and June 21 to 25, exceeding flood level both times by about 1 foot. This flooding resulted from simultaneous contributions from Ruby, Beaverhead, and Big Hole Rivers, swelled by frequent substantial rains.

West of the Continental Divide

The heavy rain that occurred over and west of the Continental Divide from June 6 to 8 caused near to record flooding on the Flathead and Clark Fork Rivers in northwestern Montana and on the Clearwater River and Canyon Creek in northern Idaho.

The South and Middle Fork of the Flathead and the main stem of the Flathead exceeded all previous records by a considerable margin. The upper Flathead River reached a record crest of 25.5 feet at Columbia Falls, Mont., on the 9th, 11.5 feet above flood stage. The previous highest stage of record at this point was 22.7 feet in June 1894. (See table 2). Many of the gages were inundated or out of service at the time of maximum flow. The flooding and high stages on the Pend Oreille River and Pend Oreille Lake were mostly due to runoff of the flood waters from the Flathead and Clark Fork Rivers.

The flooding on Canyon Creek was the direct result of heavy rainfall in the vicinity of Burke, Idaho. The total rainfall at Burke, during the 4-day period ending on June 8, was 3.56 inches with 2.16 inches of it occurring on the 8th.

Rainfall over the Kootenai Drainage was comparatively light with only 0.79 inch occurring at Bonners Ferry, Idaho, and 0.85 inch at Rexford, Mont., on June 6-8. The peak stage of 31.9 feet at Bonners Ferry (flood stage 31 feet) was attributable primarily to near-normal snowmelt conditions.

Record to near record flooding occurred in the Clearwater Basin in Idaho from June 8-10. A peak flow of 103,000 c.f.s. was observed by the U. S. Geological Survey on the Clearwater River at Kamiah, Idaho. This compared to 99,000 c.f.s. in May 1948. The peak stage, however, was slightly less than in 1948. (See table 2). The flooding on the Clearwater was due to moderate to heavy rain (1 to more than 4 inches) during the period from June 4 to 8 plus snowmelt. Most rainfall totals were less than 2 inches for the 3-day period leading up to the flooding. Many families had to be evacuated from their homes due to the high water. State Highway 14 and U. S. Highway 12 were closed as water from the South Fork and the main stem rose over the highways.

Flooding on the Henrys Fork near Rexburg, Idaho, began on the 6th and continued until the 26th of June. The flooding was due mainly to snowmelt. However, above normal rainfall was reported during the period of flooding, so precipitation also accounted for the runoff.

Flood Damages and Loss of Life

Loss of life was heavy east of the Continental Divide in northwestern Montana. To date 24 bodies have been recovered and 7 more are missing and presumed dead. The entire family of the Weather Bureau Rainfall Observer, Mr. Tom Hall, near Swift Dam on Birch Creek were drowned (wife and 6 children), as he watched helplessly from his truck some distance away.

Reports on flood damages are incomplete, but preliminary estimates indicate a loss of over $60 million over the entire flood area.

Four dams were lost east of the Continental Divide. Entire towns were evacuated as water 3 to 6 feet deep coursed down streets into homes and businesses. Great Falls, the largest city in Montana, located at the confluence of the Sun River with the Missouri, suffered the greatest damage. Many bridges were washed out and destroyed. Cities were isolated as highways were inundated. Train service was disrupted as railroad tracks were swept away. Air Force helicopters flew over the flood-stricken area and evacuated many marooned people.

Flood damage in the Flathead Drainage, west of the Continental Divide, was estimated between $20 million and $30 million. Damage to highways, roads, bridges, buildings, and livestock was very heavy. Considerable road and bridge damage occurred on the Clark Fork in the general area of Missoula, Mont. Damage from the flooding on Canyon Creek at Burke, Idaho, was heavy. On the Pend Oreille River two dikes near Cusik (Lucht and Gardner) broke, causing some 800 acres of farmland to be inundated.

Flood damage in the Clearwater drainage in northern Idaho was estimated at $600,000. Damage to highways and bridges was heavy and estimated at about two-thirds of the total damage. Other property damage was comparatively light because of sparse population and few improvements in the basin.

About 6,000 acres in the Henrys Fork drainage in the Rexburg, Idaho, area were under water. Many crops and grain fields as well as roads were flooded.

TABLE 1.

PRECIPITATION JUNE 7-8, 1964

MONTANA

LOCATION	JUNE 7	JUNE 8	TOTAL
Official Weather Bureau Gages			
CASCADE COUNTY			
Cascade 5 S	1.12	1.95	3.07
Cascade 20 SSE	.58	1.42	2.00
Great Falls WBAS (A)	2.02	1.33	3.35
Kings Hill (R)	.77	1.36	2.13
Millegan (R)	.67	.52	1.19
Sun River 5 SW	.93	2.54	3.47
Ulm 8 SE (Truly)	.68	2.28	2.96
CHOUTEAU COUNTY			
Brady (Aznoe)	.46	1.92	2.38
Fort Benton	.18	2.76	2.94
Fort Benton 20 N (R)	.92	1.69	2.61
Geraldine	.26	2.85	3.11
Highwood (R)	.69	2.52	3.21
Highwood 7 NE	1.78	2.06	3.84
Loma 1 WNW	.34	.99	1.33
Shonkin 7 S	.53	4.99	5.52
FERGUS COUNTY			
Hilger (R)	.53	1.62	2.15
Lewistown FAA AP (R)	1.12	1.62	2.74
FLATHEAD COUNTY			
Creston	.51	1.80	2.31
Hungry Horse Dam	.58	2.22	2.80
Kalispell WBAS (A)	.57	1.05	1.62
Kalispell	.33	.65	.98
Kila	.41	1.00	1.41
Olney 1 SE		1.80	
Pleasant Valley 4 SE	.22	.88	1.10
Summit (R)	2.41	5.68	8.09
West Glacier	.47	3.47	3.94
GLACIER COUNTY			
Babb 6 NE	1.06	2.97	4.03
Browning (R)	2.03	5.65	7.68
Cut Bank AP (R)	.82	2.29	3.11
East Glacier	1.15	6.80	7.95
GRANITE COUNTY			
Drummond Aviation (A)	.70	.79	1.49
Philipsburg R.S.	.10	1.44	1.54
HILL COUNTY			
Gildford	.12	.52	.64
Havre WBAS	.51	.35	.86
JUDITH BASIN COUNTY			
Moccasin Exp. Station	2.10	1.72	3.82
Raynesford 1 W	.60	5.17	5.77
Stanford 2 NE	.95	2.85	3.80
LAKE COUNTY			
Bigfork 10 S	.64	2.20	2.84
Polson AP	.43	2.50	2.93
Polson Kerr Dam	.73	1.70	1.43
St. Ignatius	.84	2.56	3.40
Swan Lake (R)	.24	3.44	3.68
LEWIS & CLARK COUNTY			
Augusta	.97	3.71	4.68
Austin 1 W	.41	1.64	2.05
Canyon Creek	.37	1.72	2.09

TABLE 1. (Cont'd.) JUNE 1964

LOCATION	JUNE 7	JUNE 8	TOTAL
Official Weather Bureau Gages			
LEWIS & CLARK COUNTY (Cont'd.)			
Canyon Ferry PH	0.31	0.87	1.18
Gibson Dam	1.01	7.80	8.81
Helena 6 N	.25	.77	1.02
Helena WBAS	.54	.49	1.03
Holter Dam	.61	1.49	2.12
Lincoln 14 NE	.73	3.74	4.47
Lincoln R.S.	.22	2.27	2.49
Marysville	.25	2.97	3.22
LIBERTY COUNTY			
Chester	.39	.48	.87
Joblin 1 N	.27	.47	.74
Tiber Dam	.31	1.62	1.93
LINCOLN COUNTY			
Fortine 1 N	.69	.68	1.37
Libby 1 NE RS	.16	.43	.59
MEAGHER COUNTY			
Fort Logan 3 ESE	.78	.86	1.84
Lennep 5 SW	.36	1.49	1.85
Martinsdale 3 NNW	.44	1.16	1.60
White Sulphur Springs		1.23	
White Sulphur Springs 10 N	.64	.68	1.32
MISSOULA COUNTY			
Missoula WBAS	1.46	.19	1.65
Missoula 2 WNW	.40	1.47	1.87
Seeley Lake RS (R)	.70	.55	1.25
PONDERA COUNTY			
Conrad	.20	3.59	3.79
Dupuyer (R)	1.55	4.48	6.03
Dupuyer 7 WNW	.89	7.12	8.01
Valier	.33	4.17	4.50
POWELL COUNTY			
Deer Lodge 3 W	.03	1.07	1.10
East Anaconda	.43	.45	.88
Ovando 1 SW	.18	1.02	1.20
Silver Lake	.00	1.63	1.63
SANDERS COUNTY			
Lonepine R.S. (R)	.46	1.69	2.15
TETON COUNTY			
Blackleaf	1.24	4.70	5.94
Bynum 4 SSE	.53	4.12	4.65
Choteau (R)	1.14	3.89	5.03
Dutton 6 E (R)	.83	1.88	2.71
Fairfield	.67	3.68	4.35
Pendroy	.12	5.26	5.38
TOOLE COUNTY			
Galata 16 SSW	.32	2.91	3.23
Shelby AP	.36	1.97	2.33

(A) Six-hourly Reporting Stations: Data for 24 Hours Beginning at 5:00 A.M.
(R) Recording Rain Gage Stations: Data for 24 Hours Ending at Midnight

FLOOD STAGE DATA

TABLE 2. #COMPARATIVE CREST STAGE DATA OF MAJOR FLOODS JUNE 1964

River and station	Flood stage	June 1964 Crest		Previous Maximum Crest of Record	
		*Stage	Date	Stage	Date
EAST OF THE CONTINENTAL DIVIDE	Ft.	Ft.		Ft.	
Missouri Basin					
Jefferson: Sappington, Mo.	9	9.9	12	10.97	June 1948
Gallatin: Gallatin Gateway, Mont.	32	32.3	8	32.00	June 1948
North Fork Sun River: Augusta (Nr), Mont.		16.0	8	7.03	June 1948
Sun: Augusta (Nr), Mont.		15.9	8	11.4	June 1916
Vaughn, Mont.		23.26	9	16.38	June 1953
Great Falls, Mont. (14th St. Bridge)	15	24.6	10	[b]19.3	June 1953
Two Medicine Creek: Browning (Nr), Mont.		13.5	8	[a] 8.6	June 1907
Badger Creek: Browning (Nr), Mont.		10.4	8	6.28	June 1953
Cut Bank Creek: Cut Bank, Mont.		14.0	9	11.04	June 1908
St. Mary Basin					
Grinnell Creek: Many Glacier, Mont.		4.88	8	3.45	June 1950
Swift Current Creek: Many Glacier, Mont.		10.06	8	6.89	June 1937
St. Mary River: Babb (Nr), Mont.	6	12.96	9	[a] 6.50	July 1902

River and station	Flood stage	June 1964 Crest		Previous Maximum Crest of Record	
		*Stage	Date	Stage	Date
WEST OF THE CONTINENTAL DIVIDE	Ft.	Ft.		Ft.	
Columbia Basin					
Middle Fork Flathead: West Glacier (Nr), Mont.		36.46	9	13.01	May 1954
South Fork Flathead: Hungry Horse (Nr), Mont.		19.25	9	14.0	May 1948
Sullivan Creek: Hungry Horse (Nr), Mont.		7.21	9	[a] 5.29	May 1954
Flathead: Columbia Falls (Nr), Mont.		18.6	9	[a]12.25	May 1954
Columbia Falls, Mont.	14	25.5	9	(19.08 ([b]22.7	May 1954 June 1894
Clearwater: Kamiah, Idaho	14	19.16	8	19.22	May 1948
Spalding, Idaho		20.7	8	23.76	May 1948

# Data from U. S. Geological Survey
* Provisional
__ Exceeded previous maximum Crest of Record
a Site and datum then in use
b Prior to gage records

TABLE 3. NORTHERN ROCKY MOUNTAIN FLOODS

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
EAST OF CONTINENTAL DIVIDE	Ft.			Ft.	
Missouri Basin					
Big Hole: Divide, Mont.	6	9	9	7.2	9
Jefferson: Sappington, Mont.	9	(11 (21	13 25	9.9 9.6	12 24
Gallatin: Gallatin Gateway, Mont.	32	7	8	32.3	8
Sun: Simms, Mont.	7	9	11	A15.0+	
Great Falls, Mont. (Manchester Bridge)	12	9		B24.0+	9
Great Falls, Mont. (14th St. Bridge)	15	9	16	24.6	10
Teton: Farmington (Nr), Mont.	7	8	9		
Marias: Shelby (Nr), Mont.		[illegible]	10	C	
St. Mary: Babb (Nr), Mont.	6	8	9	12.96	9

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
WEST OF CONTINENTAL DIVIDE	Ft.			Ft.	
Columbia Basin					
Kootenai: Bonners Ferry, Idaho	31	10	12	31.9	10
Flathead: Columbia Falls, Mont.	14	8	11	25.5	9
Pend Oreille Lake: Hope, Idaho	62	12	24	64.3	16-20
Pend Oreille: Albeni Falls Dam (TW), Idaho	49	13	24	51.5	18-19
Clearwater: Kamiah, Idaho	14	2	11	19.2	8
Spalding, Idaho	18	8	10	20.7	8

* Provisional
A Gage submerged, exceeded 15 feet
B Bridge out at 24.0 feet
C 154,000 c.f.s. late 8th or early 9th by USGS

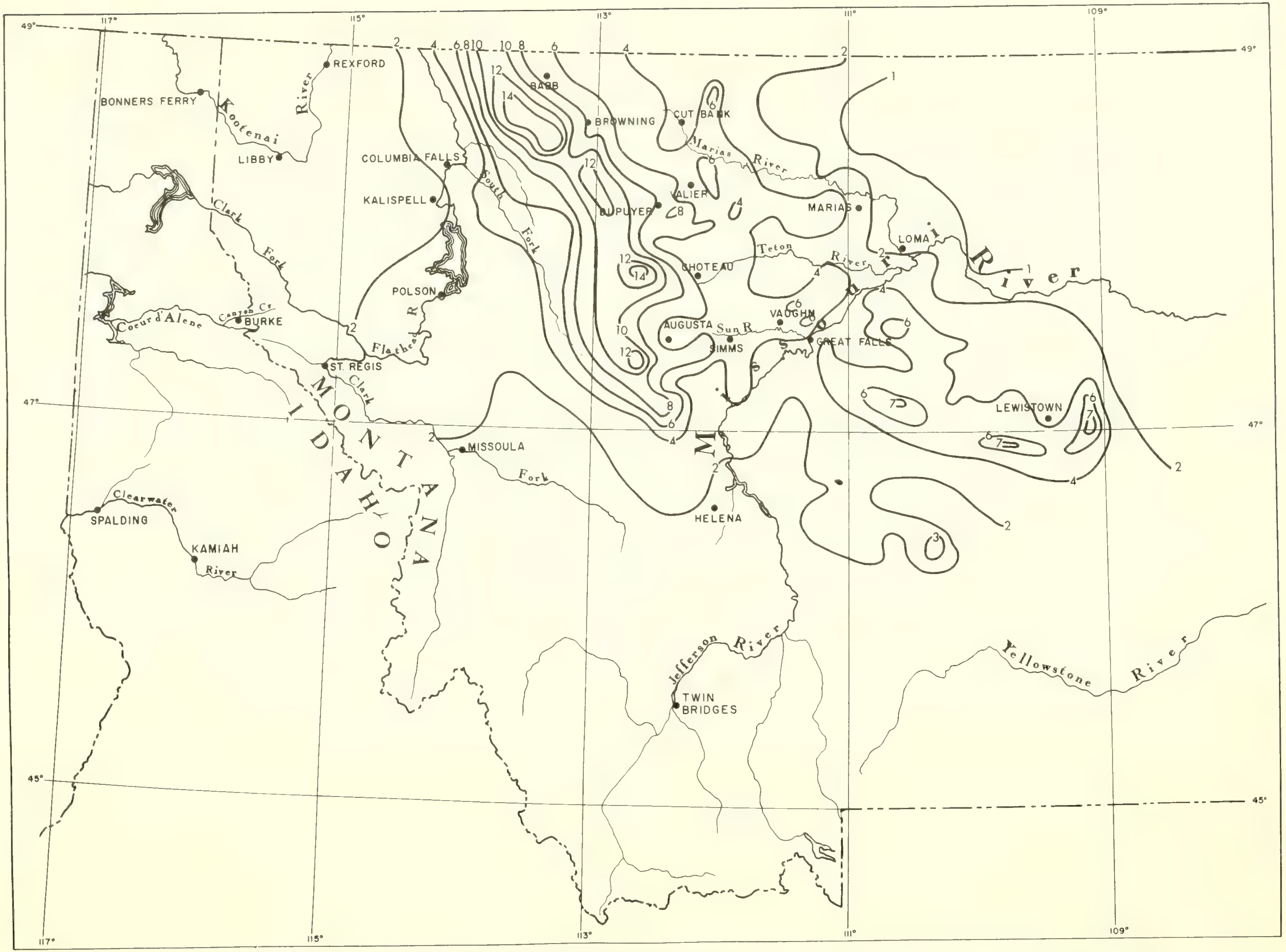


Figure 1.-PRELIMINARY ISOHYETAL MAP SHOWING TOTAL PRECIPITATION (Inches), JUNE 7-8, 1964

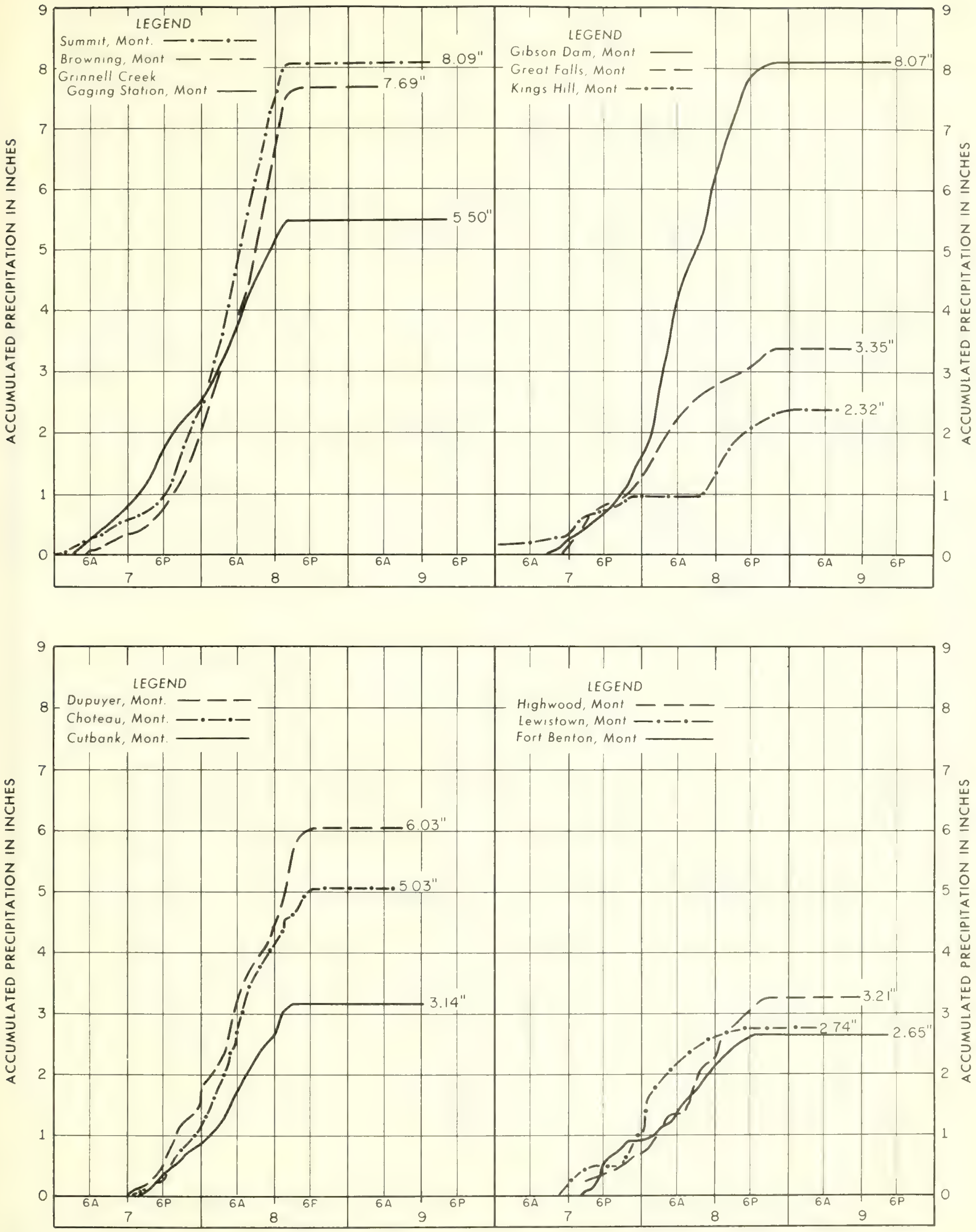
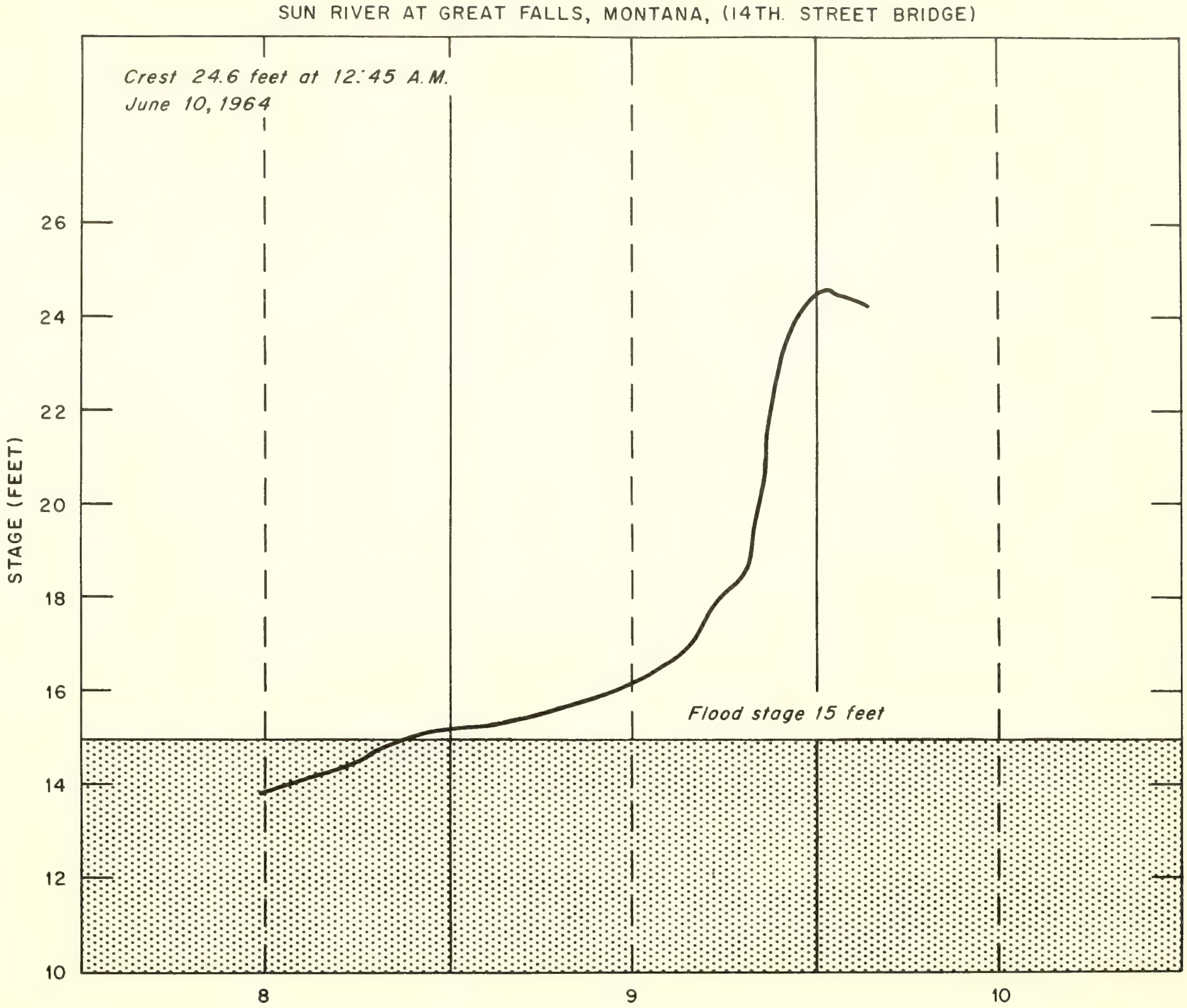


Figure 2.-REPRESENTATIVE MASS RAINFALL CURVES, JUNE 7-8, 1964.


SUN RIVER AT GREAT FALLS, MONTANA, (14TH. STREET BRIDGE)

Crest 24.6 feet at 12:45 A.M.
June 10, 1964

Flood stage 15 feet

Figure 3.-RIVER STAGE HYDROGRAPH, JUNE 8-10, 1964

RIVER AND FLOOD CONDITIONS REPORTED ELSEWHERE

JUNE 1964

ATLANTIC SLOPE DRAINAGE

This was the driest June since 1954 in the lower Potomac Basin. A total of 1.30 inches of precipitation was recorded at Washington National Airport near the Nation's Capitol during June compared to 1.24 inches in June 1954. The driest June of record was in 1940 when 0.86 inch was recorded at this point. Streams remained low throughout the month.

Precipitation during June in the eastern half of North Carolina averaged about one-half of normal. The Neuse River reached a low stage of 1.7 feet at Smithfield, N. C., for the lowest stage ever reached at this point during June. Elsewhere on the Neuse, Tar, and Cape Fear Rivers, the stages were the lowest in the last 5 to 7 years. At some of the gaging points on the Dan and Roanoke Rivers, the stages were the lowest in the past 20 years.

A record heavy rainfall occurred at Conway, S. C., on the Waccamaw River on the 6-7th. A total of 10.38 inches was recorded in 14 hours and 30 minutes. The return period for such a 24-hour rainfall at this station would be 100 years. Heavy flash flooding occurred in the urban and rural areas of this community. Large segments of Horry County were isolated and thousands of vacationers enroute to and from Myrtle Beach, S. C., for the Sun Fun Festival on the Grand Strand were halted for many hours. Heavily traveled U. S. Highways 701, 501, 378, and several lesser used roadways were blocked off. About 2 feet of water accumulated in the main street of Conway. Several cars were swept from U. S. 501 by the flash flood before the road could be closed off. The occupants of one vehicle narrowly escaped drowning. Only minor flooding occurred on the Waccamaw River at Conway, S. C. This was the first flood crest to occur at Conway in June since the station was established in November 1893.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Precipitation over the Upper Mississippi Basin (above Guttenberg, Iowa), was generally 1 to 3 inches below normal during June except upstream from Brainerd, Minn., and in the northeast corner of Iowa. The mean stage of the Mississippi at St. Paul, Minn., was 3.1 feet, the second lowest June mean since the Lock and Dam at Hastings, Minn., went into full operation in 1935. The lowest was 3.0 feet in 1940. At La Crosse, Wis., the June mean of 4.8 feet is the third lowest since the Lock and Dam went into operation in 1937. The lowest was 4.6 feet in 1948.

The Maquoketa River approached within 2 feet of flood stage at Maquoketa, Iowa, on the 20th due to heavy local rains.

Heavy rains on the 13th and 14th brought rising stages to streams in south-central Iowa with flooding along Cedar Creek. Rainfall in that area was reported to be over 6 inches. General rains from the 19th to the 22d caused light flooding on the South Raccoon, the South Skunk, the Des Moines, and its tributaries below the city of Des Moines, Iowa. No damage was reported.

The light flooding on the Spoon River at Seville, Ill., on the 22d was due to heavy thundershowers. No damage resulted from the minor flooding.

Missouri Basin.--**Record floods occurred on tributaries** of the upper Missouri River in north-central and central Montana early in June. See Northern Rocky Mountain Floods for a description of these floods.

Heavy rains of 4 to 6 inches in northeastern Wyoming on the 20th to 22d caused localized flash flooding of the smaller tributaries of the Powder River. Flooding was especially serious along the North, Middle, and South Forks of the Powder River near Kaycee, Wyo. Flash flooding occurred on small creeks and gullies at and in the vicinity of Gillette, Wyo. The greatest loss of property resulted from the flooding of many home basements in Kaycee and Gillette, Wyo. There was also bridge and road washouts plus damage to city streets in Gillette. The minor flooding along the Yellowstone River in Montana was confined to the lowland near and adjacent to the river.

Localized heavy rains along the Bad River on the 21st and 22d caused brief flooding at Pierre, S. Dak., on the 21st and 22d. It crested nearly 6 feet above flood stage on the 22d. There was no damage from the flooding. Heavy localized showers between the 14th and 17th caused the White River above Interior, S. Dak., to go over its banks for a few days. Minor washouts were reported in the upper reaches of the White River.

Locally heavy rain during the evening of June 16 over the middle reaches of the Big Papillion and Papillion Creeks just southwest of Omaha, Nebr., resulted in severe flash flooding. The flooding in both the Big Papillion Creek and Papillion Creek was the greatest of record. Previous maximum floods occurred in 1959 and 1960. Property damage was heavy. Six deaths resulted from the flooding. The heavy rainfall covered a small area and ranged from 0.38 inch at Eppley Airfield, Omaha, Nebr., to 8.44 inches about 12 miles southwest, in the flood area. Locally heavy rains over Wahoo Creek in Nebraska caused flash flooding on the 15th. Some roads, highways, and low farmlands were inundated.

Heavy rains of 2 to 3 inches on the 16th over the central and northeastern portions of the Elkhorn Basin in Nebraska caused many streams to run near bankfull on the evening of the 16th and 17th. Brief overflows occurred along small tributary streams at the headwaters of Maple and Pebble Creeks and along Union Creek.

Moderate to heavy rain on the 11th and 12th caused minor flooding on the Blue River in Kansas City, Mo., on the 11th. The flooding on the Lamine, Petite Saline, and Blackwater Rivers in Missouri and on the Nishnabotna in Iowa was due to heavy rains on the 13th and 14th. Additional heavy rain during the night of the 16th and 17th over eastern Nebraska and southwestern Iowa caused the Nishnabotna to overflow again on the 17th. Heavy rain in southeastern Nebraska, southwestern Iowa, and northwestern Missouri between the 18th and 23d caused additional flooding on streams in Missouri and southwestern Iowa. There was minor flooding at the mouth of the Grand River on the 20th due to backup of water from the Missouri River. Severe flooding occurred on the Platte and Little Platte Rivers in northwestern Missouri from the 21st to the 26th, and on the Grand River from the 21st through the 28th. Numerous highways were closed by flood waters in the Platte Basin. Several homes suffered major damage and many suffered minor damage. Four persons were injured. In the Grand Basin the Milwaukee Railroad was washed out in large sections. Many acres were flooded.

Locally heavy flooding occurred in the Big Blue River basin on the Black Vermillion River at Frankfort, Kans., and on Fancy Creek at Winkler, Kans., during June. The crest at Frankfort of 28.45 feet on the 22d has been exceeded materially only by stages of 30.2 feet in August 1948, 29.4 feet in May 1959, and 29.03 feet in May 1962. Moderate flooding developed on the reaches of the main stem of the Big Blue River at Crete, Nebr. Light to moderate overflows were recorded on parts of the lower Republican Channel and on Sappa Creek between Beaver City and Stamford, Nebraska. Several of the smaller tributaries in the lower Smoky Hill and Kansas River Valleys rose above flood stage. The heavier flooding resulted from recurring thunderstorms during the night of the 21st. Local downpours of 3 to 6 inches occurred over an area 25 miles wide across northeast Kansas from the Republican River Valley to the Big Blue River Valley on the night of the 21st. These heavy rains had been preceded by an extensive and widespread rain period which ended at midmonth, producing a few minor flood crests. Considerable flash flooding developed from the heavy downpours. The Kansas Highway Patrol reported surface water accumulation of 8 inches in the streets of Frankfort at 11 p.m. on the 21st with a bankfull stage. Five miles south of Frankfort, Kans., Highway 99 was inundated by 6 feet of water at that time. The overflow on Arikaree River at Haigler, Nebr., resulted from heavy rainfall over Black Wolf Creek. Flood damages are expected to range from light to moderate except for limited areas.

A prolonged period of showers and thunderstorms beginning on the 12th and continuing through the 15th caused minor flooding on the Sac, South Grand, and Osage Rivers in Missouri. These rains (ranging up to 3 inches) caused rapid rises on the Osage at Osceola, Mo., which remained below bankfull stage, but went nearly 2 feet above flood stage at Schelle City, Mo. The Sac River exceeded flood stage by nearly 1 foot at Stockton, Mo., on the 15th. The South Grand exceeded flood stage by nearly 5 feet on the 16th and remained in flood from the 14th to the 18th.

The main stem of the Missouri was in flood at and below Nebraska City, Nebr., between the 17th and the 26th.

Ohio Basin.--A flash flood occurred on the Tygart River and Leading Creek near Elkins, W. Va., on the 20th-21st. The flooding was due to heavy thunderstorm activity during the evening of the 20th, which produced heavy rain of more than 4 inches. Damages were estimated at $150,000 in an area extending north from Elkins, W. Va., and included the communities of Belington, Gilman, Kerens, and Montrose, W. Va.

Heavy rainfall on the 18th and 19th caused the Muscatatuck River to go out of its banks at Austin, Ind., on the 19th and 20th. The crest was 4 feet above flood stage. The Wabash River rose to a crest of 2 feet above flood stage at Montezuma, Ind., on the 23d. Flood damage was not heavy and occurred mostly to a few crops in the Austin area. There was some minor damage at a bridge construction project at Clinton, Ind., a few miles downstream from Montezuma. Minor damage also occurred at Vincennes when the heavy rains on the 18th and 19th caused some flash flooding.

Locally heavy rains on the 18-19th caused moderate flooding on the Skillet Fork at Wayne City, Ill., from the 18th to the 22d. Minor flooding occurred along the upper reach of the Little Wabash at Wilcox, Ill., on the 19th. Practically all of the losses reported ($1.6 Million) occurred in Wayne County along the Skillet Fork.

Arkansas Basin.--Flooding occurred along the Neosho-Grand River in southeast Kansas and northeast Oklahoma from the 13th to the 17th and along Spring and Elk Rivers in southwest Missouri and northeast Oklahoma from the 13th to the 15th. The flooding was due to heavy rains that averaged 3.5 inches in the Neosho-Grand River Basin and 2.6 inches in the Spring River Basin on the morning of the 13th. Principal damage was to crops, roads, small bridges, and cattle.

Heavy rain over the northern Texas Panhandle and southern Oklahoma Panhandle during the afternoon and evening of the 13th, 14th, and early 15th produced considerable runoff, resulting in some flooding in the upper North Canadian River between Beaver and Guymon, Okla. The crest at Guymon was 13.7 feet which was near the 1941 peak. Minor flooding of some houses was reported north of Guymon along Highway 64.

The minor flooding on Deep Fork Creek at Dewar, Okla., on the 18th was due to 4-inch local rains. The rise quickly subsided and no damage was reported.

Red Basin.--Flooding occurred on the Sulphur River at Hagansport, Tex., from May 31 to June 3 and again from June 17 to the 19th. The first overflow was due to 3 to 5 inches of rain during the last 4 days of May. The second rise was due to 2 to 7 inches of rain which occurred from the 16th through the 18th. No significant damage resulted from the flooding.

Lower Mississippi Basin.--The Mississippi River at Vicksburg, Miss., receded to near record low stages for June from the 18th through the 22d. There were no unusual stages on the smaller streams.

Atchafalaya Basin.--The following record low stages were observed on the Atchafalaya River during June:

Station	Stage (feet)	Date
Melville, La.	0.7	23
Atchafalaya, La.	1.2	25
Simmesport, La.	-4.8	23-24

The above low stages are preliminary and are subject to change after examination of autographic records.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred on the Frio River at Derby, Tex., on the 18th, due to heavy rains on the 15th and 16th. Up to 4 inches were reported on the lower Hondo and Seco Creeks and on the lower Sabinal River. Heavy rainfall, up to 5 inches, occurred on the 24th and 25th on the lower Atascosa Basin. Only minor flooding was reported in the area of heavy rainfall.

Minor flooding occurred on the Rio Grande at Presidio, Tex., on the 14th and 15th. No damage was reported from this overflow.

Severe flash flooding occurred in the Pecos River Basin in Artesia, N. Mex., on the 13th. Rains of up to 5 inches were reported in the Eagle Draw Watershed just west of Artesia. The total property damage was $1,235,000. This was the heaviest damage since 1911.

Great Basin.--Moderate rains on the 6-7th, together with snowmelt runoff caused minor flooding on the Weber River in Utah from the 10th to the 11th. Minor flooding occurred on the Little Cottonwood Creek south of Salt Lake City, Utah, on the 8th and 9th. Minor damage resulted from the high water to several homes. One small wooden bridge was reported lost.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--June was the fourth consecutive month that the Columbia Basin as a whole was below normal temperature-wise. Above normal precipitation fell over most of the basin with the exception of some low-elevation stations in central Washington and Oregon.

The most unusual precipitation phenomena during June were the unprecedented cloudburst-type rains which fell along the Continental Divide in northwestern Montana on June 7-8. The highest floods of record resulted from these rains on the Flathead River at Columbia Falls, Mont. The highest flow of record occurred on the Clearwater River at Kamiah, Idaho. The peak on the Clark Fork above Missoula, Mont., was slightly above the previous record flow of 1948. A description of these floods is given in this issue under Northern Rocky Mountain Floods.

Snowmelt runoff augumented by rainfall runoff caused several upper Snake River tributaries to exceed flood stage. The Portneuf River at Pocatello, Idaho, remained at or a little higher than flood stage from the 19th to the 24th. Henry's Fork at Rexburg, Idaho, remained at or above flood stage almost the entire month. The Payette River at Emmett, Idaho, just reached flood stage on the 21st and 22d.

The runoff generated by these abnormal rains, while controlled to a large extent by available reservoir flood control storage, changed considerably the overall peak stage potential in the lower Columbia River below Bonneville Dam. A continuation of almost daily rainfall amounts in the Clearwater, Salmon, Weiser, and Payette drainages leveled off the lower Snake River flow at about 180,000 c.f.s. on the 12th. Additional rainfall on the 15th-16th caused a rise in flow to near 200,000 c.f.s. on the 17th. By the 17th the upper Columbia was close to its highest flow of the year (near 450,000 c.f.s. at Priest Rapids, Wash.). The combination of rainfall-runoff in the Snake drainage and the peak snowmelt runoff in the upper Columbia produced a peak stage of 23.7 feet at Vancouver, Wash., 7.7 feet above flood stage, on the 19th. This compares with 15.5 feet last year. The peak stage of the Willamette River at Portland, Oreg., resulting from backwater, was 22.5 feet, 4.5 feet above flood stage on the 19-20th.

Although 23.7 feet is considered to be a moderately high peak stage at Vancouver, there was very little damage. However, numerous farmers did lose much of their pastureland and had to move their cattle to higher ground.

FLOOD STAGE DATA

(All dates in June unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Waccamaw: Conway, S. C.	7	8	8	7.1	8
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Cedar Creek: Bussey, Iowa	15	15	16	20.3	16
Skunk: Oskaloosa, Iowa	15	22	25	16.9	25
South Raccoon: Redfield, Iowa	14	23	23	19.7	23
Raccoon: Van Meter, Iowa	13	23	23	15.9	23
Middle: Indianola, Iowa	16	23	23	16.45	23
Des Moines: Tracy, Iowa	14	24	25	15.6	24
Eddyville, Iowa	15	24	25	16.65	24
Ottumwa, Iowa	9	24	25	9.90	24
Spoon: Seville, Ill.	22	22	22	22.8	22
Missouri Basin					
Bad: Ft. Pierre, S. Dak.	16	21	22	21.95	22
Wahoo Creek: Ithaca, Nebr.	19	17	17	22.7	17
Salt Creek: Lincoln, Nebr.	17	17	17	19.1	17
Ashland, Nebr.	11	15	17	13.25	16
Papillion Creek: Ft. Crook, Nebr.		17	17	29.4	17
Big Papillion Creek: Papillion, Nebr.		17	17	32.0	17
Omaha, Nebr.		16	16	29.0	16
Arikaree: Haigler, Nebr.	[illegible]	13	14	8.25	14
Sappa Creek: Stamford, Nebr.	14	21	21	14.9	21
Republican: Clay Center, Kans.	15	22	22	17.7	22
Wakefield, Kans	11	22	22	12.2	22
Chapman Creek: Chapman, Kans.	19	23	23	20.7	23
Lincoln Creek: Seward, Nebr.	15	15	17	18.4	15
Black Vermillion: Frankfort, Kans.	19	12 15 22	13 16 23	23.7 22.1 28.45	12 15 22
Fancy Creek: Winkler, Kans.	11	14 21	14 22	11.0 19.55	14 22
Big Blue: Crete, Nebr.	16	15	18	19.75	17
Rock Creek: Louisville, Kans.	20	21	23	(27.7 (28.1	22 22
Vermillion Creek: Wamego, Kans.	24	22	23	27.2	22
Soldier Creek: Delia, Kans.	17	23	23	19.2	23
Wakarusa: Lawrence, Kans.	23	19	19	23.05	19
Nishnabotna: Hamburg, Iowa	18	(14 (17 (20 (23	14 17 21 24	19.5 18.7 23.2 23.55	14 17 20 23
Tarkio: Fairfax, Mo.	17	(20 (23	20 23	17.7 17.5	20 23
One Hundred and Two: Maryville, Mo.	14	21	22	15.0	22
Rosendale, Mo.	16	21	25	19.8	23
Blue: Kansas City, Mo. (Bannister Road)	21	11	11	22.1	11
Platte: Agency, Mo.	20	21	26	26.8	23
Crooked: Richmond, Mo.	20	21	22	27.5	21
Wakenda: Carrollton, Mo.	20	22	23	22.9	22
Grand: Pattonsburg, Mo.	25	22	24	27.3	23
Gallatin, Mo.	21	23	24	21.8	24
Chillicothe, Mo.	24	21	25	28.4	23
Sumner, Mo.	26	21	27	32.2	25
Brunswick, Mo.	12	17 20 22	17 20 28	12.65 13.05 17.7	17 20 25
Lamine: Clifton City, Mo.	19	14	16	27.65	15
Blackwater: Valley City, Mo.	14	15	15	14.25	15
Blue Lick, Mo.	25	21	22	25.8	21
Petite, Saline: Boonville, Mo.	16	15	16	19.2	15
Sac: Stockton, Mo.	18	15	15	18.7	15
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Missouri Basin (Cont'd.)					
South Grand: Brownington, Mo.	19	14	18	23.9	16
Osage: Schell City, Mo.	25	15	18	26.8	15
Missouri: Nebraska City, Nebr.	18	17	17	18.0	17
Rulo, Nebr.	17	17	17	17.25	17
St. Joseph, Mo.	17	17 21	18 24	18.4 18.7	18 21
Atchison, Kans.	22	18 21 23	18 21 23	22.6 22.4 22.1	18 21 23
Leavenworth, Kans.	19	18 23	18 24	19.2 20.2	18 23
Napoleon, Mo.	17	24	24	17.5	24
Lexington, Mo.	22	19 22 23	19 22 25	22.5 22.2 24.6	19 22 24
Waverly, Mo.	18	17 18 22	17 20 26	18.9 20.6 22.9	17 19 25
Miami, Mo.	18	24	26	21.15	25
Glasgow, Mo.	25	25	25	25.4	25
Boonville, Mo.	21	25	26	21.7	26
Hermann, Mo.	21	26	26	21.1	26
Ohio Basin					
Muscatatuck: Austin, Ind.	16	19	20	20.0	20
Skillet Fork: Wayne City, Ill.	15	18	22	20.6	19
Little Wabash: Wilcox, Ill.	16	19	19		
Wabash: Montezuma, Ind.	14	22	23	16.0	23
Arkansas Basin					
Grand: Commerce, Okla.	15	13	17	20.2	15
Miami, Okla.	752	13	17	758.1	16
Spring: Quapaw, Okla.	19	13	15	25.0	14
Elk: Tiff City, Okla.	15	13	14	22.6	14
Neosho: Oswego, Kans.	17	14	15	22.65	15
Deep Fork Creek: Dewar, Okla.	18	18	18	18.2	18
Red Basin					
Sulphur: Hagansport, Tex.	38	(May 31 (17	3 19	44 44	2 17
WEST GULF OF MEXICO DRAINAGE					
Frio: Derby, Tex.	6	18	18	7.7	18
Rio Grande: Presidio, Tex.	13	14	15	13.5	14
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Kootenai: Bonners Ferry, Idaho	31	10	12	31.9	10
Flathead: Columbia Falls, Mont.	14	9	11	25.5	9
Pend Oteille Lake: Hope, Idaho	62	12	24	64.3	16-20
Pend Oteille: Albeni Falls Dam (TW), Idaho	49	13	24	51.5	18-19
Henrys Fork: Rexburg (Nr), Oreg.	8	6	26	10.2	20
Payette: Emmet, Idaho	9	21	22		
Clearwater: Kamiah, Idaho	14	2	11	19.2	8
Spalding, Idaho	18	8	10	20.7	8
Portneuf: Pocatello, Idaho	6	19	24	6.2	21
Willamette: Portland, Oreg.	18	6	30	22.5	19,20
Columbia: Priest Rapids, Wash.	422	13	30	424.2	17
Vancouver, Wash.	16	2	July 5	23.7	19
St. Helens, Oreg.	17	11	30	19.3	20
Longview, Wash.	12	7	July 3	15.4	20

* Provisional

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	86	14.8	80	247	3.5
1000	30	133	14.3	75	264	4.3
950	30	565	14.6	64	286	7.6
900	30	1,024	12.2	63	308	11.5
850	30	1,501	9.8	56	309	16.3
800	30	2,003	7.4	49	302	20.2
750	30	2,528	5.0	42	298	21.8
700	30	3,093	2.4	37	289	23.3
650	30	3,685	-.6		288	24.3
600	30	4,325	-4.3		288	25.8
550	30	5,000	-8.6		287	28.7
500	30	5,739	-13.5		286	32.2
450	30	6,526	-18.9		285	37.3
400	30	7,401	-24.8		285	40.4
350	30	8,359	-31.4		284	47.4
300	30	9,434	-39.0		286	55.2
250	29	10,667	-47.3		289	61.0
200	29	12,115	-55.1		289	57.3
175	29	12,963	-57.6		290	51.7
150	29	13,931	-59.2		290	41.8
125	29	15,069	-60.8		288	33.8
100	29	16,457	-59.8		293	22.7
80	29	17,858	-57.6		299	8.9
70	29	18,707	-56.3		315	6.2
60	29	19,687	-54.4		3	3.7
50	29	20,859	-53.0		76	6.6
40	29	22,303	-51.0		91	9.3
30	27	24,179	-48.3		81	11.8
25	24	25,381	-46.5		86	13.6
20	19	26,859	-44.0		84	11.5
15	8	28,772	-41.6			
10						
7						
5						
4						

ALBUQUERQUE, N. MEX. 838 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,619	15.7	33	83	1.0
1000	30	82				
950	30	527				
900	30	1,003				
850	30	1,497				
800	30	2,015	16.7	29	249	4.7
750	30	2,558	13.3	29	263	7.2
700	30	3,138	8.9	34	259	11.7
650	30	3,740	4.4	37	249	14.0
600	30	4,393	-.5	36	245	16.5
550	30	5,072	-5.8	39	240	19.2
500	30	5,823	-11.0		247	22.5
450	30	6,617	-16.0		251	24.3
400	30	7,503	-22.4		251	24.1
350	30	8,470	-29.7		250	24.3
300	30	9,550	-38.2		250	30.5
250	30	10,780	-47.5		249	35.4
200	30	12,223	-56.9		250	37.3
175	30	13,060	-61.1		252	33.6
150	30	14,010	-64.3		246	32.2
125	29	15,120	-66.1		248	25.3
100	29	16,471	-66.4		257	14.0
80	29	17,835	-63.2		268	4.1
70	29	18,666	-61.3		109	1.7
60	29	19,621	-59.5		90	5.8
50	29	20,769	-57.0		90	8.7
40	29	22,193	-53.9		91	11.7
30	28	24,056	-51.0		84	12.8
25	28	25,247	-49.3		87	16.3
20	28	26,718	-47.1		85	15.5
15	24	28,637	-44.2		84	17.1
10	12	31,404	-39.9			
7						
5						
4						

AMARILLO, TEXAS 891 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,095	17.3	66	196	6.8
1000	30	91				
950	30	538				
900	30	1,013				
850	30	1,498	19.5	49	212	19.8
800	30	2,019	17.6	41	231	19.6
750	30	2,564	14.2	39	243	16.5
700	30	3,145	10.0	39	254	11.8
650	30	3,751	5.4	40	257	11.7
600	30	4,404	.4	40	268	9.1
550	30	5,089	-4.8	37	277	10.9
500	30	5,839	-9.4		271	13.2
450	30	6,639	-14.9		261	15.5
400	30	7,525	-21.3		260	18.1
350	30	8,496	-28.6		257	21.8
300	30	9,581	-37.1		254	27.2
250	30	10,816	-46.7		253	32.8
200	30	12,262	-56.7		254	36.9
175	30	13,100	-61.2		255	38.1
150	30	14,050	-64.5		255	34.2
125	30	15,159	-66.1		255	26.8
100	30	16,511	-66.5		250	16.5
80	30	17,973	-62.9		218	2.7
70	30	18,698	-60.7		126	2.5
60	30	19,660	-59.1		95	6.0
50	30	20,812	-55.9		86	7.8
40	30	22,241	-53.0		92	11.1
30	30	24,108	-50.3		82	14.4
25	29	25,302	-48.8		88	15.9
20	28	26,779	-45.9		90	15.3
15	19	28,705	-43.2		88	14.2
10						
7						
5						
4						

ANCHORAGE, ALASKA 1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	29	10.9	79	190	5.2
1000	30	89	11.0	76	191	5.8
950	30	514	9.6	68	182	5.8
900	30	964	7.2	69	150	4.5
850	30	1,429	4.4	73	134	4.7
800	30	1,923	1.0	76	128	5.1
750	30	2,435	-2.3	80	129	6.4
700	30	2,986	-5.2	78	122	4.9
650	30	3,557	-8.3	77	135	4.7
600	30	4,183	-12.2	72	115	4.9
550	30	4,838	-16.4	66	121	7.0
500	30	5,554	-21.2	59	131	6.8
450	30	6,314	-26.9	56	133	6.4
400	30	7,163	-33.3	49	148	5.6
350	30	8,087	-40.2		158	5.2
300	30	9,121	-47.9		146	5.2
250	30	10,305	-54.0		150	2.1
200	30	11,743	-50.7		164	1.2
175	30	12,616	-49.5		24	.4
150	30	13,626	-49.3		105	.8
125	30	14,820	-50.0		72	.6
100	30	16,278	-49.9		67	1.4
80	30	17,740	-49.1		62	3.3
70	30	18,620	-48.5		85	4.9
60	29	19,632	-48.1		85	6.4
50	29	20,837	-47.1		82	9.3
40	29	22,316	-46.6		89	11.3
30	29	24,228	-45.7		81	15.3
25	27	25,441	-44.9		85	17.3
20	27	26,939	-43.0		87	18.1
15	27	28,891	-40.0		89	19.0
10	20	31,684	-35.8		92	18.8
7						
5						
4						

*** ANNETTE, ALASKA 1011 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	37	10.4	87	164	2.5
1000	30	124	10.1	85	161	2.7
950	30	[illegible]	8.3	92	140	5.4
900	30	996	5.8	81	156	8.4
850	30	1,462	3.0	81	166	9.5
800	30	1,950	.3	79	174	8.7
750	30	2,466	-2.1	69	171	8.4
700	30	3,012	-4.9	64	164	6.8
650	30	3,585	-8.2	61	164	6.8
600	30	4,210	-11.7	53	162	9.3
550	30	4,868	-16.1	53	162	[illegible]
500	30	5,583	-20.9	52	161	10.7
450	30	6,350	-26.4	47	[illegible]	[illegible]
400	30	7,197	-32.2	48	169	13.4
350	30	8,125	-39.1	45	166	13.4
300	30	9,164	-46.9		163	14.4
250	30	10,352	-53.5		171	13.4
200	30	11,788	-51.4		210	5.6
175	29	12,657	-50.8		[illegible]	6.8
150	29	13,662	-50.6		237	6.2
125	29	14,849	-51.1		254	5.6
100	29	16,299	-51.4		251	5.2
80	29	17,748	-51.4		251	3.7
70	28	18,621	-51.2		238	1.2
60	28	19,619	-50.6		84	1.4
50	28	20,807	-49.7		89	4.5
40	28	22,272	-48.6		81	8.2
30	28	24,169	-47.1		86	11.7
25	27	25,379	-45.8		80	15.5
20	27	26,870	-43.9		87	18.1
15	27	28,813	-41.0		89	18.1
10	24	31,602	-36.0		[illegible]	22.0
7	20	34,123	-30.5		83	26.0
5	13	36,537	-25.2		87	30.3
4	5	38,198	-22.8			

ATHENS, GA. 989 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	20.4	85	346	2.1
1000	30	148				
950	30	595	22.0	68	335	2.7
900	30	1,064	19.6	66	280	3.3
850	30	1,554	16.3	67	268	4.7
800	30	2,067	12.9	65	260	4.7
750	30	2,604	9.9	56	260	4.7
700	30	3,179	6.8	49	269	6.8
650	30	3,780	3.3	47	267	8.2
600	30	4,429	-.6	45	283	7.2
550	30	5,114	-4.4		279	8.5
500	30	5,866	-8.8		271	11.5
450	30	6,669	-13.9		273	11.8
400	30	7,561	-19.8		273	13.8
350	30	8,538	-26.9		274	16.5
300	30	9,631	-35.2		274	20.8
250	30	10,875	-45.1		273	23.3
200	30	12,329	-56.2		275	26.6
175	30	13,166	-61.5		275	24.9
150	30	14,110	-66.2		273	23.5
125	30	15,206	-69.2		286	17.9
100	29	16,539	-68.3		284	8.5
80	29	17,888	-65.0		1	2.5
70	29	18,708	-63.1		61	4.9
60	29	19,660	-60.1		71	8.4
50	29	20,806	-56.8		81	12.6
40	28	22,228	-53.3		90	15.0
30	28	24,092	-50.6		87	14.4
25	25	25,290	-48.7		81	14.8
20	19	26,745	-46.5		84	13.6
15	11	28,661	-44.1			
10	7	31,413	-39.6			
7						
5						

*** BARROW, ALASKA 1016 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	8	-.9	92	68	3.3
1000	30	134	-1.8	89	65	3.7
950	30	541	-.5	73	14	2.9
900	30	976	-.2	60	326	3.7
850	30	1,433	-.6	53	323	5.2
800	30	1,917	-1.7	53	319	7.0
750	30	2,429	-3.7	52	314	8.2
700	30	2,971	-6.4	52	307	10.3
650	30	3,543	-9.4	53	309	11.7
600	30	4,162	-13.1	50	307	12.4
550	30	4,816	-17.4	49	302	13.2
500	30	5,528	-22.4	47	305	13.8
450	30	6,288	-28.0	44	310	14.8
400	30	7,129	-34.1	44	306	17.7
350	30	8,051	-40.8		306	18.6
300	30	9,084	-47.7		302	18.5
250	30	10,272	-52.5		304	17.9
200	30	11,724	-48.5		309	14.0
175	30	12,605	-47.5		314	12.4
150	30	13,624	-47.2		314	10.9
125	30	14,830	-47.1		329	7.8
100	30	16,309	-46.6		349	6.0
80	30	17,791	-45.9		9	5.8
70	30	18,687	-45.4		27	6.2
60	30	19,709	-44.8		47	7.0
50	29	20,929	-44.2		56	7.8
40	29	22,427	-43.7		61	9.9
30	29	24,360	-43.6		66	12.0
25	29	25,586	-43.0		66	13.6
20	29	27,093	-41.7		73	14.0
15	29	29,056	-38.3		75	14.4
10	29	31,877	-32.8		82	16.7
7	23	34,407	-27.3		78	18.6
5	13	36,867	-22.7			

BARTER IS., ALASKA 1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	15	-.6	90	65	2.7
1000	30	128	-.5	88	82	2.3
950	30	540	.9	76	275	1.2
900	30	975	1.4	62	274	5.8
850	30	1,434	.4	53	275	9.3
800	30	1,919	-1.4	47	285	10.9
750	30	2,427	-3.8	48	287	13.4
700	30	2,973	-6.7	52	283	13.8
650	30	3,540	-9.8	52	285	15.2
600	30	4,161	-13.4	49	287	16.3
550	30	4,814	-17.7	46	288	16.7
500	30	5,524	-22.5	41	291	17.5
450	30	6,282	-27.9	39	296	17.5
400	30	7,124	-34.2		304	17.7
350	30	8,044	-41.3		303	20.0
300	30	9,076	-48.1		303	19.6
250	30	10,262	-53.0		297	20.0
200	30	11,714	-48.3		303	15.9
175	30	12,596	-47.2		308	13.4
150	30	13,616	-47.0		310	11.3
125	30	14,823	-46.9		328	8.5
100	29	16,305	-46.2		343	6.4
80	29	17,790	-45.5		14	7.4
70	29	18,684	-45.1		28	7.6
60	28	19,714	-44.4		52	7.2
50	28	20,937	-43.8		57	8.4
40	28	22,437	-43.5		68	10.9
30	28	24,372	-43.2		72	12.6
25	28	25,603	-42.0		74	13.2
20	26	27,112	-40.1		76	13.6
15	13	29,058	-38.2		77	15.5
10						
7						
5						

BETHEL, ALASKA 1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	39	8.0	90	297	2.9
1000	30	102	8.8	85	317	4.1
950	30	528	9.2	69	60	1.6
900	30	974	6.8	67	115	2.3
850	30	1,442	4.0	68	97	2.3
800	30	1,933	1.2	70	129	3.1
750	30	2,451	-1.8	70	117	2.9
700	30	2,995	-4.9	68	97	3.7
650	30	3,570	-8.2	63	112	5.6
600	30	4,192	-12.0	62	102	6.6
550	30	4,850	-16.0	57	103	5.6
500	30	5,564	-21.0	52	106	5.4
450	30	6,329	-26.6	48	104	5.1
400	30	7,173	-32.9	49	99	6.0
350	30	8,098	-40.1		114	5.1
300	30	9,132	-47.9		99	4.5
250	30	10,318	-53.1		71	3.3
200	29	11,760	-50.9		39	5.6
175	29	12,632	-49.7		43	5.6
150	29	13,641	-49.7		43	4.3
125	29	14,834	-49.9		55	3.3
100	29	16,293	-49.8		61	3.9
80	29	17,754	-49.3		66	6.6
70	29	18,637	-48.9		83	6.8
60	29	19,643	-48.5		81	8.4
50	28	20,846	-48.0		79	10.7
40	28	22,319	-47.4		86	13.2
30	25	24,225	-46.4		88	14.6
25	24	25,435	-45.2		84	17.9
20	23	26,935	-43.5		84	17.3
15	15	28,886	-41.1		83	16.9
10	9	31,662	-36.5			
7						
5						

BISMARCK, N. DAK. 952 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	505	11.6	85	68	3.3
1000	30	85				
950	30	520			105	3.1
900	30	976	14.9	59	236	2.9
850	30	1,459	12.9	56	264	7.8
800	30	1,966	10.3	55	269	10.7
750	30	2,499	6.9	57	265	12.4
700	30	3,064	3.1	59	271	14.4
650	30	3,658	-.9	57	268	16.7
600	30	4,295	-5.1	53	267	19.4
550	30	4,969	-9.3	46	270	22.3
500	30	5,704	-14.2	42	271	26.2
450	30	6,490	-19.4	40	269	28.0
400	30	7,362	-25.7	38	268	31.3
350	30	8,315	-32.8	39	267	34.4
300	30	9,381	-40.9		262	38.3
250	30	10,597	-49.6		259	38.7
200	30	12,031	-56.3		253	43.1
175	30	12,877	-56.6		256	40.2
150	30	13,854	-56.6		260	32.2
125	30	15,010	-56.8		266	23.3
100	30	16,422	-57.0		270	15.7
80	30	17,838	-56.0		280	7.2
70	30	18,685	-55.5		273	3.3
60	30	19,673	-54.6		58	1.4
50	30	20,844	-52.7		67	5.1
40	30	22,291	-50.7		66	7.0
30	29	24,175	-48.7		77	11.1
25	28	25,375	-46.8		84	14.2
20	23	26,857	-44.6		93	14.6
15	12	28,777	-41.3			
10						
7						
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BOISE, IDAHO 914 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	868	12.0	79	159	3.5
1000	30	104				
950	30	540				
900	30	997	13.3	67	172	2.7
850	30	1,478	12.6	54	263	1.2
800	30	1,985	9.4	54	293	3.5
750	30	2,514	5.8	55	286	6.2
700	30	3,078	2.0	55	275	8.4
650	30	3,666	-2.1	57	255	9.9
600	30	4,304	-6.6	58	246	12.6
550	30	4,972	-11.0	50	242	16.1
500	30	5,706	-16.1	44	242	17.7
450	30	6,486	-21.6	42	245	19.4
400	30	7,350	-28.0	37	245	22.9
350	30	8,296	-34.8		246	25.1
300	30	9,355	-42.8		240	27.8
250	30	10,563	-51.0		244	30.5
200	30	11,998	-55.0		247	32.8
175	30	12,851	-55.1		245	30.7
150	30	13,835	-55.5		244	26.8
125	30	14,994	-56.7		239	21.2
100	30	16,408	-56.8		238	13.0
80	29	17,822	-56.8		233	6.6
70	29	18,671	-56.3		226	3.7
60	29	19,650	-55.5		98	1.4
50	29	20,816	-53.8		85	5.8
40	29	22,256	-51.7		86	9.7
30	29	24,132	-49.2		86	13.2
25	28	25,331	-47.2		85	14.2
20	23	26,823	-44.5		86	18.1
15	8	28,783	-41.6			
10						
7						
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*** BROWNSVILLE, TEXAS 1012 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	7	23.7	92	134	3.3
1000	30	116	24.1	90	142	7.0
950	30	568	21.8	84	160	16.3
900	30	1,034	19.5	72	164	15.7
850	30	1,525	17.3	61	163	15.0
800	30	2,041	14.8	54	155	13.0
750	30	2,581	12.1	48	143	10.9
700	30	3,161	9.0	45	135	6.8
650	30	3,765	5.3	42	118	5.6
600	30	4,421	1.3	41	135	1.7
550	30	5,106	-3.2	37	109	1.9
500	30	5,864	-8.1	32	52	.8
450	30	6,666	-13.3	30	193	1.2
400	30	7,563	-19.2	27	305	1.0
350	30	[illegible],543	-26.0	25	255	2.3
300	30	9,641	-34.3	22	248	6.6
250	30	10,891	-43.8		245	13.8
200	30	12,356	-54.6		251	16.7
175	30	13,199	-60.6		254	17.5
150	30	14,144	-66.9		267	15.0
125	30	15,232	-71.4		267	8.7
100	30	16,544	-72.5		301	.6
80	29	17,869	-67.7		82	10.3
70	29	18,681	-64.6		86	14.0
60	29	19,625	-61.6		88	17.7
50	29	20,764	-57.6		88	19.2
40	29	22,187	-53.4		87	22.3
30	28	24,055	-49.5		86	23.5
25	26	25,254	-47.4		88	23.1
20	26	26,734	-45.6		85	22.7
15	26	28,665	-42.2		85	19.4
10	18	31,433	-37.9		90	21.2
7	6	33,883	-31.7			
5						

BUFFALO, N. Y. 990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	218	15.1	83	206	3.7
1000	30	135				
950	30	570	15.4	66	252	7.6
900	30	1,028	13.1	64	270	10.3
850	30	1,507	10.4	61	277	13.4
800	30	2,010	7.9	57	282	18.3
750	30	2,540	5.7	55	286	21.6
700	30	3,103	2.6	55	287	23.1
650	30	3,698	-.7	50	289	24.9
600	30	4,335	-4.0	40	286	24.9
550	30	5,013	-8.0	36	284	26.0
500	30	5,751	-12.9		281	30.7
450	30	6,544	-18.1		283	34.6
400	30	7,418	-24.1		282	39.2
350	30	8,379	-30.8		282	46.2
300	30	9,455	-38.7		283	52.1
250	30	10,683	-47.4		281	60.0
200	30	12,130	-55.1		287	59.6
175	30	12,977	-57.7		288	53.6
150	30	13,945	-59.2		284	42.0
125	30	15,083	-60.8		284	31.9
100	30	16,472	-60.0		281	22.0
80	30	17,871	-57.9		296	14.4
70	30	18,719	-57.0		296	8.0
60	30	19,675	-54.7		323	4.5
50	30	20,867	-52.8		38	3.7
40	30	22,315	-50.6		88	8.2
30	30	24,201	-48.4		78	9.9
25	30	25,405	-46.9		79	13.2
20	29	26,892	-44.5		83	15.9
15	20	28,823	-40.7		86	14.8
10	6	31,629	-37.1			
7						
5						

*** BURRWOOD, LA. 1016 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	3	25.5	83	227	3.3
1000	30	139	25.0	81	212	3.1
950	30	589	21.7	82	188	4.7
900	30	1,057	19.0	72	171	4.7
850	30	1,547	16.5	61	165	5.2
800	30	2,061	14.3	49	160	6.6
750	30	2,603	11.5	47	164	7.2
700	30	3,177	8.1	48	170	5.1
650	30	3,782	4.6	47	184	2.7
600	30	4,434	.9	42	192	2.3
550	30	5,122	-3.0	38	212	1.9
500	30	5,877	-7.7	35	278	1.7
450	30	6,687	-12.9	34	257	2.1
400	30	7,578	-18.8	31	269	1.7
350	30	8,560	-25.6	27	242	3.3
300	30	9,659	-33.9	24	234	4.1
250	29	10,908	-43.5		236	10.7
200	29	12,372	-54.4		252	16.3
175	29	13,215	-60.4		258	17.3
150	29	14,162	-66.1		258	16.7
125	29	15,255	-70.3		270	9.3
100	29	16,577	-69.8		283	2.5
80	29	17,917	-66.4		72	5.1
70	29	18,735	-63.6		87	10.7
60	29	19,686	-60.2		92	14.8
50	28	20,834	-56.3		88	17.1
40	28	22,266	-53.2		87	18.6
30	28	24,136	-49.8		[illegible]	20.8
25	28	25,334	-48.2		[illegible]	21.6
20	27	26,815	-45.8		[illegible]	20.4
15	24	28,745	-42.6		[illegible]	20.8
10	9	[illegible]	-37.0			
7						
5						

***CANTON IS., PACIFIC AREA 1010 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	26.4	76	[illegible]	11.5
1000	30	92	25.6	78	79	14.6
950	30	537	22.0	84	84	16.7
900	30	1,012	19.1	74	84	17.3
850	30	1,502	16.7	61	88	[illegible]
800	30	2,018	15.1	43	86	17.7
750	30	2,555	13.1	30	84	17.9
700	30	3,139	10.2	26	90	16.3
650	30	3,741	6.7	25	95	12.0
600	30	4,403	2.7	27	91	10.9
550	30	5,092	-1.4	25	97	9.3
500	30	5,854	-6.1	29	91	8.9
450	30	6,666	-11.1	25	96	10.9
400	30	7,567	-16.4	22	107	14.8
350	30	8,558	-23.3	20	[illegible]	[illegible]
300	30	9,669	-31.7	[illegible]	167	[illegible]
250	30	10,932	-42.0		234	[illegible]
200	30	12,404	-54.4		261	12.6
175	29	13,247	-61.3		[illegible]	[illegible]
150	28	14,187	-68.7		268	21.6
125	27	15,259	-75.4		[illegible]	17.1
100	26	16,538	-78.0		[illegible]	5.4
80	23	17,833	-70.7		273	10.9
70	22	18,631	-67.1		273	[illegible]
60	22	19,568	-63.6		272	[illegible]
50	20	20,693	[illegible]		[illegible]	25.3
40	19	[illegible]	-57.5		[illegible]	[illegible]
30	19	23,922	[illegible]		[illegible]	[illegible]
25	18	25,094	[illegible]		[illegible]	[illegible]
20	15	26,544	-49.8		82	47.8
15	12	[illegible]	-46.0			
10	8	[illegible]	-41.0			
7	6	[illegible]	-38.7			
5	6	35,961	-33.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JUNE 1964

CAPE HATTERAS, N. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	22.4	84	14	.4
1000	30	139	22.2	79	306	.8
950	30	580	20.1	75	285	3.1
900	30	1,050	17.7	66	293	5.2
850	30	1,537	14.9	65	296	7.8
800	30	2,049	11.9	64	292	9.3
750	30	2,583	9.0	57	293	11.1
700	30	3,156	6.1	53	290	12.8
650	30	3,756	2.7	47	288	13.8
600	30	4,404	- .8	41	290	14.6
550	30	5,084	- 4.5	36	288	16.3
500	30	5,839	- 8.8	35	285	15.3
450	30	6,642	-13.5		288	18.1
400	30	7,534	-19.9		284	22.0
350	30	8,511	-26.8		287	24.5
300	29	9,608	-34.9		286	23.9
250	29	10,854	-44.9		286	28.4
200	29	12,308	-56.1		289	33.2
175	29	13,146	-61.3		293	35.7
150	28	14,090	-65.3		299	32.2
125	28	15,194	-67.2		309	22.5
100	28	16,542	-66.2		310	12.4
80	28	17,905	-62.5		343	4.7
70	28	18,732	-60.3		33	4.3
60	28	19,700	-57.7		53	8.7
50	28	20,858	-54.9		81	13.2
40	28	22,295	-51.6		90	14.4
30	28	24,176	-48.2		92	16.7
25	28	25,382	-46.3		86	16.9
20	27	26,875	-43.5		85	19.4
15	20	28,828	-40.3		87	22.5
10	6	31,669	-34.5			
7						
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CARIBOU, ME.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	191	11.5	85	246	3.1
1000	30	94				
950	30	523	11.7	72	270	6.8
900	30	974	9.6	67	284	10.7
850	30	1,447	6.9	66	285	13.6
800	30	1,943	3.9	63	282	16.3
750	30	2,461	.9	58	287	19.2
700	30	3,017	- 1.4	48	288	22.9
650	30	3,600	- 4.5	44	283	25.3
600	30	4,231	- 8.3	38	282	28.0
550	30	4,896	-12.5		284	30.3
500	30	5,623	-17.2		285	31.7
450	30	6,398	-22.7		284	34.6
400	30	7,259	-28.6		280	37.5
350	30	8,203	-34.9		282	40.0
300	30	9,262	-42.2		281	44.3
250	30	10,478	-48.7		283	52.1
200	30	11,932	-52.1		286	51.3
175	30	12,794	-53.0		284	44.3
150	30	13,786	-53.6		283	36.7
125	30	14,957	-53.9		280	26.2
100	30	16,387	-54.5		279	18.5
80	30	17,819	-54.0		280	10.5
70	30	18,684	-52.7		287	5.1
60	30	19,676	-51.5		330	1.7
50	30	20,864	-50.1		92	4.7
40	30	22,328	-48.4		93	8.0
30	30	24,230	-46.4		95	13.2
25	30	25,445	-45.0		91	15.5
20	30	26,944	-42.5		89	17.9
15	27	28,913	-38.4		89	21.6
10	26	31,736	-31.8		92	26.2
7	19	34,292	-26.1		93	25.3
5	12	36,723	-22.1			
4						
3						

CHARLESTON, S. C.
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	13	22.8	88	330	1.7
1000	30	143	21.5	81	254	1.4
950	30	593	22.0	69	250	4.3
900	30	1,060	19.6	63	262	4.9
850	30	1,551	16.4	63	282	3.1
800	30	2,064	13.1	61	283	3.9
750	30	2,604	10.2	50	282	5.8
700	30	3,177	7.2	44	271	5.6
650	30	3,780	3.8	40	269	6.6
600	30	4,429	.1	36	270	8.0
550	30	5,116	- 4.1	32	276	8.9
500	30	5,867	- 8.6		276	9.3
450	30	6,671	-13.4		278	10.5
400	30	7,564	-19.4		280	11.8
350	30	8,544	-26.3		282	14.8
300	30	9,639	-34.8		280	15.7
250	30	10,885	-44.8		281	19.0
200	30	12,340	-56.0		286	22.0
175	30	13,177	-61.6		288	22.0
150	30	14,120	-66.8		291	19.4
125	30	15,213	-69.4		297	14.4
100	29	16,548	-68.3		313	6.8
80	29	17,898	-64.5		24	3.9
70	29	18,726	-62.1		59	7.0
60	29	19,678	-59.3		72	10.9
50	29	20,829	-55.7		86	15.5
40	29	22,264	-52.0		95	16.3
30	27	24,144	-48.8		89	14.0
25	22	25,341	-47.4		91	17.1
20	20	26,825	-45.1		93	16.1
15	9	28,782	-41.3			
10						
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* COLD BAY, ALASKA
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	6.3	88	175	4.7
1000	30	100			204	3.1
950	30	521	4.9	85	148	4.5
900	30	960	4.0	81	137	4.9
850	30	1,424	2.6	80	122	6.4
800	30	1,913	.6	76	125	4.3
750	30	2,429	- 1.9	73	133	3.7
700	30	2,975	- 4.8	70	145	3.5
650	30	3,553	- 8.0	63	152	2.3
600	30	4,173	-11.7	60	158	2.3
550	30	4,834	-15.7	53	156	2.3
500	30	5,547	-20.4	46	187	2.3
450	30	6,313	-25.7	45	217	2.3
400	30	7,162	-32.1	44	220	4.9
350	30	8,090	-39.3	48	229	5.8
300	30	9,128	-46.7		233	5.4
250	30	10,320	-52.8		234	8.0
200	30	11,762	-50.6		242	6.0
175	30	12,635	-49.5		247	3.9
150	30	13,644	-49.6		236	2.7
125	30	14,835	-50.4		245	2.3
100	30	16,291	-50.6		151	1.2
80	30	17,746	-50.4		100	2.1
70	30	18,620	-50.3		86	3.7
60	30	19,623	-50.1		94	5.2
50	30	20,815	-49.7		86	7.4
40	30	22,277	-49.1		90	10.7
30	30	24,169	-48.0		92	12.8
25	30	25,374	-46.9		93	15.0
20	30	26,858	-45.2		89	14.8
15	30	28,789	-42.6		87	17.9
10	29	31,557	-37.6		83	20.6
7	26	34,039	-33.1		81	25.6
5	23	36,437	-29.5		84	28.0
4	18	38,040	-28.0		84	33.8
3	6	40,211	-23.2			

COLUMBIA, MO.
986 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	238	18.3	84	141	2.5
1000	30	119				
950	30	562	19.6	71	208	8.4
900	30	1,027	17.9	65	241	12.2
850	30	1,515	15.3	63	248	14.2
800	30	2,027	12.5	59	243	14.4
750	30	2,559	9.2	56	241	14.4
700	30	3,135	6.2	51	244	13.4
650	30	3,732	2.6	45	242	15.3
600	30	4,382	- 1.3	37	241	16.7
550	30	5,060	- 5.8	34	248	18.1
500	30	5,811	-10.4	28	256	20.2
450	30	6,611	-15.9		259	23.1
400	30	7,493	-22.3		261	26.4
350	30	8,460	-29.1		259	29.9
300	30	9,544	-37.3		261	30.3
250	30	10,779	-46.4		265	34.2
200	29	12,225	-56.0		264	40.6
175	29	13,066	-60.0		262	39.0
150	29	14,020	-63.1		265	35.9
125	29	15,137	-64.8		266	27.0
100	29	16,499	-64.5		270	16.3
80	29	17,872	-61.4		269	5.2
70	29	18,703	-60.0		33	.2
60	29	19,671	-57.6		86	4.1
50	29	20,829	-54.9		81	8.2
40	29	22,263	-52.6		86	11.7
30	25	24,124	-50.3		92	12.8
25	23	25,320	-48.6		85	12.6
20	17	26,788	-46.2		84	14.8
15	8	28,707	-42.6			
10						
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DAYTON, OHIO
982 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	297	17.1	83	177	1.7
1000	30	138				
950	30	580	18.3	66	231	7.6
900	30	1,042	16.5	61	278	10.3
850	29	1,528	14.0	55	280	12.2
800	29	2,038	11.2	51	285	13.8
750	29	2,572	8.1	49	282	15.0
700	29	3,141	4.7	51	279	16.3
650	29	3,739	1.0	47	277	18.1
600	29	4,382	- 2.8	43	276	19.6
550	29	5,059	- 7.2	35	274	21.2
500	29	5,804	-11.7		272	23.5
450	29	6,597	-16.9		270	27.8
400	29	7,480	-22.7	33	272	31.3
350	29	8,446	-29.6		269	34.0
300	29	9,527	-38.0		269	36.5
250	29	10,758	-47.0		269	40.4
200	29	12,202	-56.5		274	42.3
175	29	13,042	-60.0		275	40.2
150	29	13,998	-62.5		277	38.1
125	29	15,115	-64.7		276	28.2
100	29	16,482	-63.6		278	18.1
80	29	17,857	-61.2		297	9.3
70	29	18,697	-59.5		327	3.7
60	29	19,659	-57.0		45	4.7
50	29	20,818	-54.9		73	7.2
40	29	22,254	-52.0		82	10.7
30	28	24,130	-49.5		81	11.5
25	27	25,325	-47.7		80	13.0
20	25	26,804	-45.9		80	15.0
15	19	28,738	-42.9		81	17.5
10	5	31,370	-40.2			
7						
5						

DEL RIO, TEXAS
977 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	314	23.7	72	122	8.7
1000	30	104				
950	30	558	22.3	71	141	16.3
900	30	1,023	19.1	74	162	19.4
850	30	1,514	17.1	69	168	17.7
800	30	2,030	15.3	56	170	13.8
750	30	2,577	12.4	47	172	8.4
700	30	3,151	9.1	42	185	3.3
650	30	3,757	5.2	37	259	.8
600	30	4,410	.6	34	328	2.5
550	30	5,094	- 3.9	30	350	1.7
500	30	5,849	- 8.7		71	.6
450	30	6,650	-13.9		294	1.9
400	30	7,544	-20.0		276	4.7
350	30	8,521	-26.8		295	7.6
300	30	9,615	-35.2		285	11.1
250	30	10,860	-45.2		278	15.5
200	30	12,315	-56.1		274	18.8
175	30	13,154	-61.4		269	18.8
150	30	14,099	-66.7		266	17.9
125	30	15,189	-70.9		253	13.4
100	30	16,509	-71.0		248	7.6
80	30	17,843	-66.4		86	5.2
70	30	18,655	-64.3		99	10.3
60	30	19,604	-60.7		99	13.2
50	30	20,746	-57.5		88	15.2
40	29	22,163	-54.0		86	18.8
30	27	24,025	-50.5		85	19.6
25	26	25,218	-48.6		87	20.0
20	26	26,694	-46.0		87	19.6
15	25	28,623	-42.9		87	21.0
10	14	31,395	-37.7			
7	5	33,847	-34.1			
5						

DENVER, COLO.
837 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,611	11.5	74	213	3.9
1000	30	97				
950	30	537				
900	30	1,002				
850	30	1,483				
800	30	1,994	14.4	47	225	5.6
750	30	2,533	11.5	45	233	5.1
700	30	3,110	7.5	46	245	7.2
650	30	3,714	3.2	47	253	10.7
600	30	4,359	- 1.7	51	260	15.3
550	30	5,039	- 6.9	52	255	19.8
500	30	5,782	-12.3	45	250	22.1
450	30	6,574	-17.9	37	249	23.3
400	30	7,449	-24.1	35	249	26.0
350	30	8,409	-31.3		247	29.3
300	30	9,482	-39.9		245	31.5
250	30	10,703	-49.2		243	35.0
200	30	12,139	-57.1		244	40.6
175	30	12,979	-59.5		246	39.2
150	30	13,940	-60.7		247	37.7
125	30	15,072	-61.9		251	25.3
100	30	16,453	-61.6		256	11.7
80	30	17,837	-60.3		227	3.3
70	30	18,677	-59.0		180	1.2
60	30	19,643	-57.5		95	3.7
50	29	20,800	-55.1		85	7.6
40	29	22,235	-52.3		85	11.3
30	29	24,105	-49.8		88	13.2
25	29	25,301	-48.5		84	15.5
20	21	26,782	-45.8		89	17.9
15	13	28,688	-43.0		91	17.1
10	8	31,480	-38.0			
7	5	33,940	-34.2			
5	5	36,317	-28.9			

DODGE CITY, KANS.
923 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	792	16.4	78	188	4.1
1000	30	98				
950	30	539				
900	30	1,005	18.2	61	196	10.3
850	30	1,495	18.5	47	217	15.2
800	30	2,013	16.2	41	237	15.3
750	30	2,554	12.7	40	254	15.9
700	30	3,135	8.8	40	257	15.3
650	30	3,739	4.7	39	261	16.7
600	30	4,391	- .4	43	270	16.7
550	30	5,071	- 5.5	43	269	16.3
500	30	5,821	-10.6	37	266	15.2
450	30	6,620	-15.7		260	17.9
400	30	7,504	-22.1		259	22.9
350	30	8,472	-29.3		253	28.4
300	30	9,555	-37.7		252	29.3
250	30	10,787	-47.1		250	35.2
200	29	12,234	-56.9		251	40.0
175	29	13,071	-60.8		254	40.8
150	29	14,024	-63.0		251	35.9
125	29	15,141	-64.7		253	24.9
100	29	16,504	-64.3		255	16.7
80	29	17,875	-62.2		247	3.9
70	29	18,708	-59.8		101	1.7
60	29	19,672	-58.0		74	5.8
50	29	20,828	-55.2		90	9.1
40	29	22,260	-52.7		89	12.2
30	29	24,127	-50.3		82	16.1
25	26	25,319	-48.5		87	15.7
20	24	26,796	-46.2		88	18.6
15	13	28,698	-43.2		92	18.1
10						
7						
5						

EL PASO, TEXAS
881 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,193	20.2	37	206	2.9
1000	30	81				
950	30	532				
900	30	1,011				
850	30	1,504	21.4	32	210	5.2
800	30	2,025	18.1	31	234	7.4
750	30	2,568	14.1	31	246	8.9
700	30	3,152	9.7	32	249	7.6
650	30	3,754	5.0	37	231	6.6
600	30	4,410	.2	37	212	8.0
550	30	5,092	- 4.9	37	228	9.3
500	30	5,845	- 9.8		245	11.3
450	30	6,645	-14.9		253	13.2
400	30	7,533	-21.3		250	15.5
350	30	8,504	-28.3		248	18.8
300	30	9,591	-36.6		248	23.9
250	30	10,829	-46.3		244	30.5
200	30	12,277	-56.9		249	36.7
175	30	13,113	-61.9		249	37.9
150	30	14,057	-66.0		249	35.0
125	30	15,154	-68.9		250	25.8
100	30	16,489	-68.7		250	13.6
80	30	17,837	-64.7		101	2.5
70	30	18,659	-62.6		90	7.2
60	30	19,613	-60.1		92	9.9
50	29	20,759	-57.2		92	13.2
40	29	22,179	-54.2		84	14.0
30	29	24,038	-50.8		83	16.9
25	28	25,228	-48.4		86	17.3
20	25	26,711	-45.7		83	17.3
15	10	28,683	-41.2			
10						
7						
5						

ELY, NEV.
808 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,908	6.3	73	196	3.1
1000	30	118				
950	30	552				
900	30	1,011				
850	30	1,490				
800	30	1,995	9.7	59	196	3.3
750	30	2,533	9.1	46	192	4.1
700	30	3,098	5.4	45	234	8.4
650	30	3,696	.9	48	240	12.6
600	30	4,336	- 3.8	49	235	17.3
550	30	5,012	- 8.5	46	233	20.0
500	30	5,749	-13.4	40	238	21.4
450	30	6,537	-18.9		240	23.5
400	30	7,409	-25.4		251	28.2
350	30	8,364	-32.3		250	29.9
300	30	9,433	-40.6		250	33.8
250	30	10,650	-49.5		256	32.4
200	30	12,084	-56.4		253	33.2
175	30	12,927	-58.2		252	35.2
150	30	13,897	-58.3		248	28.9
125	29	15,043	-60.5		253	22.5
100	28	16,434	-60.2		239	13.4
80	28	17,830	-58.8		224	6.6
70	28	18,680	-58.1		133	2.7
60	28	19,643	-56.8		88	6.4
50	28	20,803	-54.7		89	9.7
40	28	22,238	-52.0		84	12.2
30	26	24,113	-49.2		86	15.3
25	25	25,312	-47.5		87	18.1
20	25	26,794	-44.9		[illegible]	18.3
15	17	28,743	-40.4		90	22.3
10						
7						
5						

* FAIRBANKS, ALASKA
994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	135	12.0	67	307	2.9
1000	30	83				
950	30	511	12.9	54	269	3.9
900	30	966	9.9	55	261	4.3
850	30	1,438	6.4	61	274	3.3
800	30	1,932	2.6	67	284	3.5
750	30	2,446	- 1.2	69	285	4.3
700	30	2,998	- 4.8	67	267	3.1
650	30	3,573	- 8.0	57	270	3.1
600	30	4,195	-11.8	52	261	3.1
550	30	4,851	-16.2	48	251	2.9
500	30	5,567	-21.3	47	252	3.7
450	30	6,333	-27.0	46	245	3.3
400	30	7,175	-33.3	45	258	5.6
350	30	8,099	-40.4		253	7.6
300	30	9,133	-47.8		247	7.6
250	30	10,317	-54.2		251	6.2
200	30	11,757	-50.4		287	4.9
175	30	12,631	-49.1		294	4.7
150	30	13,643	-48.8		308	3.5
125	30	14,841	-48.8		335	2.9
100	30	16,307	-48.7		29	3.1
80	30	17,776	-47.9		51	5.1
70	30	18,658	-47.5		66	6.8
60	30	19,678	-46.8		72	8.7
50	30	20,888	-46.1		78	10.3
40	30	22,375	-45.5		80	12.6
30	30	24,296	-44.7		80	15.9
25	29	25,515	-43.7		81	16.7
20	28	27,025	-41.8		83	19.0
15	26	28,986	-38.6		84	18.3
10	23	31,815	-33.5		83	22.9
7	20	34,348	-28.4		82	25.4
5	12	36,759	-24.4			

FLINT, MICH.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	234	15.9	81	205	2.3
1000	30	138				
950	30	574	16.3	63	241	6.0
900	30	1,036	14.5	59	273	9.1
850	30	1,517	12.1	55	278	12.4
800	30	2,023	9.6	51	278	16.7
750	30	2,553	6.9	48	278	19.0
700	30	3,121	3.6	45	281	21.0
650	30	3,714	- .3	44	281	24.1
600	30	4,355	- 4.1	39	279	27.8
550	30	5,030	- 8.0		280	28.7
500	30	5,771	-12.8		282	31.3
450	30	6,561	-17.9		281	34.2
400	30	7,439	-23.9		281	37.5
350	30	8,401	-30.8		280	42.3
300	30	9,477	-38.6		278	47.2
250	30	10,706	-47.1		278	51.5
200	30	12,155	-55.3		280	55.2
175	30	13,001	-58.2		280	50.5
150	30	13,967	-59.7		282	42.5
125	30	15,103	-61.1		281	32.6
100	30	16,488	-59.8		277	21.0
80	30	17,888	-57.9		295	11.5
70	30	18,735	-56.8		320	5.4
60	30	19,711	-55.3		27	3.3
50	30	20,881	-53.0		75	7.2
40	30	22,326	-50.8		82	9.3
30	28	24,211	-48.4		82	12.2
25	27	25,415	-46.3		80	13.6
20	25	26,903	-44.0		85	17.3
15	15	28,818	-41.3			
10						
7						
5						

FORT WORTH, TEXAS
993 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	180	22.0	81	186	5.8
1000	30	121				
950	30	572	21.8	70	194	16.7
900	30	1,038	19.8	62	200	18.5
850	30	1,530	17.8	53	203	14.4
800	30	2,047	15.0	48	206	10.5
750	30	2,591	12.1	38	210	5.6
700	30	3,166	8.6	36	220	3.3
650	30	3,775	4.6	34	253	2.5
600	30	4,422	.2	35	287	2.7
550	30	5,108	- 4.2		275	3.5
500	30	5,860	- 8.9		253	5.6
450	30	6,666	-14.1		250	8.4
400	30	7,554	-20.2		262	10.1
350	30	8,529	-27.4		268	14.2
300	30	9,620	-35.8		267	15.9
250	30	10,861	-45.6		259	19.6
200	30	12,313	-56.3		255	24.1
175	30	13,150	-61.3		254	25.6
150	30	14,097	-65.6		258	23.3
125	30	15,193	-68.9		257	18.1
100	30	16,527	-68.5		251	10.7
80	30	17,876	-64.8		111	1.9
70	30	18,702	-61.9		88	5.2
60	30	19,656	-59.6		94	8.2
50	30	20,805	-56.6		90	10.3
40	30	22,227	-54.2		84	14.6
30	29	24,086	-50.4		90	16.9
25	29	25,283	-47.9		85	16.1
20	28	26,759	-46.0		86	15.0
15	20	28,692	-43.0		86	19.8
10	13	31,447	-38.1		91	25.4
7	12	33,931	-33.8		88	25.4
5	5	36,186	-33.0			

GLASGOW, MONT.
931 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	696	12.1	74	44	3.3
1000	30	88				
950	30	519				
900	30	980	14.2	60	342	5.4
850	30	1,462	12.1	55	319	6.0
800	30	1,967	9.0	55	301	5.4
750	30	2,491	5.5	58	283	7.6
700	30	3,059	1.8	60	284	9.7
650	30	3,645	- 2.1	59	282	10.9
600	30	4,284	- 6.1	54	279	13.2
550	30	4,952	-10.4	50	274	14.6
500	30	5,688	-15.3	46	274	16.7
450	30	6,469	-20.8	41	269	20.2
400	30	7,337	-27.1	35	266	23.3
350	29	8,284	-34.4		263	26.2
300	29	9,343	-43.0		255	29.7
250	29	10,549	-51.4		246	33.6
200	29	11,977	-56.9		247	34.4
175	29	12,824	-55.9		254	33.6
150	29	13,807	-55.0		260	27.2
125	29	14,970	-55.8		261	19.2
100	29	16,390	-55.8		264	13.4
80	29	17,811	-55.5		262	7.6
70	29	18,665	-54.9		279	3.9
60	29	19,650	-54.0		342	1.6
50	29	20,824	-52.6		72	3.3
40	29	22,272	-50.7		86	6.6
30	29	24,156	-48.4		86	9.7
25	28	25,358	-46.8		88	11.8
20	27	26,839	-45.0		90	13.8
15	20	28,749	-41.8		89	15.3
10	7	31,523	-36.5			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

GRAND JUNCTION, COLO.
851 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,474	14.6	43	137	5.4
1000	30	76				
950	30	518				
900	30	989				
850	30	1,479			128	5.6
800	30	1,994	15.1	33	158	8.0
750	30	2,534	11.8	34	210	7.0
700	30	3,110	7.6	39	238	10.1
650	30	3,711	2.7	44	242	15.7
600	30	4,357	- 2.6	49	242	18.8
550	30	5,031	- 7.9	50	241	22.5
500	30	5,774	-13.3	48	242	26.2
450	30	6,559	-18.6	41	247	28.4
400	30	7,436	-24.8		252	31.3
350	30	8,395	-31.9		251	35.2
300	30	9,465	-40.3		254	36.3
250	30	10,684	-49.0		258	36.3
200	30	12,121	-56.7		261	38.7
175	30	12,962	-59.1		261	37.7
150	30	13,926	-60.4		253	30.3
125	30	15,058	-61.6		253	24.1
100	30	16,438	-61.9		259	12.6
80	30	17,824	-60.3		294	.8
70	30	18,664	-59.3		51	2.9
60	30	19,626	-57.6		87	5.8
50	30	20,783	-55.3		87	8.5
40	28	22,212	-52.8		84	10.9
30	27	24,080	-49.8		86	15.3
25	27	25,277	-48.0		87	16.5
20	27	26,755	-46.0		87	19.0
15	25	28,673	-43.3		94	21.4
10	22	31,439	-37.8		92	22.3
7	5	33,931	-33.9			
5						

GREAT FALLS, MONT.
885 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,123	11.6	71	225	4.1
1000	30	88				
950	30	525				
900	30	987				
850	30	1,465	12.3	52	247	9.1
800	30	1,971	9.0	54	271	6.6
750	30	2,503	5.2	59	264	6.4
700	30	3,062	1.3	63	256	9.1
650	30	3,657	- 2.4	64	260	10.9
600	30	4,288	- 6.2	55	257	10.7
550	30	4,962	-10.6	51	251	14.0
500	30	5,691	-15.5	50	245	16.5
450	30	6,475	-21.3	48	243	18.8
400	30	7,339	-27.2	47	244	19.2
350	30	8,287	-34.9	45	243	21.2
300	30	9,343	-43.4		242	26.0
250	29	10,541	-52.1		232	30.9
200	29	11,968	-55.8		234	30.9
175	29	12,820	-54.7		238	26.8
150	29	13,809	-54.0		244	23.1
125	29	14,976	-55.2		238	18.5
100	29	16,400	-55.2		244	13.0
80	28	17,826	-55.0		256	6.2
70	28	18,685	-54.6		271	3.5
60	28	19,669	-53.5		45	.8
50	28	20,845	-52.1		75	5.1
40	28	22,294	-50.6		78	9.1
30	27	24,182	-48.2		82	13.2
25	27	25,387	-46.6		82	14.6
20	26	26,878	-44.3		88	16.7
15	25	28,819	-40.7		87	17.9
10	18	31,572	-36.6		89	18.5
7	16	34,058	-33.4		91	21.2
5	12	36,437	-30.3			

GREEN BAY, WIS.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	210	13.8	83	232	1.9
1000	30	116				
950	30	551	15.9	57	239	7.6
900	30	1,010	14.2	53	262	11.7
850	30	1,491	11.6	52	266	14.6
800	30	1,996	8.8	49	270	17.9
750	30	2,521	5.7	47	274	22.3
700	30	3,089	2.5	45	271	23.7
650	30	3,673	- 1.0	45	272	26.0
600	30	4,319	- 4.7	40	271	28.4
550	30	4,991	- 8.7		274	27.6
500	30	5,730	-13.4		276	29.3
450	30	6,513	-18.7		275	31.7
400	30	7,393	-24.9		277	35.2
350	30	8,351	-31.5		277	39.0
300	30	9,424	-39.6		275	43.3
250	30	10,648	-48.0		273	50.7
200	30	12,092	-55.4		275	53.6
175	30	12,939	-57.7		277	49.1
150	30	13,909	-58.7		277	41.2
125	30	15,053	-59.0		274	30.3
100	30	16,450	-58.9		275	20.0
80	30	17,856	-57.2		291	9.9
70	30	18,697	-56.1		316	5.4
60	30	19,687	-54.2		21	5.6
50	30	20,861	-52.1		69	8.2
40	30	22,313	-50.0		81	10.3
30	30	24,203	-47.4		84	11.5
25	24	25,404	-45.6		83	13.6
20	23	26,895	-43.2		85	18.6
15	10	28,881	-39.5			
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GREENSBORO, N. C.
986 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	273	19.4	89	254	1.0
1000	30	152				
950	30	597	20.3	73	290	3.9
900	30	1,062	18.2	67	295	6.6
850	30	1,550	15.4	63	291	7.6
800	30	2,063	12.3	63	286	8.7
750	30	2,601	9.1	62	284	[illegible]
700	30	3,171	6.1	53	280	10.5
650	30	3,774	2.6	43	276	9.5
600	30	4,419	- 1.1	36	277	11.3
550	30	5,106	- 4.8	32	280	14.6
500	30	5,854	- 9.[illegible]		280	17.1
450	30	6,657	-14.5		279	17.9
400	30	7,545	-20.4		278	21.2
350	30	8,521	-27.4		275	24.1
300	30	9,612	-35.6		273	26.8
250	30	10,856	-45.4		277	30.3
200	30	12,307	-56.5		279	37.5
175	30	13,145	-61.2		280	35.9
150	30	14,092	-65.3		282	30.9
125	30	15,194	-67.6		289	22.1
100	30	16,539	-66.8		290	12.2
80	30	17,896	-63.9		317	5.4
70	30	18,723	-61.8		37	3.1
60	30	19,678	-59.2		67	7.0
50	30	20,829	-56.2		80	9.3
40	30	22,257	-53.1		88	13.6
30	29	24,126	-49.8		80	14.0
25	28	25,325	-48.0		83	15.7
20	25	26,806	-45.6		82	17.1
15	21	28,747	-42.9		85	17.1
10	[illegible]	31,515	-39.9			
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GUAM, MARIANA IS.
998 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	111	25.2	90	89	4.5
1000	30	97				
950	30	553	24.0	82	91	14.4
900	30	1,022	21.3	78	95	15.0
850	30	1,517	18.5	72	94	15.3
800	30	2,035	15.7	67	89	14.6
750	30	2,581	12.9	62	91	16.5
700	30	3,159	9.7	56	88	16.5
650	30	3,772	6.1	54	86	16.7
600	30	4,424	2.3	45	88	16.7
550	30	5,119	- 1.7	47	93	15.3
500	30	5,875	- 6.1	43	95	14.4
450	30	6,691	-11.2	36	92	14.2
400	30	7,588	-16.8	37	89	11.3
350	30	8,577	-23.6		77	8.9
300	30	9,684	-32.0		75	6.6
250	30	10,945	-42.0		38	2.7
200	30	12,416	-54.2		348	3.5
175	30	13,257	-61.2		323	4.7
150	30	14,199	-68.6		13	3.1
125	29	15,274	-74.5		60	8.5
100	29	16,556	-77.4		74	17.5
80	27	17,847	-72.6		77	17.5
70	27	18,640	-68.3		82	18.5
60	27	19,573	-65.0		87	17.9
50	27	20,693	-61.3		92	16.9
40	27	22,094	-57.2		86	19.6
30	25	23,931	-53.1		88	25.4
25	25	25,133	-50.3		85	32.2
20	22	26,574	-48.2		86	42.0
15	19	28,485	-44.3		88	52.6
10	15	31,236	-40.6		91	67.8
7	6	33,668	-37.8			
5						

HILO, HAWAII
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	21.1	88	230	4.9
1000	30	147	22.2	81	216	3.5
950	30	592	19.3	83	105	5.4
900	30	1,056	16.2	86	96	6.0
850	30	1,541	13.3	84	85	6.6
800	30	2,050	11.6	64	82	9.1
750	30	2,589	10.2	45	87	9.5
700	30	3,161	7.9	36	81	10.7
650	30	3,769	5.5	24	79	11.7
600	30	4,419	1.9	24	83	11.8
550	30	5,112	- 2.5		87	11.5
500	30	5,865	- 7.5		91	9.5
450	30	6,672	-13.0		95	7.8
400	30	7,565	-19.0		94	5.4
350	30	8,545	-26.2		92	2.9
300	30	9,641	-34.9		274	1.9
250	29	10,885	-45.1		300	6.4
200	29	12,338	-56.2		284	14.0
175	29	13,175	-61.8		277	15.0
150	29	14,117	-67.1		276	12.6
125	28	15,208	-69.7		261	4.7
100	28	16,528	-71.9		82	3.1
80	28	17,849	-69.8		86	11.8
70	28	18,648	-67.4		89	15.7
60	28	19,583	-64.3		92	19.2
50	28	20,709	-60.4		93	22.1
40	28	22,112	-56.3		89	24.9
30	28	23,959	-51.6		88	28.6
25	28	25,147	-49.5		89	32.8
20	27	26,619	-47.1		87	33.4
15	24	28,537	-44.3		93	35.4
10	12	31,250	-40.9		93	44.7
7	5	33,666	-38.5			
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HUNTINGTON, W. VA.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	16.3	92	170	1.7
1000	30	150				
950	30	591	19.6	68	255	6.0
900	30	1,056	17.4	63	270	10.7
850	30	1,543	14.6	62	280	11.5
800	30	2,054	11.6	60	279	14.4
750	30	2,589	8.6	53	278	14.4
700	30	3,159	5.3	51	278	15.0
650	30	3,758	2.1	47	278	15.7
600	30	4,404	- 1.8	46	279	16.5
550	30	5,084	- 6.0	42	278	18.3
500	30	5,833	-10.4		277	22.5
450	30	6,632	-15.7		277	24.5
400	30	7,517	-21.6		275	27.8
350	30	8,487	-28.7		275	30.7
300	30	9,572	-37.0		273	32.8
250	30	10,809	-46.4		271	37.5
200	30	12,256	-56.6		276	40.6
175	30	13,095	-60.8		277	38.5
150	30	14,047	-63.7		280	35.7
125	30	15,157	-66.3		283	26.0
100	30	16,513	-64.6		283	15.3
80	30	17,883	-62.2		302	8.4
70	30	18,715	-60.4		322	4.3
60	30	19,679	-57.8		54	4.7
50	30	20,837	-55.1		79	7.4
40	29	22,274	-52.4		82	10.3
30	29	24,146	-49.8		84	13.2
25	25	25,335	-47.9		86	15.3
20	20	26,812	-45.8		80	14.2
15	11	28,757	-42.5			
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* INTERNAT. FALLS, MINN.
969 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	360	10.8	77	195	1.0
1000	30	90				
950	30	519	13.0	66	216	1.9
900	30	976	11.7	64	236	5.4
850	30	1,452	9.1	62	267	7.2
800	30	1,952	6.6	57	280	9.7
750	30	2,482	4.2	55	282	13.2
700	30	3,039	.9	49	275	15.3
650	30	3,626	- 2.8	46	277	16.9
600	30	4,261	- 6.5	45	278	20.0
550	30	4,930	-10.7	38	283	21.8
500	30	5,663	-15.3	37	282	24.9
450	30	6,446	-20.4	37	281	26.4
400	30	7,315	-26.5	34	280	30.9
350	30	8,265	-33.7	33	280	35.4
300	30	9,328	-41.6		276	42.0
250	30	10,545	-49.2		275	53.6
200	29	11,977	-54.7		275	55.0
175	29	12,828	-55.5		276	49.9
150	29	13,811	-55.4		278	42.2
125	29	14,973	-55.5		281	28.0
100	29	16,395	-55.8		281	19.4
80	29	17,819	-55.0		288	11.5
70	29	18,676	-54.5		296	8.4
60	29	19,663	-53.3		333	4.9
50	29	20,842	-51.5		21	3.3
40	29	22,296	-49.9		73	6.8
30	29	24,184	-48.1		83	9.5
25	29	25,391	-46.4		82	11.5
20	28	26,877	-44.4		83	14.0
15	26	28,807	-41.2		85	17.5
10	19	31,593	-35.7		87	20.6
7	14	34,079	-31.5		87	18.8
5	6	36,487	-27.1			

JACKSON, MISS.
1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	94	21.4	92	178	1.6
1000	30	143	21.7	89	196	2.3
950	30	588	21.9	74	225	6.4
900	30	1,059	19.2	69	208	5.4
850	30	1,550	16.1	67	200	6.2
800	30	2,064	13.0	65	197	6.2
750	30	2,598	10.4	52	197	6.2
700	30	3,177	7.4	43	205	4.3
650	30	3,781	3.8	41	222	2.9
600	30	4,430	- .4	44	249	2.5
550	30	5,112	- 4.6	40	243	3.7
500	30	5,865	- 9.2	37	252	5.6
450	30	6,671	-14.3		259	6.6
400	30	7,558	-19.9		260	7.8
350	30	8,535	-26.8		256	9.9
300	30	9,627	-35.3		249	14.2
250	30	10,870	-45.3		253	15.5
200	30	12,322	-55.9		258	19.0
175	30	13,161	-60.9		254	19.4
150	30	14,106	-66.0		261	16.1
125	30	15,200	-69.4		275	12.6
100	30	16,528	-69.3		285	4.7
80	30	17,874	-65.3		92	3.9
70	30	18,696	-62.6		89	7.2
60	30	19,648	-60.0		84	10.7
50	30	20,795	-57.0		83	13.6
40	30	22,218	-54.0		90	15.2
30	30	24,079	-50.3		86	17.9
25	28	25,280	-47.9		89	18.3
20	26	26,762	-45.8		93	18.6
15	11	28,673	-43.6			
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JACKSONVILLE, FLA.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	23.7	90	294	2.5
1000	30	148	23.6	83	282	3.1
950	30	595	22.5	72	276	2.5
900	30	1,066	19.7	69	251	3.1
850	30	1,557	16.6	66	240	1.9
800	30	2,071	13.6	59	222	1.4
750	30	2,610	10.5	52	199	1.9
700	30	3,183	7.1	48	230	2.3
650	30	3,782	3.8	41	249	3.1
600	30	4,435	.0	37	259	4.5
550	30	5,117	- 3.9	35	284	5.2
500	30	5,873	- 8.2	33	272	4.7
450	30	6,678	-13.4		280	6.4
400	30	7,570	-19.3		273	7.4
350	30	8,550	-26.1		267	8.0
300	30	9,646	-34.3		269	9.5
250	30	10,895	-44.1		269	12.8
200	30	12,355	-55.2		284	13.2
175	30	13,195	-61.1		288	14.2
150	30	14,140	-66.5		296	15.0
125	29	15,233	-70.4		304	9.1
100	28	16,556	-69.5		4	4.3
80	28	17,900	-65.7		74	7.8
70	28	18,725	-62.7		73	12.2
60	28	19,675	-59.4		77	15.5
50	28	20,826	-55.7		90	19.0
40	27	22,255	-51.9		99	18.5
30	26	24,137	-48.9		85	16.3
25	25	25,337	-47.8		85	21.2
20	24	26,821	-44.6		90	20.8
15	20	28,768	-40.5		87	20.4
10	6	31,578	-34.6			
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JOHN F. KENNEDY INT. ARPT.NY
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	18.3	70	310	4.3
1000	30	140	17.5	64	315	5.6
950	30	577	16.6	58	314	9.7
900	30	1,038	14.5	55	300	12.2
850	30	1,519	11.7	56	290	15.3
800	30	2,024	9.3	50	287	18.3
750	30	2,557	6.5	42	288	20.6
700	30	3,121	3.4	40	288	22.0
650	30	3,719	[illegible]		286	23.9
600	30	4,356	- 3.2		284	25.8
550	30	5,038	- 7.2		284	28.7
500	30	5,777	-11.7		288	31.5
450	30	6,577	-16.8		290	34.4
400	30	7,451	-22.7		287	38.5
350	30	8,417	-29.6		289	46.2
300	30	9,499	-37.7		288	54.0
250	30	10,730	-47.3		289	54.6
200	30	12,174	-56.8		292	56.3
175	30	13,014	-59.6		294	49.3
150	30	13,973	-61.6		297	40.6
125	30	15,099	-63.1		298	30.9
100	30	16,474	-61.8		294	21.2
80	30	17,862	-59.6		304	10.3
70	30	18,702	-58.0		335	4.7
60	30	19,677	-55.9		40	4.3
50	30	20,843	-54.0		77	7.8
40	30	22,283	-51.6		89	11.1
30	29	24,160	-48.9		88	12.8
25	28	25,367	-47.0		89	18.1
20	24	26,851	-44.2		88	17.5
15	16	28,784	-40.7		97	13.2
10						
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JOHNSTON IS., PACIFIC AREA
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	25.6	79	88	11.7
1000	30	130	24.6	79	88	14.8
950	30	579	21.1	81	90	17.1
900	30	1,046	18.2	79	90	18.8
850	30	1,535	16.1	68	90	17.9
800	30	2,049	13.7	59	89	15.5
750	30	2,586	11.4	42	93	14.0
700	30	3,165	8.3	37	94	11.5
650	30	3,769	4.8	34	97	11.7
600	30	4,421	1.0		96	10.9
550	30	5,110	- 2.9		91	9.3
500	30	5,864	- 7.6		90	7.2
450	30	6,671	-13.0		85	6.4
400	30	7,563	-19.1		64	1.9
350	30	8,543	-26.3		291	2.5
300	30	9,639	-34.7		283	4.1
250	30	10,886	-44.7		262	9.1
200	30	12,339	-56.5		255	14.4
175	30	13,174	-62.8		255	15.7
150	30	14,159	-69.0		251	18.1
125	29	15,189	-72.5		271	11.7
100	29	16,496	-72.7		12	1.4
80	29	17,815	-70.1		79	10.9
70	29	18,612	-67.6		83	15.7
60	29	19,547	-64.3		85	17.3
50	29	20,674	-60.0		88	18.5
40	28	22,080	-56.4		88	23.1
30	26	23,931	-51.7		85	27.2
25	26	25,118	-49.9		89	30.9
20	24	26,584	-47.0		88	37.7
15	20	28,496	-43.8		91	40.4
10	10	31,211	-40.5			
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KEY WEST, FLORIDA
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	3	27.0	81	124	4.3
1000	27	137	26.0	81	125	6.6
950	27	588	22.8	85	138	8.5
900	27	1,059	19.9	78	142	8.4
850	27	1,551	17.2	69	143	7.6
800	27	2,066	14.3	66	152	7.0
750	27	2,603	11.5	61	146	6.0
700	27	3,185	8.4	58	140	5.2
650	27	3,789	5.0	57	133	4.5
600	27	4,444	1.3	56	128	2.9
550	27	5,131	- 2.7	50	107	1.4
500	27	5,890	- 7.1	43	82	.6
450	27	6,698	-12.1	35	195	.4
400	27	7,597	-17.9	33	235	1.7
350	27	8,581	-25.1	35	234	3.9
300	27	9,682	-33.5	31	239	5.6
250	27	10,935	-43.6		234	5.2
200	27	[illegible]	-55.6		250	7.2
175	27	13,234	-61.7		246	6.0
150	27	14,174	-67.8		276	3.9
125	27	15,257	-72.2		320	3.3
100	26	16,569	-71.8		63	6.6
80	26	17,896	-68.1		73	10.3
70	26	18,702	-65.7		78	15.3
60	26	19,645	-62.3		82	19.4
50	26	20,781	-58.5		85	23.1
40	26	22,197	-54.3		90	22.1
30	25	24,058	-49.6		85	21.4
25	24	25,257	-48.0		82	21.2
20	23	26,735	-45.4		85	21.4
15	23	28,668	-42.3		81	21.6
10	22	31,439	-37.5		84	21.8
7	12	33,893	-33.9		92	25.3

KING SALMON, ALASKA
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	7.4	84	178	3.5
1000	30	97	7.9	79	185	2.3
950	30	524	7.6	70	140	1.0
900	30	965	5.3	71	96	2.3
850	30	1,430	3.0	71	100	3.7
800	30	1,919	.4	68	99	4.9
750	30	2,433	- 2.4	65	94	4.5
700	30	2,985	- 5.4	64	92	5.1
650	30	3,556	- 8.6	56	89	5.4
600	30	4,175	-12.3	50	90	6.0
550	30	4,834	-16.4	44	99	4.5
500	30	5,545	-21.2	39	86	3.9
450	30	6,309	-26.8	39	83	3.5
400	30	7,164	-32.9	39	78	1.4
350	30	8,079	-39.9		29	3.1
300	30	9,114	-47.6		35	2.9
250	30	10,308	-52.9		350	3.1
200	30	11,746	-50.5		347	1.6
175	30	12,619	-49.4		5	1.7
150	30	13,629	-49.5		52	.8
125	30	14,822	-50.0		21	.6
100	30	16,279	-50.0		75	1.7
80	30	17,737	-49.8		93	3.7
70	30	18,613	-49.7		91	4.7
60	30	19,621	-49.2		91	7.0
50	30	20,817	-48.7		90	8.5
40	29	22,285	-48.2		90	11.5
30	28	24,182	-47.0		92	14.6
25	27	25,391	-45.9		87	15.2
20	26	26,883	-43.9		86	16.1
15	6	28,818	-41.4			
10						
7						

+ KOROR, CAROLINE IS.
1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	28.5	83	104	2.1
1000	30	88	27.7	83	109	2.1
950	30	538	23.6	82	112	4.1
900	30	1,014	20.5	80	112	5.1
850	30	1,507	17.9	77	104	5.1
800	30	2,025	15.2	75	101	5.8
750	30	2,569	12.5	72	1[illegible]2	7.[illegible]
700	30	3,148	9.6	66	101	8.2
650	30	3,758	6.2	65	102	9.5
600	30	4,414	2.4	64	98	1[illegible].1
550	30	5,111	- 1.5	60	86	7.2
500	30	5,867	- 5.7	56	87	7.6
450	30	6,684	-10.6	53	88	8.7
400	30	7,585	-15.8	45	93	8.5
350	30	8,579	-22.5	37	88	8.[illegible]
300	30	9,692	-30.8		90	8.9
250	30	10,960	-41.1		97	8.0
200	30	12,435	-53.8		82	10.3
175	30	13,279	-61.9		68	12.2
150	30	14,221	-68.5		61	12.6
125	29	15,295	-75.6		69	15.7
100	29	16,574	-76.9		76	17.7
80	29	17,871	-72.4		81	13.0
70	29	18,665	-67.6		87	6.6
60	29	19,602	-63.6		348	.8
50	29	20,732	-59.7		265	5.6
40	28	22,126	-57.9		266	5.6
30	27	23,958	-53.5		87	9.3
25	26	25,135	-51.7		90	25.1
20	21	26,571	-49.[illegible]		90	42.2
15	17	28,476	-45.9		92	61.[illegible]
10	6	31,215	-41.4			
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

	KOTZEBUE, ALASKA 1012 MB						LAKE CHARLES, LA. 1015 MB						LANDER, WYO. 828 MB						LAS VEGAS, NEV. 934 MB						* LIHUE, HAWAII 1014 MB					
					Wind						Wind						Wind						Wind						Wind	
Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	30	5	2.9	89	293	6.8	30	5	21.8	92	124	1.6	30	1,696	9.8	67	230	1.9	30	660	21.2	25	210	8.5	30	36	23.6	79	54	8.5
1000	30	105	4.9	81	295	7.8	30	135	24.0	78	181	3.7	30	97					30	63					30	157	23.0	79	62	10.3
950	30	524	8.4	64	312	5.8	30	588	21.8	71	186	8.9	30	533					30	512					30	599	19.4	87	74	13.0
900	30	974	6.7	57	298	4.5	30	1,052	19.2	65	181	9.3	30	994					30	986	23.0	24	225	9.5	30	1,067	16.3	86	81	12.8
850	30	1,442	4.3	56	292	3.3	30	1,543	16.7	58	166	9.9	30	1,478					30	1,480	20.2	25	246	8.7	30	1,552	14.2	73	82	12.8
800	30	1,933	1.2	57	315	2.3	30	2,058	14.0	52	168	8.2	30	1,985	11.0	52	240	1.6	30	1,999	16.4	27	234	7.6	30	2,063	12.6	52	79	13.2
750	30	2,449	- 2.0	56	282	2.9	30	2,595	11.3	45	173	5.6	30	2,515	7.8	52	260	3.3	30	2,538	12.1	30	220	7.2	30	2,600	11.7	35	79	13.4
700	30	2,996	- 4.9	51	307	3.3	30	3,174	8.1	41	171	4.1	30	3,087	4.0	53	261	6.6	30	3,116	7.4	32	214	7.8	30	3,179	9.6	24	79	10.3
650	30	3,568	- 8.1	45	331	2.9	30	3,780	4.4	37	153	2.7	30	3,679	- .2	55	256	11.7	30	3,716	3.0	33	217	8.9	30	3,782	6.0	24	95	9.7
600	30	4,193	-11.8	40	330	4.9	30	4,430	.6	37	166	2.1	30	4,322	- 4.4	51	255	14.6	30	4,364	- 1.6	30	231	13.4	30	4,441	1.6	26	96	9.3
550	30	4,851	-16.1	39	333	5.8	30	5,121	- 3.6	34	198	1.7	30	4,993	- 8.8	44	255	18.3	30	5,043	- 5.9		241	18.3	30	5,129	- 3.0	24	96	8.0
500	30	5,565	-21.1	36	340	5.8	30	5,871	- 7.9		195	2.9	30	5,735	-13.9	44	252	22.0	30	5,791	-10.6		249	24.1	30	5,885	- 8.1	26	106	6.8
450	30	6,330	-26.8	32	345	4.1	30	6,681	-13.3		259	1.2	30	6,520	-19.5	37	247	25.6	30	6,588	-16.3		250	26.6	30	6,687	-13.8	26	117	5.8
400	30	7,173	-33.1		343	5.6	30	7,571	-19.4		257	1.7	30	7,394	-25.7	36	244	26.2	30	7,469	-22.9		255	32.2	30	7,580	-19.7	26	133	4.5
350	30	8,099	-39.9		343	6.6	30	8,550	-26.2		242	5.6	30	8,347	-33.3		242	29.1	30	8,433	-30.3		255	36.5	30	8,557	-27.2	28	176	4.5
300	30	9,135	-47.4		352	8.2	30	9,647	-34.3		244	8.9	30	9,411	-41.8		241	31.3	29	9,512	-38.9		254	35.0	30	9,648	-35.8	24	209	4.7
250	30	10,322	-53.5		349	8.9	30	10,895	-44.3		236	12.0	30	10,622	-50.8		244	35.2	29	10,738	-48.3		256	38.1	30	10,888	-46.0		244	8.4
200	30	11,766	-50.1		337	6.6	30	12,354	-55.2		240	18.5	30	12,055	-56.4		249	35.0	28	12,181	-57.7		259	39.6	30	12,335	-57.1		246	13.0
175	30	12,640	-49.0		331	5.6	30	13,196	-60.6		246	19.0	30	12,902	-56.6		245	30.7	28	13,017	-60.7		258	39.4	30	13,169	-62.6		246	14.0
150	30	13,653	-48.7		347	4.3	30	14,143	-65.9		256	18.3	30	13,879	-57.3		244	28.0	28	13,974	-61.6		258	34.6	30	14,109	-66.7		245	9.7
125	30	14,851	-48.8		356	3.9	30	15,238	-69.7		269	12.0	30	15,028	-58.4		249	21.2	28	15,099	-63.0		258	25.1	30	15,202	-70.0		232	4.5
100	30	16,319	-48.4		36	4.5	30	16,564	-69.4		261	3.3	30	16,429	-58.3		251	12.6	28	16,470	-63.1		252	14.2	30	16,524	-71.9		106	3.3
80	30	17,790	-47.7		51	6.0	30	17,907	-65.9		76	5.1	30	17,835	-57.8		249	4.5	28	17,852	-60.6		236	4.3	30	17,843	-69.8		87	10.1
70	30	18,679	-47.2		64	7.8	30	18,734	-62.8		82	10.1	30	18,674	-57.0		204	1.6	28	18,684	-60.0		147	1.0	30	18,644	-66.6		91	15.0
60	30	19,694	-46.5		66	8.4	30	19,680	-59.7		90	13.4	30	19,657	-55.7		96	3.1	28	19,649	-58.4		90	4.9	29	19,581	-63.5		91	18.5
50	30	20,907	-45.9		72	9.7	30	20,830	-56.5		85	15.0	30	20,824	-53.5		91	6.2	28	20,802	-55.8		87	10.3	28	20,711	-59.7		90	21.4
40	30	22,394	-45.3		74	13.0	29	22,256	-53.5		87	19.2	30	22,266	-51.6		87	8.2	28	22,232	-52.7		88	11.8	27	22,119	-55.9		88	24.3
30	30	24,317	-44.6		74	13.6	28	24,126	-49.5		89	20.6	30	24,142	-49.2		85	11.8	26	24,105	-49.7		86	18.3	26	23,965	-52.0		85	28.9
25	29	25,542	-43.6		78	15.2	28	25,327	-47.3		91	19.6	29	25,345	-47.1		89	13.2	26	25,303	-47.9		88	18.1	26	25,151	-49.9		87	31.9
20	29	27,047	-42.0		74	16.1	28	26,812	-44.6		86	17.7	29	26,832	-44.1		87	16.1	23	26,786	-44.6		88	18.6	25	26,619	-47.1		89	32.8
15	27	29,008	-39.0		72	18.6	24	28,748	-41.5		80	20.8	23	28,773	-40.9		92	18.3	10	28,716	-41.9				24	28,541	-44.0		88	30.9
10	13	31,784	-34.5				12	31,553	-36.0				8	31,546	-36.0										19	31,271	-40.4		87	28.0
7	5	34,187	-34.1																						11	33,752	-36.4		91	26.8
5																									9	36,077	-34.6			

	LITTLE ROCK, ARK. 1007 MB						MCGRATH, ALASKA 999 MB						MAJURO, MARSHALL IS. + 1010 MB						* MARCUS IS., N. PACIFIC 1012 MB						MEDFORD, OREG. 969 MB					
SURFACE	30	79	20.9	86	216	1.4	30	103	10.5	80	285	2.7	30	3	28.3	79	88	8.0	30	9	26.3	81	84	4.9	30	401	10.9	82	300	1.7
1000	30	138	21.5	82	226	1.9	30	90			324	3.9	30	92	27.1	78	88	9.1	30	115	25.3	81	88	5.2	30	135				
950	30	586	21.7	69	225	10.9	30	518	11.5	62	303	2.3	30	536	23.4	77	93	11.8	30	562	21.5	85	90	5.1	30	569	12.3	70	303	2.5
900	30	1,053	18.8	70	227	11.5	30	970	8.9	63	289	1.0	30	1,016	20.6	75	96	13.2	30	1,034	19.4	73	75	5.1	30	1,019	10.5	69	314	2.7
850	30	1,543	15.8	66	226	13.0	30	1,441	5.7	67	132	1.4	30	1,509	17.9	73	99	14.2	30	1,525	17.7	62	89	3.7	30	1,493	8.3	70	274	1.7
800	30	2,056	13.0	58	219	11.8	30	1,934	2.4	72	107	1.6	30	2,027	15.3	70	102	14.2	30	2,043	15.5	54	79	2.7	30	1,992	6.0	62	229	2.9
750	30	2,591	10.5	49	222	10.7	30	2,448	- 1.1	73	101	1.7	30	2,569	12.7	65	102	13.6	30	2,585	12.8	50	81	2.3	30	2,516	3.5	51	249	6.4
700	30	3,170	7.1	50	233	9.3	30	2,999	- 4.5	73	96	1.9	30	3,150	9.6	64	95	12.8	30	3,165	9.7	46	76	2.7	30	3,075	.3	50	252	9.5
650	30	3,772	3.5	44	246	8.5	30	3,573	- 7.7	62	72	1.4	30	3,760	6.1	57	95	11.5	30	3,773	6.1	44	14	1.0	30	3,663	- 3.0	42	258	11.1
600	30	4,421	- .7	41	245	7.6	30	4,199	-11.3	59	57	1.7	29	4,413	2.4	58	92	11.1	30	4,429	2.2	43	303	1.2	30	4,296	- 6.8	42	265	14.8
550	30	5,103	- 5.0	38	248	9.7	30	4,854	-15.3	55	156	.8	29	5,108	- 1.4	57	99	8.9	30	5,120	- 1.8	40	333	1.7	30	4,967	-11.0		257	16.3
500	30	5,856	- 9.3		254	12.0	30	5,575	-20.3	52	345	.6	29	5,866	- 5.5	48	113	7.0	30	5,880	- 6.2	38	3	.6	30	5,695	-15.9		255	19.4
450	30	6,657	-14.8		257	11.1	30	6,335	-26.0	50	205	.8	29	6,685	-10.4	40	105	6.4	30	6,690	-11.4	41	93	1.2	30	6,475	-21.4	35	252	22.3
400	30	7,546	-20.6		261	13.8	30	7,189	-32.7	49	15	.8	29	7,583	-16.0	40	82	3.9	30	7,590	-17.6	39	105	1.2	30	7,340	-27.5	35	257	25.6
350	30	8,520	-27.6		264	18.3	30	8,115	-39.8		341	1.4	29	8,576	-22.8	37	120	2.7	30	8,576	-24.5	34	57	3.3	30	8,287	-34.6		263	28.6
300	30	9,611	-35.9		262	21.8	29	9,152	-47.6		332	1.2	29	9,688	-31.3		237	.8	30	9,681	-32.8	30	53	5.8	30	9,346	-42.5		269	34.0
250	30	10,853	-45.4		263	25.4	29	10,338	-53.5		308	2.5	29	10,952	-41.5		268	4.9	30	10,937	-43.0		40	8.4	30	10,556	-50.4		271	36.7
200	30	12,307	-56.1		261	27.8	29	11,780	-50.2		348	3.9	29	12,425	-54.1		267	11.3	30	12,402	-55.1		42	12.2	30	11,991	-55.7		265	37.7
175	30	13,146	-60.8		258	27.2	29	12,655	-48.9		3	2.7	29	13,268	-61.1		269	15.0	30	13,242	-61.6		41	12.2	30	12,841	-55.8		262	33.6
150	30	14,097	-64.7		263	25.3	29	13,667	-49.1		27	2.7	29	14,208	-68.5		270	17.1	30	14,182	-68.4		42	13.0	30	13,823	-55.9		257	28.4
125	29	15,198	-67.6		269	17.7	29	14,862	-49.4		34	2.9	29	15,283	-75.0		264	13.0	27	15,260	-73.6		42	12.8	30	14,980	-56.9		258	22.3
100	29	16,540	-67.3		282	6.8	28	16,323	-49.3		50	4.5	28	16,570	-76.7		275	8.7	25	16,559	-75.3		63	12.4	30	16,393	-57.1		249	14.6
80	27	17,898	-64.0		335	.8	28	17,789	-48.5		75	5.4	28	17,873	-70.9		9	1.9	21	17,856	-72.0		84	12.8	28	17,811	-56.6		245	6.8
70	27	18,728	-61.2		59	5.1	28	18,670	-48.1		74	6.2	28	18,672	-66.0		78	.8	20	18,649	-67.8		83	14.6	28	18,658	-56.6		205	2.9
60	27	19,684	-58.9		79	9.1	28	19,685	-47.5		75	7.2	28	19,615	-62.5		239	2.5	19	19,585	-63.1		87	17.1	28	19,636	-56.1		110	2.5
50	27	20,835	-56.1		91	10.9	28	20,891	-46.8		76	8.7	27	20,746	-60.0		255	8.5	17	20,712	-59.3		86	19.6	28	20,800	-54.3		84	6.0
40	27	22,262	-53.2		92	12.2	28	22,373	-46.1		81	11.1	26	22,147	-57.1		259	9.7	17	22,122	-55.8		89	22.9	28	22,237	-52.3		86	10.3
30	25	24,132	-50.2		84	14.8	27	24,284	-45.5		79	13.4	24	23,985	-53.0		85	10.3	17	23,972	-51.7		81	28.9	28	24,108	-49.7		87	13.8
25	25	25,325	-48.5		84	18.1	26	25,504	-44.6		81	15.3	24	25,170	-50.4		96	26.2	17	25,161	-49.7		85	29.9	28	25,305	-47.8		85	14.2
20	23	26,805	-45.3		86	17.7	24	27,006	-42.8		84	18.1	23	26,631	-48.2		92	42.3	16	26,626	-47.2		90	31.3	28	26,788	-44.9		85	16.7
15	19	28,740	-42.2		83	16.7	21	28,953	-40.3		80	18.6	19	28,548	-44.0		92	57.5	16	28,546	-43.8		97	24.9	28	28,724	-41.5		84	20.0
10	11	31,481	-39.2				11	31,750	-36.1				9	31,293	-39.9				16	31,292	-40.6		88	24.1	25	31,508	-36.2		90	23.9
7																			16	33,738	-37.3		85	21.8	14	33,924	-33.2		87	21.8
5																			8	36,097	-34.6				10	36,263	-30.0			
4																			6	37,689	-32.6									

	MERIDA, MEXICO 1014 MB						* MIAMI, FLA. 1016 MB						* MIDLAND, TEXAS 914 MB						MONTGOMERY, ALA. 1010 MB						NANTUCKET, MASS. 1013 MB					
SURFACE	30	11	23.5	95	104	4.7	30	4	24.9	88	48	1.0	30	874	20.8	64	170	7.2	30	61	22.1	92	339	.6	25	14	15.4	84	270	5.1
1000	30	132	24.0	90	107	9.1	30	142	25.2	82	136	2.7	30	85					30	147	22.4	88	256	1.6	25	121	15.7	78	268	7.4
950	30	581	22.5	82	125	15.3	30	590	22.2	81	160	6.6	30	537					30	594	22.4	73	234	3.3	25	554	15.4	65	293	13.0
900	30	1,052	20.3	75	124	14.4	30	1,062	19.5	70	162	5.6	30	1,008	21.7	58	175	12.0	30	1,064	19.9	69	199	3.7	25	1,015	13.4	58	293	14.8
850	30	1,545	17.7	67	121	12.8	30	1,553	16.6	68	158	4.9	30	1,503	19.6	58	194	22.9	30	1,555	16.7	70	192	4.7	25	1,495	10.6	59	287	16.9
800	30	2,062	14.9	63	115	11.1	30	2,068	13.9	63	156	3.5	30	2,024	17.6	46	216	14.2	30	2,069	13.3	69	186	4.9	25	1,998	8.2	52	285	19.0
750	30	2,597	12.0	57	110	9.7	30	2,606	11.0	59	141	3.7	30	2,569	14.0	45	234	7.4	30	2,609	10.1	65	220	4.7	25	2,526	6.0	44	281	22.7
700	30	3,182	8.6	59	102	9.1	30	3,184	7.8	55	131	3.1	30	3,151	9.8	43	269	3.5	30	3,181	7.2	55	223	3.7	25	3,092	2.9	40	282	24.5
650	30	3,784	5.0	59	106	9.5	30	3,786	4.4	53	126	2.5	30	3,757	5.6	39	300	2.7	30	3,782	3.9	51	254	4.3	25	3,685	- .4		278	26.0
600	30	4,441	1.6	50	105	10.1	30	4,440	.8	50	150	1.9	30	4,411	.7	42	280	2.5	30	4,434	.0	46	255	4.3	25	4,325	- 4.0		282	29.5
550	30	5,127	- 2.4	51	98	9.3	30	5,129	- 3.2	46	131	1.0	30	5,100	- 4.1	36	281	2.3	30	5,120	- 3.8	44	257	5.1	25	5,000	- 7.8		278	30.3
500	30	5,890	- 6.6	45	96	8.5	30	5,885	- 7.4	40	46	1.6	30	5,850	- 8.9	37	260	5.6	30	5,873	- 8.2		260	6.6	25	5,743	-12.3		277	32.4
450	30	6,699	-11.7	41	97	7.6	30	6,692	-12.7	37	347	1.4	30	6,655	-14.1	33	262	8.5	30	6,679	-13.4		258	8.2	25	6,534	-17.7		278	34.8
400	30	7,600	-17.3	34	82	3.3	30	7,589	-18.5	33	282	3.5	30	7,542	-20.5	32	261	12.4	30	7,570	-19.4		264	7.4	25	7,413	-23.7		279	40.6
350	30	8,588	-23.9	32	94	2.5	30	8,572	-25.4	30	265	4.5	30	8,516	-27.4	30	267	18.8	30	8,549	-26.3		265	10.5	25	8,376	-30.0		281	45.6
300	30	9,695	-32.4		319	2.1	30	9,672	-33.8	29	249	5.6	30	9,606	-35.8	29	265	23.5	30	9,645	-34.7		263	11.1	25	9,456	-37.7		279	49.3
250	30	10,953	-42.6		284	5.1	30	10,924	-43.8		275	5.4	30	10,846	-45.9		264	28.7	30	10,893	-44.6		257	14.2	25	10,689	-46.7		285	56.5
200	30	12,421	-54.6		279	9.1	30	12,384	-55.6		297	5.2	30	12,293	-57.0		263	33.4	30	12,350	-55.7		256	17.5	25	12,137	-55.6		286	56.9
175	30	13,263	-61.0		283	11.1	30	13,223	-61.8		316	7.2	30	13,129	-61.7		261	31.9	30	13,191	-61.0		265	16.1	25	12,982	-58.7		287	49.5
150	30	14,206	-67.8		300	8.4	30	14,163	-68.1		323	8.5	30	14,073	-66.0		258	30.3	30	14,137	-66.4		272	13.8	25	13,945	-60.9		290	42.5
125	30	15,286	-73.1		2	1.9	30	15,244	-72.7		344	7.4	30	15,169	-69.4		257	24.1	30	15,231	-69.8		281	10.5	25	15,074	-61.6		284	31.5
100	30	16,590	-73.5		58	11.3	30	16,553	-72.1		46	7.0	30	16,499	-69.1		250	15.7	30	16,560	-68.8		303	4.9	25	16,459	-60.4		279	21.6
80	30	17,914	-68.2		88	16.9	30	17,879	-68.3		71	11.8	30	17,842	-65.3		188	2.5	30	17,905	-65.4		65	3.7	25	17,854	-58.3		277	10.3
70	30	18,721	-65.7		93	18.6	30	18,693	-65.4		76	16.3	30	18,668	-62.8		107	7.6	30	18,727	-63.2		79	6.4	25	18,701	-56.6		283	4.7
60	30	19,664	-61.8		95	21.6	30	19,632	-61.8		84	20.8	30	19,614	-60.3		102	10.5	30	19,676	-59.9		78	9.1	25	19,679	-54.8		32	1.0
50	30	20,807	-57.1		94	22.9	30	20,773	-57.6		91	25.1	30	20,759	-57.2		97	13.8	30	20,824	-56.5		94	11.8	25	20,849	-53.3		86	5.4
40	29	22,228	-53.7		90	27.4	29	22,196	-53.5		100	24.9	30	22,179	-54.5		92	17.1	30	22,250	-53.2		89	13.0	25	22,293	-51.0		93	8.7
30	28	24,099	-49.0		95	29.7	29	24,061	-49.8		94	23.5	30	24,034	-51.1		92	19.4	30	24,115	-50.2		85	15.5	25	24,174	-48.4		91	15.7
25	27	25,301	-46.9		91	31.5	29	25,260	-47.4		84	22.3	30	25,224	-49.5		96	19.0	27	25,307	-48.0		88	18.1	25	25,379	-46.4		86	15.9
20	26	26,788	-44.0		89	32.4	27	26,738	-45.3		83	22.0	29	26,690	-47.3		90	17.1	25	26,786	-45.3		89	17.5	25	26,870	-43.5		88	17.7
15	18	28,738	-40.8		92	35.0	26	28,668	-43.1		85	20.4	29	28,604	-44.3		87	20.2	17	28,711	-43.5		85	20.2	21	28,825	-39.6		79	20.0
10	9	31,513	-37.7				20	31,433	-37.9		94	15.2	13	31,346	-39.2				8	31,479	-37.8				7	31,667	-33.8			
7																									6	34,211	-29.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NASHVILLE, TENN.
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	177	19.9	88	118	2.1
1000	30	144				
950	30	589	21.7	67	223	7.8
900	30	1,057	19.0	65	250	9.1
850	30	1,546	15.5	71	266	8.9
800	30	2,058	12.2	67	262	8.7
750	30	2,592	9.3	55	258	9.5
700	30	3,166	6.2	44	256	9.5
650	30	3,767	2.8	39	257	8.7
600	30	4,413	- 1.1	33	251	9.9
550	30	5,095	- 5.3		256	9.7
500	30	5,844	- 9.7		260	13.2
450	30	6,644	-14.9		264	16.3
400	30	7,531	-20.8		265	18.6
350	30	8,504	-27.7		262	23.7
300	30	9,593	-35.9		263	29.1
250	30	10,834	-45.6		265	34.4
200	30	12,284	-56.5		271	36.1
175	30	13,122	-60.7		272	32.4
150	30	14,071	-64.8		273	28.6
125	30	15,173	-68.0		275	23.3
100	30	16,516	-66.4		278	13.4
80	30	17,873	-64.0		295	5.2
70	30	18,701	-61.6		33	1.7
60	30	19,655	-59.3		68	5.1
50	30	20,804	-56.5		89	8.4
40	30	22,231	-53.1		84	10.5
30	29	24,092	-50.4		82	12.2
25	29	25,287	-48.5		85	14.2
20	29	26,761	-46.3		87	16.3
15	28	28,680	-43.6		85	16.7
10	23	31,436	-38.7		92	21.0
7	7	33,862	-35.9			

NOME, ALASKA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	6.3	77	343	5.2
1000	30	108	8.8	66	352	5.8
950	30	531	9.5	57	20	3.7
900	30	982	7.1	57	24	2.9
850	30	1,450	4.3	56	3	2.3
800	30	1,941	1.4	55	8	1.7
750	30	2,456	- 1.5	53	21	2.1
700	30	3,005	- 4.4	54	13	3.1
650	30	3,581	- 7.8	51	14	2.5
600	30	4,205	-11.5	50	7	2.5
550	30	4,859	-15.7	44	11	3.3
500	30	5,580	-20.7	40	4	4.5
450	30	6,338	-26.2	38	13	5.6
400	30	7,193	-32.5		27	7.6
350	30	8,121	-39.5		21	7.2
300	30	9,158	-47.1		20	8.7
250	29	10,347	-53.4		17	10.1
200	29	11,787	-50.7		16	7.6
175	29	12,660	-49.5		27	4.7
150	29	13,670	-49.3		41	4.5
125	29	14,865	-49.6		40	4.3
100	29	16,326	-49.3		62	4.9
80	29	17,791	-48.5		69	6.4
70	29	18,675	-47.8		74	8.4
60	28	19,691	-46.9		76	9.3
50	28	20,901	-46.2		80	11.3
40	28	22,385	-45.8		80	14.0
30	28	24,301	-45.2		80	15.3
25	28	25,520	-44.1		81	17.3
20	27	27,025	-42.5		81	19.0
15	21	28,979	-39.4		80	19.8
10						
7						

NORFOLK, VA.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	9	19.9	82	194	1.4
1000	30	147	20.8	66	229	2.3
950	30	588	19.2	59	298	4.7
900	30	1,054	16.7	55	303	6.0
850	30	1,540	14.1	52	295	9.7
800	30	2,049	11.2	52	289	11.7
750	30	2,582	8.3	47	286	12.6
700	30	3,154	5.3	40	287	15.2
650	30	3,753	2.0	39	287	16.5
600	30	4,399	- 1.6	38	286	18.3
550	30	5,077	- 5.4	35	283	19.2
500	30	5,830	- 9.7	30	281	19.6
450	30	6,630	-14.9		286	22.5
400	30	7,518	-20.8		282	25.8
350	30	8,491	-27.7		283	29.5
300	30	9,581	-36.1		281	29.7
250	30	10,820	-45.9		278	34.2
200	30	12,267	-56.4		283	40.2
175	30	13,105	-61.1		290	42.0
150	30	14,053	-64.9		296	36.3
125	30	15,160	-66.1		298	25.1
100	30	16,515	-65.2		300	14.0
80	30	17,885	-61.7		319	6.4
70	30	18,721	-59.8		6	4.3
60	30	19,685	-57.4		63	8.4
50	29	20,843	-54.8		85	11.7
40	29	22,280	-51.6		91	14.6
30	29	24,163	-48.4		89	15.5
25	28	25,370	-46.6		88	16.5
20	25	26,961	-44.1		89	19.4
15	9	28,800	-40.4			
10						
7						

NORTH PLATTE, NEBR.
915 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	848	13.4	83	137	1.7
1000	30	87				
950	30	526				
900	30	984	15.2	72	176	4.5
850	30	1,470	15.5	58	212	11.7
800	30	1,983	13.8	48	235	10.1
750	30	2,523	10.6	47	255	10.7
700	30	3,095	6.8	45	261	12.6
650	30	3,702	3.1	43	261	14.8
600	30	4,342	- 1.7	47	261	17.5
550	30	5,023	- 6.7	45	254	18.5
500	30	5,766	-11.8	36	259	21.2
450	30	6,563	-17.1		263	23.3
400	30	7,438	-23.4		259	26.2
350	30	8,400	-30.6		251	29.7
300	30	9,477	-38.9		251	30.1
250	30	10,702	-48.1		247	33.6
200	30	12,143	-56.5		246	41.0
175	30	12,984	-59.4		245	41.4
150	30	13,946	-60.5		250	38.7
125	30	15,079	-61.4		254	23.7
100	30	16,462	-61.5		257	12.0
80	30	17,848	-59.4		254	4.7
70	29	18,688	-58.1		230	2.5
60	29	19,659	-56.7		100	1.7
50	27	20,818	-54.5		84	4.7
40	27	22,254	-52.5		89	9.1
30	27	24,125	-49.5		90	12.6
25	27	25,322	-48.3		89	13.4
20	26	26,800	-46.0		92	15.0
15	25	28,730	-42.6		88	17.5
10	21	31,484	-38.6		87	22.3
7	13	33,935	-36.0			

*** OAKLAND, CALIF.**
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	12.4	85	273	5.6
1000	30	118	12.1	84	265	5.6
950	30	555	12.3	66	284	6.8
900	30	1,004	14.7	44	307	11.1
850	30	1,487	13.2	39	306	10.5
800	30	1,994	10.7	39	291	9.1
750	30	2,522	7.5	41	276	8.7
700	30	3,095	4.3	39	268	10.7
650	30	3,688	.9	41	268	11.8
600	30	4,334	- 3.2	42	269	15.2
550	30	5,007	- 7.3	39	265	19.4
500	30	5,755	-12.2	35	268	23.5
450	30	6,547	-17.6	32	271	27.6
400	30	7,426	-23.8	34	272	32.2
350	30	8,387	-31.1	33	275	35.[illegible]
300	30	9,461	-39.8	35	275	38.5
250	30	10,683	-49.1		276	41.8
200	30	12,118	-57.6		274	44.1
175	30	12,956	-59.9		275	41.6
150	30	13,919	-60.0		267	36.9
125	30	15,053	-61.2		266	27.8
100	29	16,439	-60.9		265	16.5
80	29	17,831	-59.7		259	7.8
70	29	18,666	-59.0		250	2.1
60	29	19,637	-57.8		88	2.3
50	29	20,793	-55.7		96	7.0
40	28	22,219	-53.7		88	9.5
30	27	24,082	-50.5		88	12.6
25	26	25,276	-48.4		80	14.6
20	24	26,749	-46.3		89	16.7
15	22	28,674	-42.7		92	18.1
10	13	31,426	-37.9		84	21.8
7						

OKLAHOMA CITY, OKLA.
968 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	392	20.2	82	171	6.8
1000	30	109				
950	30	554	21.4	72	184	11.8
900	30	1,023	19.9	62	211	20.4
850	30	1,515	18.1	55	226	18.6
800	30	2,032	15.0	51	232	13.4
750	30	2,573	11.8	46	238	12.0
700	30	3,150	8.1	42	243	11.1
650	30	3,754	4.0	39	249	10.3
600	30	4,404	- .5	37	259	10.9
550	30	5,085	- 5.1		259	11.5
500	30	5,836	-10.1		259	13.0
450	30	6,637	-15.1		256	16.3
400	30	7,522	-21.4		259	17.7
350	29	8,492	-28.6		257	19.6
300	29	9,578	-36.9		259	23.7
250	29	10,814	-46.5		255	29.7
200	28	12,269	-56.3		254	34.6
175	28	13,107	-61.0		256	33.2
150	28	14,056	-64.8		255	30.3
125	28	15,160	-67.5		258	23.5
100	28	16,504	-67.3		257	13.2
80	28	17,861	-63.4		214	3.3
70	28	18,689	-61.1		97	3.1
60	28	19,646	-59.2		86	8.4
50	28	20,796	-56.3		94	10.3
40	28	22,221	-53.7		86	13.6
30	28	24,082	-50.7		79	16.9
25	28	25,274	-48.8		85	17.9
20	25	26,751	-46.1		80	18.8
15	11	28,664	-42.6			
10						
7						
5						

OMAHA, NEBR.
966 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	403	16.9	83	149	3.7
1000	30	104				
950	30	541	18.3	72	166	6.4
900	30	1,008	17.2	62	199	10.5
850	30	1,494	14.9	56	221	11.3
800	30	2,006	12.6	47	231	12.0
750	30	2,537	9.5	43	238	11.8
700	30	3,114	5.8	48	241	12.8
650	30	3,710	1.9	45	246	15.2
600	30	4,358	- 2.1	40	255	17.9
550	30	5,037	- 6.7	40	255	20.0
500	30	5,782	-11.8		260	22.7
450	30	6,576	-17.1		261	22.9
400	30	7,456	-23.1		263	25.8
350	30	8,421	-30.1		262	28.2
300	30	9,500	-38.2		259	31.1
250	30	10,731	-47.5		258	35.0
200	30	12,174	-56.4		260	44.3
175	30	13,015	-59.6		260	43.1
150	30	13,975	-61.2		262	37.1
125	30	15,103	-62.7		263	23.7
100	30	16,479	-61.9		265	14.4
80	30	17,868	-59.6		277	5.2
70	30	18,707	-58.4		321	2.7
60	30	19,678	-56.6		56	4.1
50	30	20,840	-54.2		79	7.0
40	28	22,282	-52.2		92	9.3
30	28	24,154	-49.6		90	13.6
25	27	25,349	-48.1		95	14.0
20	26	26,825	-45.7		95	15.5
15	20	28,748	-42.1		91	16.5
10	6	31,538	-37.8			
7						
5						

PEORIA, ILL.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	200	17.2	86	151	1.6
1000	30	129				
950	30	571	19.1	63	211	6.0
900	30	1,035	17.1	61	245	8.7
850	30	1,522	14.6	58	255	11.3
800	30	2,032	11.6	55	253	11.8
750	30	2,567	8.4	50	251	12.6
700	30	3,136	4.8	49	251	14.8
650	30	3,731	1.2	42	252	15.5
600	30	4,376	- 2.4	37	260	19.2
550	30	5,056	- 6.6	35	260	20.4
500	30	5,800	-11.3	33	262	23.1
450	30	6,597	-16.6		267	24.7
400	30	7,475	-22.8		270	27.6
350	30	8,440	-30.0		269	29.1
300	30	9,520	-38.0		272	30.3
250	30	10,751	-46.9		272	35.9
200	30	12,199	-55.9		270	41.8
175	30	13,041	-59.5		267	41.0
150	30	13,999	-61.9		269	35.7
125	30	15,121	-63.8		270	28.0
100	30	16,491	-62.5		272	15.0
80	30	17,873	-60.6		277	6.4
70	30	18,712	-59.0		321	2.7
60	30	19,680	-56.7		60	3.5
50	30	20,843	-54.3		77	7.4
40	30	22,282	-52.1		88	11.7
30	30	24,158	-49.1		91	13.4
25	30	25,359	-47.6		90	15.0
20	30	26,842	-44.9		85	17.1
15	30	28,780	-41.7		88	19.6
10	28	31,561	-36.4		90	26.0
7	22	34,073	-31.8		92	25.6
5	14	36,446	-27.7			

PITTSBURGH, PA.
975 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	353	15.4	89	219	1.6
1000	30	143				
950	30	580	16.6	73	243	4.1
900	30	1,040	14.8	66	278	9.7
850	30	1,523	12.8	59	283	13.8
800	30	2,030	9.9	61	285	15.7
750	30	2,564	7.3	53	282	19.0
700	30	3,130	4.0	50	284	21.0
650	30	3,724	.4	53	285	21.6
600	30	4,367	- 3.3	49	285	24.1
550	30	5,043	- 7.2	43	284	25.8
500	30	5,787	-11.9	40	282	28.9
450	30	6,582	-17.0		284	30.7
400	30	7,460	-22.8	37	283	34.2
350	30	8,425	-29.8		281	37.7
300	30	9,507	-37.6		281	42.0
250	30	10,740	-46.8		280	45.6
200	30	12,187	-56.2		282	45.8
175	30	13,028	-59.8		285	45.8
150	30	13,986	-62.2		286	38.9
125	29	15,100	-63.6		284	28.2
100	29	16,471	-62.5		286	16.5
80	29	17,854	-60.4		301	9.1
70	29	18,697	-58.2		315	5.1
60	29	19,665	-55.9		47	3.3
50	29	20,832	-53.6		76	7.8
40	29	22,274	-51.4		81	10.7
30	27	24,151	-48.6		80	12.8
25	27	25,356	-46.8		84	15.3
20	27	26,844	-44.5		86	16.7
15	25	28,785	-40.7		83	19.6
10	15	31,566	-35.9		96	21.8
7	5	34,032	-31.9			
5						

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	28.0	81	73	4.5
1000	30	81	27.5	81	76	5.8
950	30	530	23.9	82	87	9.7
900	30	1,007	20.8	82	90	13.0
850	30	1,501	18.1	79	91	13.6
800	30	2,020	15.5	75	88	12.0
750	30	2,564	12.8	69	91	10.5
700	30	3,145	9.6	67	93	12.4
650	30	3,754	6.2	67	93	13.0
600	30	4,411	2.5	67	93	13.2
550	30	5,107	- 1.3	63	94	11.7
500	30	5,867	- 5.3	58	85	8.5
450	30	6,684	-10.3	50	84	8.7
400	30	7,588	-15.7	47	94	6.8
350	30	8,582	-22.5	42	97	3.1
300	30	9,695	-30.9		151	1.7
250	30	10,961	-41.1		223	3.9
200	30	12,438	-53.6		241	5.4
175	30	13,283	-60.6		254	7.8
150	30	14,226	-68.0		267	9.5
125	30	15,302	-74.8		289	5.6
100	29	16,583	-77.5		59	3.3
80	29	17,883	-70.3		64	4.5
70	28	18,681	-66.6		71	1.6
60	27	19,621	-63.0		208	4.7
50	24	20,747	-59.9		259	8.9
40	22	22,148	-56.8		284	8.9
30	16	23,975	-53.4		94	12.4
25	13	25,150	-51.5		94	28.9
20	10	26,600	-48.7			
15	5	28,504	-46.0			
10						
7						
5						

PORTLAND, ME.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	20	15.4	76	280	3.9
1000	30	117	15.1	69	284	4.9
950	30	552	14.4	61	306	9.3
900	30	1,007	12.3	58	316	11.8
850	30	1,484	9.5	56	314	13.6
800	30	1,985	6.8	51	301	15.2
750	30	2,512	4.4	42	292	20.6
700	30	3,072	1.6	36	290	23.9
650	30	3,661	- 1.6	31	287	25.6
600	30	4,299	- 5.6		285	27.0
550	30	4,970	-10.1		285	29.3
500	30	5,704	-14.8		287	34.4
450	30	6,487	-19.9		287	37.1
400	30	7,359	-26.0		286	41.2
350	30	8,313	-32.6		286	46.4
300	30	9,382	-40.0		286	53.2
250	30	10,605	-47.8		288	55.2
200	30	12,055	-54.3		289	55.4
175	30	12,907	-55.9		290	50.5
150	30	13,884	-57.5		287	40.4
125	30	15,032	-58.1		286	32.2
100	30	16,438	-57.6		287	21.0
80	29	17,852	-55.8		288	8.7
70	29	18,707	-54.9		315	3.7
60	29	19,691	-53.4		59	2.9
50	29	20,869	-51.7		72	4.1
40	29	22,320	-49.9		89	8.2
30	27	24,205	-47.6		91	11.5
25	25	25,419	-45.9		88	15.7
20	23	26,913	-43.1		86	17.7
15	15	28,883	-39.2		91	21.0
10	12	31,690	-32.6		94	26.4
7	8	34,239	-26.9			

RAPID CITY, S. DAK.
902 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	966	12.7	81	305	2.3
1000	30	88				
950	30	526				
900	30	984			263	1.9
850	30	1,469	14.7	57	266	4.3
800	30	1,980	12.0	53	266	5.1
750	30	2,514	8.7	49	275	6.6
700	30	3,085	4.9	52	269	7.8
650	30	3,678	.6	52	262	11.7
600	30	4,323	- 3.6	48	257	15.5
550	30	4,998	- 8.3	44	259	19.6
500	30	5,739	-13.1	42	260	22.9
450	30	6,529	-18.8	41	256	24.7
400	30	7,401	-25.2	37	253	27.0
350	30	8,356	-32.5		251	30.3
300	30	9,423	-41.0		248	32.4
250	30	10,637	-50.1		244	35.9
200	30	12,068	-57.1		248	36.5
175	30	12,911	-57.8		247	36.1
150	30	13,883	-57.6		250	31.1
125	30	15,032	-58.5		258	21.8
100	30	16,434	-58.6		260	13.2
80	30	17,841	-57.2		258	4.3
70	30	18,690	-56.7		204	.8
60	30	19,666	-55.2		72	2.7
50	30	20,936	-53.0		72	6.8
40	30	22,280	-51.3		79	8.9
30	30	24,163	-48.2		81	14.6
25	30	25,369	-46.4		84	16.9
20	29	26,862	-43.4		90	19.2
15	19	28,803	-39.5		83	20.6
10	5	31,516	-33.4			
7						

ST. CLOUD, MINN.
975 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	316	14.0	83	191	2.9
1000	30	99				
950	30	537	16.1	67	216	5.6
900	30	993	14.6	60	243	10.7
850	30	1,476	12.7	54	255	13.4
800	30	1,982	10.0	49	258	15.3
750	30	2,511	6.5	49	265	17.9
700	30	3,079	3.1	45	266	18.8
650	30	3,670	- .6	42	267	21.4
600	30	4,311	- 4.5		270	23.3
550	30	4,984	- 8.9		273	26.2
500	30	5,722	-14.1		273	28.0
450	30	6,511	-19.3		278	29.3
400	30	7,380	-25.5		276	31.5
350	30	8,335	-32.6		274	36.9
300	30	9,404	-40.3		267	41.8
250	30	10,626	-48.5		267	47.8
200	30	12,066	-56.2		268	53.0
175	30	12,911	-57.6		272	49.3
150	30	13,882	-58.6		273	37.7
125	30	15,028	-58.8		277	25.4
100	30	16,428	-58.5		275	17.1
80	30	17,834	-57.4		291	9.5
70	30	18,687	-56.5		313	6.2
60	30	19,660	-55.2		350	3.1
50	30	20,830	-53.0		51	4.5
40	30	22,276	-51.1		76	8.7
30	30	24,156	-48.4		86	12.4
25	30	25,361	-46.8		90	15.9
20	27	26,840	-44.4		86	15.0
15	15	28,787	-41.7			
10						
7						

ST. PAUL IS., ALASKA
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	4.2	96	13	3.3
1000	30	99	4.5	92	25	4.7
950	30	517	4.2	83	75	5.8
900	30	958	3.8	75	98	6.4
850	30	1,421	2.4	71	105	4.9
800	30	1,910	.3	68	110	5.4
750	30	2,423	- 2.6	69	108	4.5
700	30	2,969	- 5.7	65	119	4.9
650	30	3,548	- 8.6	56	118	6.0
600	30	4,165	-12.1	52	124	5.4
550	30	4,823	-16.4	51	131	4.7
500	30	5,538	-21.2	49	135	5.2
450	30	6,304	-26.8	44	137	5.1
400	29	7,144	-33.3	42	124	7.6
350	29	8,070	-40.1		136	8.0
300	29	9,106	-47.2		131	8.0
250	29	10,299	-51.8		95	4.7
200	29	11,749	-50.3		113	4.1
175	29	12,622	-49.3		97	4.1
150	29	13,632	-49.4		99	3.9
125	29	14,823	-50.4		88	3.3
100	29	16,278	-50.3		88	3.7
80	29	17,734	-50.1		79	4.5
70	29	18,613	-49.9		92	5.2
60	29	19,615	-49.6		87	6.8
50	29	20,809	-49.3		89	9.1
40	29	22,274	-48.6		93	11.3
30	29	24,17[illegible]	-47.6		95	13.4
25	29	25,377	-46.4		93	13.8
20	29	26,865	-44.5		92	16.3
15	25	28,798	-41.9		91	17.5
10	18	31,563	-37.9			
7						

SALEM, OREG.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	10.9	90	238	1.0
1000	30	143	11.2	84	276	1.2
950	30	569	9.7	78	299	2.1
900	30	1,019	8.1	75	248	3.3
850	30	1,490	6.1	69	237	6.0
800	30	1,985	4.1	64	241	8.0
750	30	2,505	2.0	55	246	10.5
700	30	3,063	- 1.2	52	245	12.6
650	30	3,645	- 4.5	48	246	14.2
600	30	4,276	- 8.5	45	243	15.3
550	30	4,940	-12.6	42	247	15.2
500	30	5,668	-17.3	39	241	18.1
450	30	6,442	-23.0	38	247	19.6
400	30	7,302	-28.7		250	20.8
350	30	8,245	-35.5		257	24.7
300	30	9,300	-43.4		257	26.2
250	30	10,504	-51.2		260	30.7
200	30	11,941	-54.2		259	29.3
175	30	12,798	-53.4		257	26.6
150	30	13,789	-53.7		254	23.3
125	30	14,958	-54.8		254	17.1
100	30	16,383	-55.1		249	11.5
80	30	17,809	-54.9		236	5.1
70	30	18,663	-54.9		221	2.9
60	30	19,649	-54.4		129	2.1
50	30	20,821	-52.8		82	4.3
40	30	22,266	-51.2		77	9.1
30	30	24,147	-48.6		89	12.0
25	30	25,351	-46.7		83	13.6
20	28	26,837	-44.2		83	18.1
15	21	28,765	-40.4		86	20.0
10						
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JUNE 1964

SALT LAKE CITY, UTAH
870 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,288	12.1	69	164	5.1
1000	30	107				
950	30	544				
900	30	1,007				
850	30	1,488	14.8	57	162	6.4
800	30	1,999	12.3	52	178	6.2
750	30	2,538	8.8	51	215	7.2
700	30	3,105	4.9	52	233	10.5
650	30	3,705	.3	57	240	14.4
600	30	4,343	- 4.3	58	245	17.9
550	30	5,021	- 9.0	53	244	21.8
500	30	5,755	-13.9	50	242	24.1
450	30	6,548	-19.4	46	241	26.2
400	30	7,413	-25.7	44	243	28.9
350	30	8,367	-32.8	38	242	31.9
300	30	9,433	-41.3		241	35.9
250	30	10,647	-50.0		244	39.8
200	30	12,079	-56.8		249	39.4
175	30	12,923	-57.8		248	35.2
150	30	13,894	-58.2		249	30.9
125	30	15,038	-59.6		248	21.0
100	30	16,431	-60.0		241	12.8
80	30	17,827	-58.8		238	5.6
70	29	18,672	-58.4		232	.6
60	29	19,637	-57.3		99	3.9
50	27	20,789	-55.6		96	6.4
40	27	22,218	-53.4		80	9.5
30	23	24,076	-50.9		85	11.5
25	22	25,267	-49.1		85	12.6
20	20	26,734	-47.1		87	15.9
15	16	28,645	-44.1		85	17.9
10						
7						
5						

SAN ANTONIO, TEXAS
987 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	243	22.3	82	173	3.1
1000	30	124				
950	30	572	21.6	75	171	10.7
900	30	1,040	19.0	71	173	14.4
850	30	1,530	16.8	63	178	13.0
800	30	2,046	14.6	53	179	9.9
750	30	2,587	11.7	48	170	7.0
700	30	3,165	8.8	38	169	3.9
650	30	3,769	5.1	33	175	2.5
600	30	4,424	1.2		111	.4
550	30	5,107	- 3.3		334	1.4
500	30	5,868	- 8.0		350	2.7
450	30	6,675	-13.5		306	1.9
400	30	7,567	-19.7		296	3.9
350	30	8,544	-26.6		276	5.8
300	30	9,639	-34.9		266	8.2
250	29	10,887	-44.7		269	12.8
200	29	12,344	-56.0		270	16.7
175	29	13,183	-61.2		260	19.2
150	29	14,129	-66.4		253	17.3
125	29	15,220	-70.6		253	12.8
100	29	16,541	-71.1		250	5.2
80	29	17,874	-66.6		83	6.4
70	29	18,691	-64.3		88	10.7
60	29	19,636	-61.3		95	13.0
50	29	20,777	-57.7		88	15.5
40	28	22,195	-54.5		87	18.3
30	28	24,052	-50.8		84	20.2
25	28	25,244	-48.9		88	20.2
20	28	26,716	-46.8		86	18.8
15	24	28,640	-43.4		83	19.2
10	10	31,395	-37.9			
7						
5						

SAN DIEGO, CALIF.
999 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	124	14.3	88	186	1.7
1000	30	112			33	1.0
950	30	546	13.1	76	189	1.2
900	30	1,002	15.6	53	286	3.5
850	30	1,489	16.6	36	290	8.2
800	30	2,003	14.7	28	279	8.9
750	30	2,539	12.1	23	273	8.2
700	30	3,121	8.7	24	259	8.9
650	30	3,724	5.4		259	11.7
600	30	4,380	1.2		256	13.6
550	30	5,064	- 3.5		258	15.3
500	30	5,822	- 8.5		263	17.1
450	30	6,624	-14.3		265	20.2
400	30	7,515	-21.1		264	22.1
350	30	8,486	-28.5		266	22.7
300	30	9,572	-37.3		268	25.1
250	30	10,806	-47.1		271	28.2
200	30	12,250	-56.9		270	33.8
175	30	13,088	-61.0		266	33.4
150	30	14,037	-64.5		262	33.8
125	30	15,148	-65.1		261	28.0
100	29	16,509	-65.2		259	15.0
80	29	17,875	-62.6		249	4.9
70	29	18,702	-61.7		141	2.3
60	29	19,659	-59.6		97	6.6
50	29	20,807	-56.6		92	8.5
40	28	22,232	-53.6		88	13.0
30	28	24,096	-50.2		86	16.7
25	26	25,288	-48.5		92	15.9
20	25	26,764	-45.8		93	16.5
15	16	28,688	-42.0		91	17.7
10						
7						
5						

* SAN JUAN, P. R.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	6	26.3	79	114	4.3
1000	30	143	25.3	75	102	11.3
950	30	590	21.9	77	98	19.6
900	30	1,062	18.9	72	102	20.0
850	30	1,551	16.1	65	102	20.4
800	30	2,065	13.8	55	101	20.0
750	30	2,602	10.9	48	101	17.1
700	30	3,179	7.8	37	103	15.5
650	30	3,780	4.1	35	103	11.5
600	30	4,433	.5	29	95	8.7
550	30	5,121	- 3.1	24	88	5.1
500	30	5,876	- 7.5	22	56	5.4
450	30	6,683	-12.8	24	65	4.9
400	30	7,577	-18.8	25	4	2.3
350	30	8,557	-26.1	24	304	5.1
300	30	9,653	-34.6	23	294	9.5
250	30	10,901	-44.4		300	13.0
200	30	12,358	-56.0		302	16.1
175	30	13,195	-62.0		308	16.3
150	30	14,134	-67.7		319	14.8
125	30	15,219	-71.6		309	9.7
100	30	16,531	-71.9		353	3.9
80	29	17,863	-68.3		67	10.7
70	29	18,673	-65.8		78	17.3
60	29	19,612	-62.5		86	22.9
50	29	20,746	-58.9		93	25.1
40	28	22,161	-54.6		96	32.1
30	28	24,023	-50.0		95	32.8
25	28	25,221	-47.6		92	35.0
20	27	26,707	-44.3		87	39.4
15	25	28,640	-41.2		88	46.6
10	23	31,420	-37.3		91	57.5
7	21	33,904	-33.5		88	57.3
5	12	36,279	-27.8			

SANTA MONICA, CALIF.
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	38	14.3	88	83	1.6
1000	30	112	13.9	87	116	2.1
950	30	547	13.0	79	102	2.9
900	30	1,002	15.6	57	359	3.9
850	30	1,487	15.5	38	308	5.6
800	30	2,000	13.7	30	277	8.9
750	30	2,537	11.2	23	276	9.7
700	30	3,114	8.0	22	270	11.3
650	30	3,717	4.7		263	13.6
600	30	4,370	.3		266	16.5
550	30	5,056	- 4.1		263	18.8
500	30	5,808	- 9.1		267	22.5
450	30	6,606	-15.0		264	25.1
400	30	7,496	-21.7		266	26.8
350	30	8,465	-29.2		263	29.1
300	30	9,548	-37.8		267	30.3
250	30	10,779	-47.7		274	32.4
200	30	12,218	-57.8		273	35.0
175	30	13,052	-61.7		269	35.4
150	30	13,999	-64.4		264	32.6
125	30	15,111	-65.1		264	26.6
100	30	16,470	-64.6		267	19.0
80	30	17,838	-62.8		257	6.2
70	30	18,667	-61.4		146	.8
60	30	19,621	-60.3		119	4.7
50	30	20,765	-57.5		87	6.6
40	30	22,183	-54.8		87	11.7
30	30	24,036	-51.6		83	15.5
25	30	25,224	-49.7		90	16.7
20	30	26,692	-47.0		89	16.7
15	23	28,609	-43.9		90	15.0
10	8	31,324	-40.4			
7						
5						

SAULT STE. MARIE, MICH.
988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	221	10.0	89	88	1.9
1000	30	119				
950	30	547	12.2	67	233	5.1
900	30	1,002	11.3	63	263	11.7
850	30	1,478	9.3	61	274	15.9
800	30	1,979	6.8	57	279	19.4
750	30	2,506	4.0	54	276	21.2
700	30	3,066	1.1	45	273	25.3
650	30	3,654	- 2.6	44	276	27.8
600	30	4,288	- 6.5	41	275	30.7
550	30	4,959	-10.7	42	277	32.1
500	30	5,690	-15.2	39	278	32.2
450	30	6,473	-20.3	36	281	38.3
400	30	7,341	-26.0		284	41.2
350	30	8,294	-33.1		284	46.2
300	30	9,360	-40.9		287	52.3
250	30	10,577	-48.8		288	61.6
200	30	12,021	-54.8		286	62.7
175	30	12,871	-56.2		287	59.8
150	30	13,850	-56.3		287	45.8
125	30	15,006	-56.9		282	31.5
100	30	16,419	-56.9		284	22.0
80	29	17,832	-55.8		300	11.3
70	29	18,689	-54.7		315	7.4
60	29	19,672	-53.3		351	2.9
50	29	20,851	-51.6		53	4.7
40	29	22,304	-49.9		74	8.2
30	28	24,195	-47.3		86	13.0
25	28	25,405	-45.5		86	15.7
20	28	26,902	-42.8		89	18.5
15	27	28,858	-39.0		90	21.2
10	10	31,652	-33.2			

SHEMYA, ALASKA
1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	38	5.1	93	8	3.5
1000	28	82			8	5.6
950	28	503	3.9	84	55	3.9
900	28	938	3.4	77	35	3.9
850	28	1,402	2.2	74	16	3.9
800	28	1,890	.4	75	360	2.9
750	28	2,405	- 1.9	71	340	2.9
700	28	2,953	- 4.9	70	348	3.5
650	28	3,528	- 7.9	59	334	1.6
600	28	4,151	-11.4	55	286	1.2
550	28	4,806	-15.6	53	240	1.2
500	28	5,526	-20.4	53	243	1.4
450	28	6,288	-25.8	51	269	1.9
400	28	7,142	-31.8	49	268	3.1
350	28	8,073	-38.4		263	3.5
300	28	9,115	-46.0		289	3.7
250	28	10,310	-51.0		294	7.0
200	28	11,764	-49.6		284	8.2
175	28	12,640	-48.9		290	6.8
150	28	13,650	-49.6		302	5.6
125	28	14,842	-50.4		318	3.9
100	28	16,296	-50.8		350	1.7
80	28	17,749	-50.7		76	3.7
70	27	18,621	-50.5		77	6.2
60	26	19,623	-50.4		75	7.0
50	25	20,809	-49.9		85	8.4
40	25	22,269	-49.4		80	11.8
30	24	24,155	-48.2		87	13.8
25	22	25,357	-47.2		88	16.1
20	21	26,838	-45.0		88	16.7
15	17	28,760	-42.6		82	17.5
10	8	31,522	-38.8			

* SHREVEPORT, LA.
1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	79	22.1	90	171	3.1
1000	30	141	22.3	85	174	4.3
950	30	591	21.6	71	201	12.8
900	30	1,056	19.0	62	197	14.6
850	30	1,546	16.3	60	196	12.6
800	30	2,060	13.5	53	199	8.9
750	30	2,599	10.8	45	207	5.6
700	30	3,172	7.6	44	217	4.7
650	30	3,776	3.9	44	225	4.3
600	30	4,424	- .2	42	223	4.5
550	30	5,112	- 4.4	36	239	4.3
500	30	5,859	- 9.0	31	252	5.1
450	30	6,665	-14.1	28	254	6.4
400	30	7,551	-20.2	28	260	8.5
350	30	8,527	-27.1	25	262	11.3
300	30	9,620	-35.2	24	257	16.3
250	30	10,864	-44.8		254	20.6
200	30	12,319	-55.8		252	22.9
175	30	13,158	-60.9		253	24.3
150	30	14,105	-65.5		258	21.4
125	30	15,203	-69.0		257	15.9
100	30	16,535	-68.9		268	9.1
80	30	17,882	-65.0		94	1.0
70	30	18,712	-62.2		85	4.7
60	30	19,660	-59.5		88	9.7
50	29	20,812	-57.0		89	12.2
40	29	22,235	-53.7		90	15.0
30	29	24,098	-50.5		87	17.3
25	28	25,293	-48.7		89	17.7
20	26	26,765	-46.6		86	16.9
15	25	28,687	-43.7		87	20.8
10	19	31,432	-39.1		88	23.3

SPOKANE, WASH.
930 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	722	10.6	72	173	4.7
1000	30	107				
950	30	542				
900	30	994	12.3	62	205	7.8
850	30	1,472	10.3	60	215	8.9
800	30	1,973	6.8	63	220	9.1
750	30	2,496	2.9	66	225	9.1
700	30	3,056	- .6	64	228	8.9
650	30	3,638	- 4.0	60	231	11.3
600	30	4,272	- 7.6	59	232	13.2
550	29	4,942	-11.9	55	236	16.7
500	29	5,671	-17.0	56	232	16.7
450	29	6,444	-22.7	54	227	17.9
400	29	7,307	-29.0	46	228	21.2
350	29	8,248	-36.1		227	22.9
300	29	9,300	-44.3		231	23.1
250	29	10,500	-52.0		237	25.4
200	29	11,934	-54.1		241	25.3
175	29	12,794	-53.0		243	23.1
150	29	13,788	-53.1		242	19.2
125	29	14,961	-53.8		242	16.3
100	29	16,393	-54.4		245	11.5
80	28	17,822	-53.6		242	6.4
70	28	18,675	-53.6		217	2.7
60	28	19,673	-52.9		65	1.2
50	27	20,855	-51.5		74	4.9
40	27	22,309	-49.9		83	9.1
30	27	24,201	-47.5		86	12.2
25	26	25,408	-45.7		83	13.6
20	26	26,904	-42.9		88	17.1
15	14	28,845	-39.3		87	17.9
10						

SWAN ISLAND, W. I.
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	10	26.5	86	111	9.1
1000	30	110	25.9	85	107	11.7
950	30	569	23.0	82	114	15.5
900	30	1,032	20.2	78	118	17.7
850	30	1,525	17.3	75	118	16.1
800	30	2,041	14.5	70	117	15.9
750	30	2,588	11.6	63	117	15.7
700	30	3,159	8.5	57	120	14.2
650	30	3,769	5.1	59	121	12.8
600	30	4,419	1.4	57	122	12.0
550	30	5,105	- 2.5	57	119	12.0
500	30	5,866	- 6.6	51	115	11.1
450	30	6,681	-11.6	49	110	10.3
400	30	7,576	-17.2	41	104	8.2
350	30	8,564	-24.0	34	99	5.8
300	30	9,670	-32.4		75	3.7
250	30	10,927	-43.0		354	4.1
200	30	12,389	-55.7		323	7.2
175	30	13,225	-62.9		341	7.4
150	30	14,157	-69.9		358	8.5
125	30	15,226	-75.7		31	8.9
100	30	16,510	-75.7		76	11.1
80	30	17,812	-71.2		85	12.2
70	30	18,615	-68.1		85	14.0
60	30	19,541	-65.0		86	18.1
50	30	20,664	-60.5		90	22.7
40	30	22,068	-56.4		94	28.6
30	29	23,914	-51.8		99	30.5
25	29	25,103	-49.0		98	30.1
20	26	26,576	-46.6		91	34.2
15	23	28,492	-44.5		90	40.4
10	9	31,242	-40.7			

TAMPA, FLA.
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	8	24.3	88	98	4.5
1000	30	142	24.1	82	119	3.5
950	30	584	22.3	73	168	2.5
900	30	1,061	19.8	68	182	1.9
850	30	1,552	16.8	65	165	3.5
800	30	2,067	13.9	60	153	3.9
750	30	2,603	11.1	51	152	3.7
700	30	3,183	7.8	47	151	2.3
650	30	3,783	4.4	41	166	1.6
600	30	4,439	.9	37	230	1.9
550	30	5,125	- 3.1	33	237	3.1
500	30	5,883	- 7.5	29	255	2.3
450	30	6,684	-12.7		247	2.7
400	30	7,584	-18.9		237	4.3
350	30	8,565	-25.6		248	4.1
300	30	9,665	-33.7		253	4.9
250	30	10,918	-43.3		249	7.4
200	30	12,382	-54.9		268	6.4
175	30	13,223	-60.9		277	8.2
150	28	14,167	-66.9		291	10.3
125	28	15,254	-71.8		297	7.0
100	28	16,569	-70.7		3	2.9
80	27	17,899	-66.9		75	10.7
70	27	18,716	-64.4		80	14.4
60	27	19,660	-60.7		82	18.6
50	27	20,806	-56.3		89	21.6
40	27	22,237	-52.3		95	21.2
30	26	24,110	-49.4		87	19.2
25	26	25,310	-47.3		81	22.1
20	25	26,792	-44.6		85	21.4
15	19	28,738	-40.9		83	20.8
10	9	31,545	-36.4			
7						

* TATOOSH IS., WASH
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	31	10.8	94	201	4.1
1000	30	132	10.2	92	219	4.1
950	30	554	8.3	83	229	5.4
900	30	1,003	6.5	79	220	5.2
850	30	1,471	4.4	80	213	5.6
800	30	1,963	2.2	69	217	6.2
750	30	2,483	- .3	63	226	7.4
700	30	3,033	- 2.8	63	224	10.3
650	30	3,613	- 6.2	61	227	10.3
600	30	4,240	-10.2	60	229	12.0
550	30	4,901	-14.2	54	225	13.8
500	30	5,622	-19.1	52	226	15.0
450	30	6,390	-24.8	51	228	16.3
400	30	7,245	-31.0	46	232	17.5
350	30	8,178	-37.8	49	230	20.2
300	30	9,224	-45.0		231	22.9
250	30	10,423	-51.8		236	25.1
200	30	11,859	-53.5		236	25.4
175	30	12,721	-52.0		241	21.4
150	30	13,719	-52.2		240	18.8
125	30	14,896	-53.1		247	13.8
100	30	16,332	-53.5		242	9.5
80	30	17,767	-53.5		238	4.9
70	30	18,626	-53.6		247	2.9
60	30	19,618	-53.1		69	.4
50	30	20,795	-52.1		88	3.1
40	29	22,240	-50.8		75	8.0
30	28	24,122	-48.8		84	8.9
25	28	25,324	-47.2		86	11.3
20	28	26,806	-45.1		88	13.6
15	27	28,741	-42.0		86	19.2
10	22	31,496	-37.6		86	24.5
7	13	33,993	-32.4		93	26.8

TOPEKA, KANS.
982 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	269	17.8	91	137	4.3
1000	30	111				
950	30	551	19.1	74	172	8.0
900	30	1,018	17.5	67	212	13.2
850	30	1,506	15.9	60	225	15.7
800	30	2,019	13.1	56	234	15.7
750	30	2,553	10.2	47	239	15.3
700	30	3,131	6.7	44	249	14.6
650	30	3,730	2.9	42	253	15.2
600	30	4,379	- 1.4	40	259	15.5
550	30	5,060	- 6.1	39	259	16.5
500	30	5,807	-11.0		260	19.2
450	30	6,602	-16.4		262	18.8
400	30	7,485	-22.6		261	21.8
350	30	8,451	-29.7		261	23.1
300	30	9,533	-37.8		256	26.8
250	30	10,764	-47.1		255	33.4
200	30	12,209	-56.2		259	37.7
175	30	13,049	-60.2		257	37.9
150	30	14,004	-63.1		259	33.4
125	30	15,119	-64.9		261	25.8
100	30	16,480	-64.2		264	13.8
80	30	17,854	-61.6		262	4.3
70	30	18,690	-60.0		15	1.2
60	30	19,651	-58.0		84	5.1
50	30	20,806	-55.4		87	8.0
40	29	22,238	-52.7		89	10.9
30	28	24,108	-50.2		89	14.0
25	26	25,301	-48.6		84	14.2
20	25	26,776	-46.3		92	15.2
15	16	28,699	-43.6		86	17.9
10	9	31,477	-39.4			
7	5	34,042	-33.1			

TRUK, CAROLINE IS.
+ 1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	2	28.8	76	57	5.1
1000	30	86	27.9	76	70	5.6
950	30	536	24.2	79	95	8.0
900	30	1,014	21.2	77	93	9.9
850	30	1,508	18.1	76	96	10.9
800	30	2,027	15.3	74	93	11.3
750	30	2,571	12.6	70	94	10.9
700	30	3,150	9.6	66	91	11.5
650	30	3,763	6.2	59	90	12.0
600	30	4,416	2.5	59	91	13.4
550	30	5,110	- 1.5	57	94	11.5
500	30	5,871	- 5.5	49	98	10.3
450	30	6,688	-10.3	46	105	10.7
400	30	7,592	-15.8	41	104	9.9
350	30	8,586	-22.6	39	103	8.5
300	30	9,699	-31.1		106	5.2
250	30	10,965	-41.3		142	.4
200	30	12,440	-53.8		323	4.3
175	30	13,284	-60.8		307	4.9
150	30	14,226	-68.2		286	4.1
125	30	15,303	-74.4		162	1.7
100	30	16,589	-76.5		87	9.1
80	30	17,892	-70.2		84	7.6
70	30	18,693	-66.3		98	3.7
60	29	19,632	-62.9		244	4.3
50	29	20,765	-59.1		270	8.4
40	28	22,173	-56.9		283	5.6
30	27	24,009	-53.1		98	14.8
25	27	25,188	-50.8		97	31.1
20	21	26,649	-48.0		96	44.5
15	10	28,551	-45.5			
10						
7						

TUCSON, ARIZ.
922 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	789	20.9	27	146	5.4
1000	30	76				
950	30	522				
900	30	999	23.7	27	162	5.8
850	30	1,495	20.8	27	197	6.2
800	30	2,015	17.3	28	202	8.7
750	30	2,555	13.5	29	212	9.7
700	30	3,139	9.3	30	211	12.0
650	30	3,743	5.2	28	213	13.2
600	30	4,397	.8	31	224	15.2
550	30	5,080	- 3.9		231	15.7
500	30	5,835	- 9.0		241	16.9
450	30	6,637	-14.4		252	16.1
400	30	7,525	-21.0		256	17.9
350	30	8,497	-28.4		252	20.0
300	30	9,583	-36.9		253	24.1
250	30	10,818	-46.6		248	29.3
200	30	12,265	-56.3		248	35.5
175	30	13,104	-60.8		249	33.4
150	30	14,053	-64.8		250	31.9
125	30	15,158	-67.3		249	28.9
100	30	16,504	-66.7		255	15.5
80	30	17,861	-64.0		225	1.9
70	30	18,688	-62.1		92	4.1
60	30	19,640	-59.7		90	8.5
50	29	20,790	-56.4		87	12.2
40	29	22,217	-53.4		86	15.5
30	29	24,080	-50.3		85	17.3
25	28	25,277	-48.0		89	17.7
20	28	26,757	-45.4		83	18.1
15	28	28,691	-41.2		86	20.4
10	22	31,475	-35.5		81	25.3
7	9	33,967	-31.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	* WAKE IS., PACIFIC AREA 1014 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	26.9	76	90	5.8
1000	30	123	25.9	79	92	8.7
950	30	569	22.2	87	98	12.6
900	30	1,045	19.5	78	100	10.9
850	30	1,536	17.0	74	97	10.5
800	30	2,052	14.6	64	95	9.7
750	30	2,593	12.4	51	91	10.5
700	30	3,172	9.4	43	83	10.3
650	30	3,780	6.2	37	85	10.7
600	30	4,436	2.6	32	83	11.1
550	30	5,130	- 1.5	33	79	11.7
500	30	5,888	- 6.1	32	74	11.5
450	30	6,700	-11.5	28	74	10.7
400	30	7,599	-17.6	30	73	10.9
350	30	8,585	-24.8	27	71	12.2
300	30	9,687	-33.3	26	74	12.4
250	30	10,942	-43.4		63	13.2
200	30	12,405	-55.4		57	12.0
175	30	13,243	-62.0		50	10.5
150	30	14,182	-68.4		45	8.5
125	30	15,262	-72.7		41	11.7
100	30	16,566	-73.4		51	12.8
80	30	17,878	-70.1		71	14.0
70	29	18,676	-67.3		79	15.3
60	29	19,614	-63.5		85	19.0
50	29	20,742	-59.9		88	21.6
40	29	22,149	-56.4		84	25.1
30	28	23,994	-51.9		84	31.7
25	28	25,183	-49.4		83	34.2
20	28	26,653	-46.8		85	35.2
15	27	28,575	-44.5		87	39.8
10	17	31,315	-39.5		89	45.3
7	7	33,750	-36.4			

Standard pressure surface (mb.)	WALLOPS IS. VA. NASA 1016 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	22	3	18.6	89	298	1.4
1000	22	139	19.4	75	296	4.3
950	22	581	18.4	65	310	8.7
900	22	1,043	15.7	61	304	9.5
850	22	1,526	13.3	57	296	11.1
800	22	2,034	10.6	54	293	13.0
750	22	2,565	7.9	51	289	15.7
700	22	3,137	5.1	49	285	17.5
650	22	3,735	1.8	43	279	19.6
600	22	4,380	- 2.0	40	281	22.5
550	22	5,064	- 5.8	39	278	24.3
500	22	5,809	-10.1	35	276	27.0
450	22	6,609	-15.3	31	279	28.2
400	22	7,494	-21.3	34	278	29.3
350	22	8,466	-28.3	30	274	33.4
300	22	9,553	-36.8	29	273	36.7
250	21	10,795	-46.1		274	42.0
200	21	12,243	-56.9		279	44.1
175	21	13,079	-61.6		297	42.7
150	21	14,025	-64.6		301	37.1
125	21	15,137	-65.8		305	28.7
100	21	16,495	-64.7		294	19.4
80	21	17,868	-61.1		315	8.9
70	21	18,706	-59.5		2	4.9
60	20	19,672	-57.5		61	5.6
50	20	20,829	-55.4		80	9.7
40	20	22,261	-52.4		84	11.8
30	20	24,133	-49.8		80	14.2
25	20	25,330	-48.3		82	17.1
20	20	26,807	-45.8		86	16.7
15	20	28,740	-41.8		86	20.2
10	19	31,516	-37.1		93	22.5
7	10	34,022	-32.5			

Standard pressure surface (mb.)	WASHINGTON, D. C. 1007 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	84	16.7	89	279	.4
1000	29	142	18.0	81	313	1.4
950	29	584	18.3	68	295	8.5
900	29	1,045	16.0	64	304	11.8
850	29	1,530	13.7	61	301	14.4
800	29	2,039	10.8	60	294	14.0
750	29	2,571	7.5	56	289	15.0
700	29	3,140	4.2	55	281	17.5
650	29	3,737	1.1	50	280	19.4
600	29	4,380	- 2.7	49	283	21.8
550	29	5,060	- 6.5	42	284	23.9
500	29	5,806	-11.0	37	283	25.4
450	29	6,605	-16.1	38	283	27.4
400	29	7,487	-22.0		283	29.5
350	29	8,457	[illegible]		278	31.5
300	29	9,541	-37.3		275	35.5
250	29	10,775	-47.0		276	40.8
200	29	12,220	-57.0		282	43.9
175	29	13,057	-60.9		285	41.8
150	28	14,007	-63.8		286	37.9
125	28	15,122	-65.1		287	26.6
100	26	16,477	-64.2		282	15.9
80	26	17,852	-61.1		291	8.5
70	26	18,692	-59.2		314	4.1
60	26	19,656	-57.2		10	2.1
50	26	20,814	-55.1		79	5.8
40	26	22,246	-52.9		87	9.3
30	26	24,116	-49.6		84	11.3
25	26	25,315	-47.7		88	12.4
20	25	26,801	-45.2		84	15.2
15	23	28,733	-41.8		84	16.1
10	18	31,497	-37.5		92	21.6
7	10	33,997	-34.0			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. 868 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,310	9.1	68	84	1.6
1000	30	112				
950	30	544				
900	30	1,002				
850	30	1,482	12.8	51	92	.8
800	30	1,990	10.6	47	265	2.1
750	30	2,521	6.9	49	265	5.1
700	30	3,087	2.8	52	245	8.4
650	30	3,681	- 1.4	53	242	12.6
600	30	4,316	- 5.4	46	242	16.5
550	30	4,988	- 9.8	43	240	17.7
500	30	5,722	-14.7	41	244	20.4
450	30	6,507	-20.2	38	251	22.3
400	30	7,375	-26.4		257	25.8
350	30	8,326	-33.6		257	29.5
300	30	9,389	-41.5		259	32.6
250	30	10,604	-49.7		260	37.9
200	30	12,043	-55.5		264	37.2
175	30	12,892	-56.7		255	35.4
150	30	13,869	-56.9		254	32.6
125	30	15,021	-58.0		253	22.7
100	30	16,424	-58.4		246	14.6
80	30	17,830	-57.5		220	5.4
70	30	18,677	-57.1		160	1.7
60	30	19,651	-56.4		90	3.5
50	30	20,812	-54.5		87	7.0
40	30	22,249	-52.2		88	11.8
30	29	24,122	-49.4		86	14.0
25	29	25,322	-47.4		85	16.1
20	28	26,807	-44.5		83	17.5
15	22	28,735	-40.8		92	22.9

Standard pressure surface (mb.)	WINSLOW, ARIZ. 850 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,492	13.0	37	194	3.3
1000	30	98				
950	30	538				
900	30	1,007				
850	30	1,495			194	2.1
800	30	2,011	16.7	25	236	10.9
750	30	2,553	12.9	28	239	[illegible]
700	30	3,132	8.9	27	234	14.8
650	30	3,734	4.5	30	228	14.2
600	30	4,387	- .1	31	224	16.7
550	30	5,071	- 5.1	31	[illegible]	[illegible]
500	30	5,818	-10.2	31	240	20.2
450	30	6,616	-15.3		249	22.9
400	30	7,502	-21.9		254	23.7
350	30	8,470	-29.3		258	[illegible]
300	30	9,552	-37.9		256	30.7
250	30	10,782	-47.6		253	35.5
200	30	12,224	-56.9		255	38.7
175	30	13,061	-61.0		251	[illegible]
150	30	14,012	-63.3		253	[illegible]
125	30	15,124	-64.6		249	[illegible]
100	30	16,489	-64.8		253	17.5
80	30	17,858	-62.8		[illegible]	5.6
70	30	18,685	-61.4		[illegible]	2.5
60	29	19,645	-59.7		[illegible]	5.8
50	29	20,794	-56.8		80	7.6
40	29	22,216	-54.3		81	10.9
30	29	24,074	-51.5		89	14.4
25	29	25,263	-49.7		90	14.6
20	27	26,730	-47.4		85	[illegible]
15	20	28,640	-44.9		90	15.0

Standard pressure surface (mb.)	YAKUTAT, ALASKA 1013 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	12	9.1	92	73	2.3
1000	30	122	9.1	90	104	1.9
950	30	544	7.7	83	192	1.9
900	30	991	5.5	78	154	2.9
850	30	1,457	3.3	78	139	4.3
800	30	1,947	.9	78	126	4.3
750	30	2,461	- 1.8	77	123	4.1
700	30	3,010	- 5.0	74	148	5.1
650	30	3,583	- 8.5	73	147	5.4
600	30	4,206	-12.3	70	148	6.0
550	30	4,858	-16.4	67	142	7.2
500	29	5,577	-20.9	60	139	8.5
450	29	6,340	-26.3	55	140	8.9
400	29	7,191	-32.3	53	154	11.3
350	29	8,119	-39.5		163	11.3
300	29	9,157	-47.5		165	12.8
250	29	10,343	-53.8		177	11.7
200	29	11,778	-51.4		202	6.0
175	29	12,649	-49.8		220	4.3
150	29	13,658	-49.4		212	3.1
125	29	14,851	-49.9		264	2.7
100	29	16,309	-50.0		288	1.4
80	29	17,768	-49.5		65	1.6
70	29	18,646	-49.1		83	2.1
60	29	19,656	-48.5		93	3.7
50	29	20,858	-47.8		80	5.8
40	29	22,332	-47.1		84	8.2
30	29	24,241	-45.9		85	13.6
25	29	25,457	-44.8		83	15.2
20	28	26,957	-42.8		86	16.5
15	22	28,893	-40.1		84	15.7
10	11	31,680	-36.4			

Standard pressure surface (mb.)	+ YAP, CAROLINE IS. 1008 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	17	28.1	84	83	4.3
1000	30	85	27.2	83	91	5.1
950	30	532	23.4	81	95	7.2
900	30	1,010	20.5	79	101	8.2
850	30	1,504	17.9	76	101	8.9
800	30	2,022	15.1	73	107	9.1
750	30	2,567	12.3	66	105	8.7
700	30	3,144	9.2	60	105	9.7
650	30	3,753	5.7	61	109	10.3
600	30	4,407	2.0	57	110	10.7
550	30	5,100	- 2.0	55	113	10.3
500	28	5,858	- 6.1	48	108	9.9
450	28	6,675	-11.2	46	106	8.7
400	28	7,572	-16.6	46	90	9.5
350	28	8,563	-23.2	42	90	6.6
300	28	9,673	-31.5		104	5.6
250	28	10,936	-41.7		99	5.4
200	28	12,407	-54.4		85	6.2
175	28	13,249	-61.7		77	5.6
150	28	14,186	-69.4		49	8.2
125	28	15,254	-76.4		55	13.0
100	28	16,529	-78.2		80	16.3
80	28	17,821	-71.9		81	14.2
70	28	18,615	-68.3		89	13.2
60	28	19,547	-64.6		99	10.7
50	28	20,670	-61.0		77	5.2
40	27	22,070	-57.8		87	6.4
30	27	23,901	-54.0		90	14.8
25	25	25,075	-51.4		94	25.4
20	24	26,531	-49.0		94	41.0
15	17	28,433	-45.1		95	49.9
10	5	31,120	-43.5			

Standard pressure surface (mb.)	YUCCA FLAT, NEV. 878 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	1,196	13.0	29	307	1.6
1000	29	79				
950	29	520				
900	29	988				
850	29	1,473	18.4	28	284	.8
800	29	1,989	15.3	28	218	5.6
750	29	2,528	11.5	30	209	9.9
700	29	3,104	7.2	34	213	9.7
650	29	3,702	2.4	40	216	11.1
600	29	4,349	- 2.2	39	226	13.6
550	29	5,027	- 6.6	32	243	17.7
500	29	5,773	-11.1		251	22.7
450	29	6,567	-16.7		255	28.0
400	29	7,447	-23.2		258	30.5
350	29	8,411	-30.4		260	31.7
300	29	9,488	-38.8		261	36.1
250	29	10,715	-48.2		265	39.2
200	28	12,148	-57.2		261	40.4
175	28	12,987	-59.8		263	40.4
150	28	13,948	-60.6		261	34.6
125	28	15,081	-61.2		261	25.3
100	28	16,464	-61.8		257	15.0
80	28	17,853	-59.6		243	6.2
70	28	18,690	-59.2		217	1.0
60	28	19,658	-57.4		90	4.9
50	27	20,812	-54.9		88	7.4
40	27	22,246	-52.4		87	11.1
30	27	24,117	-49.8		87	12.8
25	27	25,314	-47.8		87	15.5
20	26	26,796	-45.0		87	16.9
15	23	28,727	-41.6		87	19.2
10	6	31,482	-37.8			

Note: All observations scheduled at 1200 G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G.C.T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JUNE 1964

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
June									
1-----	0.76	0.84	0.97	1.15	1.36	----	----	----	----
4-----	.75	.83	.96	1.15	1.29	1.23	1.05	----	----
5-----	----	----	.96	1.15	----	----	----	----	----
6-----	----	----	----	----	1.40	1.23	1.09	0.96	0.91
7-----	.87	.96	1.07	1.23	1.41	----	----	----	----
9-----	.87	.94	1.06	1.21	1.40	1.21	1.04	.90	.81
10----	----	----	1.12	1.24	1.41	----	----	----	----
11----	.84	.93	1.09	1.22	1.44	1.25	1.07	.97	.87
12----	.91	.99	1.11	1.25	1.39	----	----	----	----
13----	.63	.72	.90	1.06	1.34	----	.95	.82	----
14----	.80	.87	1.01	1.17	1.38	1.17	1.02	.89	.83
15----	.88	.95	1.08	1.21	1.36	1.22	1.07	.92	.84
16----	.77	.84	.99	1.15	1.36	----	----	----	----
17----	.85	.94	1.08	1.24	1.41	----	----	----	----
18----	.77	.85	1.00	1.14	1.32	----	.98	.82	.76
19----	----	----	----	----	----	1.16	1.04	.93	.86
20----	.96	1.03	1.15	1.25	1.44	1.22	1.07	----	----
21----	.96	1.04	1.16	1.29	1.44	1.24	1.10	.97	.88
22----	.83	.91	1.03	1.19	1.42	1.25	1.08	.95	.86
23----	.77	.84	.96	1.14	1.37	1.16	1.01	.87	.78
24----	.76	.85	.98	1.10	1.30	1.06	.87	.72	----
25----	.75	.82	.96	1.12	1.32	1 10	.91	.76	.67
27----	.83	.90	1.03	----	1.38	----	----	----	----
28----	.74	.81	.94	1.09	----	----	----	----	----
29----	----	----	.84	----	----	----	----	----	----
30----	----	----	----	----	1.32	1.01	----	----	----
Averages	0.82	0.89	1.02	1.18	1.38	1.18	1.02	0.88	0.82
	MAUNA LOA OBS., HAWAII								
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
June									
2-----	1.02	1.10	1.21	1.34	----	----	----	1.09	1.02
3-----	1.03	1.10	1.21	1.33	1.49	1.32	1.19	1.09	1.01
4-----	1.05	1.12	1.23	1.35	1.50	1.33	1.21	1.11	1.03
5-----	1.03	1.11	1.22	1.35	1.51	1.33	1.21	1.11	1.03
6-----	1.05	1.13	1.23	1.35	1.51	1.35	1.23	1.13	1.03
7-----	1.09	1.16	1.28	1.40	1.53	1.37	1.24	1.13	1.04
8-----	1.09	1.18	1.28	1.41	1.54	1.38	1.25	1.15	1.09
9-----	1.03	1.11	1.23	1.36	1.53	1.36	1.23	1.12	1.05
10----	1.06	1.19	1.23	1.37	----	----	----	1.11	1.02
11----	1.06	1.15	1.25	1.38	----	----	----	----	----
12----	1.05	1.15	1.25	1.37	1.53	1.35	1.25	1.14	1.07
13----	1.12	1.20	1.29	1.41	1.56	1.38	1.26	1.15	1.07
14----	1.04	1.13	1.24	1.37	1.54	1.37	1.24	1.14	1.05
16----	1.06	1.15	1.25	1.37	1.54	1.38	1.27	1.16	1.08
17----	1.09	1.18	1.28	1.41	1.56	1.39	1.28	1.17	1.08
18----	1.05	1.13	1.23	1.36	1.52	1.35	1.25	1.14	1.06
19----	1.11	1.18	1.26	1.38	1.53	1.38	1.25	1.14	1.04
20----	1.11	1.19	1.29	1.40	----	----	----	----	----
24----	----	----	----	1.33	----	----	----	----	----
29----	1.03	1.12	1.23	1.36	1.49	1.33	1.22	1.12	1.03
30----	1.06	1.16	1.26	1.38	1.50	----	1.21	1.12	1.04
Averages	1.06	1.15	1.25	1.37	1.52	1.36	1.24	1.13	1.05
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
June									
25----	----	----	----	----	----	S 1.02	S 0.85	----	----
26----	----	----	----	----	----	S .99	S .82	S 0.70	S 0.61
30----	----	----	----	----	M 1.03	----	----	----	----
Averages	----	----	----	----	1.03	1.01	0.84	0.70	0.61
	GUAM, M. I.								
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
June									
4-----	----	----	S 0.92	----	----	----	----	----	----
28----	S 0.67	S 0.84	S .97	S 1.12	----	----	----	----	----
	Recorder was inoperative a number of days								
Averages	0.67	0.84	0.95	1.12	----	----	----	----	----

Date	Sun's zenith distance								
	A M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	BLUE HILL OBS., MASS.								
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
June									
3-----	0.64	0.72	0.87	1.00	----	----	----	----	----
4-----	.54	.64	.76	.95	----	----	----	----	----
5-----	.65	.77	.93	1.11	1.35	1.08	0.89	0.76	0.65
6-----	.77	.86	----	----	----	----	----	----	----
11----	.71	.81	.96	1.15	1.36	1.06	.88	.76	.62
12----	.65	.75	.89	1.07	1.30	1.05	.87	.75	.65
14----	.50	.60	.82	1.04	1.23	1.11	.89	.79	.67
15----	.67	.77	.93	1.10	1.28	----	----	----	----
16----	----	----	----	----	1.44	1.18	1.00	.87	.76
17----	.75	.86	.99	1.15	1.37	1.10	.93	.79	.70
18----	.77	.88	.99	1.17	1.37	1.11	----	----	----
21----	.57	.69	.87	1.04	1.21	----	----	----	----
23----	.65	.78	.90	1.10	----	----	----	----	----
25----	.55	.66	.82	1.05	----	----	----	----	----
26----	.67	.79	.94	1.10	1.28	.91	.74	.62	.50
27----	.38	.48	.62	.89	----	----	----	----	----
28----	.74	.84	.94	1.11	1.33	1.07	.87	.72	.61
Averages	0.64	0.74	0.88	1.07	1.32	1.07	0.88	0.76	0.65
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
June									
1-----	0.52	0.63	0.77	----	----	----	----	----	----
4-----	.42	.63	----	----	----	----	----	----	----
6-----	----	----	----	----	----	----	----	----	0.77
8-----	----	----	----	----	----	----	----	----	.69
9-----	.86	.92	----	----	----	----	----	----	.79
10----	.78	.88	.99	----	----	----	.99	.87	.78
11----	.82	.91	1.03	----	----	----	1.03	----	.80
12----	----	.91	1.01	----	----	----	----	.85	.76
13----	.71	.82	.93	----	----	----	----	.82	.74
14----	.73	.83	.97	----	----	----	.92	.79	.69
15----	.74	.84	.95	----	----	----	.97	.85	.75
16----	.69	.79	----	----	----	----	----	.90	.81
17----	.74	.87	.99	----	----	----	----	----	----
18----	.69	----	.92	----	----	----	----	.73	.63
19----	.84	.92	1.03	----	----	----	1.00	.88	.80
20----	.88	.97	1.07	----	----	----	----	.90	.81
21----	----	----	----	----	----	----	----	.91	.81
22----	.88	.96	1.05	----	----	----	----	.88	.80
23----	.72	.83	.93	----	----	----	----	.68	.56
25----	.54	.67	.80	----	----	----	----	----	----
29----	.57	.70	.84	----	----	----	----	----	----
30----	.62	.72	----	----	----	----	----	----	----
Averages	0.70	0.82	0.95	----	----	----	0.98	0.83	0.74
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
June									
2-----	HS0.57	HS0.67	HS0.83	HS1.02	----	----	----	----	----
3-----	.66	----	----	----	----	----	----	----	----
5-----	HS .56	HS .67	HS .80	.97	----	----	----	----	----
8-----	----	----	----	----	HM1.12	----	----	----	----
9-----	HS .62	HS .70	HS .93	HS1.10	DM1.26	0.97	----	----	----
10----	HS .58	HS .70	HS .82	HS1.00	----	----	----	----	----
12----	----	----	----	----	HS1.28	----	----	----	----
13----	----	----	----	----	----	----	0.88	0.80	----
18----	----	----	----	----	HS1.20	1.20	HM .63	HI .38	----
19----	HS .56	HS .61	HM .79	----	----	----	----	----	----
20----	----	----	----	----	HM1.15	----	----	----	----
23----	----	----	----	----	HS1.30	----	----	----	----
24----	HS .79	HS .87	HS1.01	HS1.18	HS1.34	HS1.17	HS .92	.74	0.63
25----	HS .73	HS .83	HS .95	HS1.12	HS1.32	HS1.11	HS .95	HS .84	----
26----	HS .75	HS .86	HS .98	HS1.12	DM1.23	HS1.05	HS .86	HM .71	.62
27----	HM .52	HM .61	HM .75	HM .94	HM1.10	----	HM .60	HI .36	HI .30
28----	HM .54	HM .60	HM .71	HM .88	HM1.15	HI .83	HM .59	HM .46	HM .38
29----	HM .52	HM .62	HM .73	HM .90	HM1.14	HI .84	HI .68	HI .55	HI .43
Averages	0.62	0.70	0.85	1.02	1.22	1.02	0.76	0.61	0.47

HS	Slight haze
HM	Moderate haze
HI	Intense haze
S	Slight haze - indeterminable
M	Moderate haze - indeterminable
DM	Moderately blowing dust
*	Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JUNE 1964

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	745	---	591	777	714	768	782	780	793	779	794	763	714	790	790	728	769	781	791	801	812	810	796	783	782	766	767	769	716	724		765
AMES IOWA	434	485	555	162	572	288	566	599	562	363	161	493	300	104	449	298	318	391	584	584	410	268	597	638	652	657	631	642	590	571		464
ANNETTE ALASKA	276	195	420	139	318	410	542	482	575	473	542	356	227	394	540	547	324	423	---	---	406	138	156	418	405	476	535	285	429	436		388
APALACHICOLA FLORIDA	230	717	696	692	667	486	647	700	722	494	547	676	689	710	703	710	710	707	697	688	405	643	683	411	683	631	369	568	658	641		619
ARGONNE NAT. LAB.	575	366	689	652	325	386	483	648	608	557	640	460	639	452	354	715	419	484	564	501	470	574	679	698	729	738	723	688	691	670		572
ASTORIA OREGON	407	641	396	253	322	223	231	145	780	272	393	585	396	470	360	250	198	481	---	484	419	832	829	736	800	609	560	581	796	636		486
ATLANTA GEORGIA	452	687	689	640	583	213	684	580	581	662	673	511	560	683	639	551	499	654	676	666	654	716	---	556	293	418	543	712	724	691		593
BARROW ALASKA	403	429	325	516	326	556	763	565	463	604	395	627	634*	798	793	766	493	527	610	511	350	631	466	440	291	557	762	764	613	599		553*
BETHEL ALASKA	758	639	740	654	744	572	659	388	213	367	492	738	736	306	519	695	544	320	392	145	354	567	627	776	196	144	158	325	431	500		490
BISMARCK N.DAK.	640	721	688	617	424	450	254	332	642	341	142	668	701	511	200	80	495	102	268	492	250	116	745	723	719	681	707	550	698	650		487
BLUE HILL MASS.	346	372	677	726	820	690	241	133	386	562	817	798	155	726	495	822	823	799	667	564	758	430	774	347	716	775	665	777	683	598		605
BOISE IDAHO	513	626	736	246	510	359	260	509	236	374	661	571	766	359	384	421	739	306	584	537	637	789	790	758	635	367	781	691	596	715		549
BROWNSVILLE TEXAS	649	399	459	486	659	733	730	618	543	528	660	650	675	425	449	151	683	741	749	689	719	727	689	687	533	291	264	469	530	637		574
BURLINGTON VERMONT	245	725	478	429	776	738	447	641	655	339	757	746	498	375	243	680	729	680	674	652	607	711	642	197	579	582	651	763	539	623		580
CANTON ISLAND P.I.	531	546	529	535	575	578*	538	536	512	527	548	548	513*	499	533	542	433	548*	549	451	524	548	541	554	541	554	540	548	562	---		534*
CAPE HATTERAS N.C.	469	318	438	720	703	702	145	719	673	693	715	621	506	665	650	490	665	647	577	523	352	673	696	726	461	301	623	674	742	714		587
CARIBOU MAINE	658	268	524	89	393	616	366	745	432	103	713	736	578	296	659	504	259	717	425	400	---	761	668	292	659*	559	519	751	549	141		496*
CHARLESTON S.C.	375	595	662	601	616	---	353	694	703	716	639	277	658	682	718	731	438	---	---	617	644	670	593	642	469	102	285	729	665	725		578
CLEVELAND OHIO	---	352	498	582	601	375	277	605	424	739	855	637	---	---	---	---	---	---	---	540	291	548	---	---	694	658	660	631	624	470		---
COLUMBIA MISSOURI	613	628	749	176	209	383	272	697	625	735	537	238	318	292	500	623	469	529	686	444	428	753	716	765	745	695	738	706	627	443		545
CORVALLIS OREGON	414	566	442	227	243	317	574	261	610	188	548	542	575	418	244	364	229	471	493	587	734	805	801	818	790	600	676	810	647	559		518
DAVIS CALIFORNIA	604	743	668	446	660	370	756	234	268	697	758	756	738	732	554	458	767	782	744	770	768	773	754	752	763	789	562	797	783	765		667
DODGE CITY KANSAS	520	600	576	546	499	580	663	653	---	---	626	662	556	491	643	674	644	683	682	669	605	669	696	686	681	672	626	625	414	573		615
E. LANSING MICHIGAN	652	508	607	734	647	447	525	541	722	514	794	494	770	625	261	813	662	599	701	537	244	520	722	560	761	769	683	746	707	584		615
EL CENTRO CALIF NARF	549	613	581	572	589	589	605	605	609	611	595	593	582	590	578	577	600	602	600	603	595	573	591	572	546	522	550	585	587	606		586
EL PASO TEXAS	777	615	709	751	751	768	791	750	786	787	786	766	748	790	783	718	736	768	769	743	765	789	751	751	788	793	777	718*	766	745		758*
ELY NEVADA	671	681	705	527	486	532	---	430	---	569	787	---	708	674	458	390	329	615	756	504	707	814	805	661	774	721	666	781	798	811		643
FAIRBANKS ALASKA	529	361	---	---	---	---	---	---	---	---	---	---	---	610	685	590	741	567	268	635	641	---	538	154	650	763	538	748	567	576		---
FLAMING GORGE UTAH	683	330	365	681	451	481	250	426	664	633	542	456	424	731	431	527	272	520	493	357	254	686	720	676	720	662	497	360	607	639		518
FORT WORTH TEXAS	745	---	645	494	576	728	717	737	686	562	534	563	585	656	354	236	598	473	641	745	753	752	710	770	741	651	729	667	712	715		637
FRESNO CALIFORNIA	696	752	733	585	717	703	548	444	424	757	753	746	739	748	424	650	773	791	748	764	769	743	746	750	743	735	777	759	762	763		701
GAINESVILLE FLORIDA	449	635	735	703	655	402	581	643	723	672	660	639	740	627	648	667	670	503	566	450	558	688	694	658	459	---	527	518	405	526		600
GLASGOW MONTANA	---	---	---	672	601	620	288	194	577	414*	476	582	713	617	289	407	554	105	271	278	738	702	769	776	743	720	686	692	794	540		549*
GRAND JUNCTION COLO.	666	671	524	753	613	650	528	619	793	467	800	772	500	796	734	565	181	725	631	538	564	810	821	810	804	598	565	503	640	599		641
GREAT FALLS MONTANA	728	591	653	488	524	409	144	65	482	490	606	494	713	509	354	277	456	610	561	496	482	705	733	728	693	509	546	706	742	670		539
GREENSBORO N.C.	168	199	624	681	447	602	415	612	673	697	713	340	549	631	587	725	695	331	536	712	675	582	585	426	550	630	760	720	743	601		574
GRIFFIN EXP.STA.GA.	597	760	716	716	616	255	709	654	705	747	759	640	764	713	741	569	668	708	737	719	722	543	513	528	384	541	466	728	774	771		649
INDIANAPOLIS INDIANA	496	389	800	733	184	464	554	660	781	795	730	664	604	614	528	775	706	315	735	517	427	701	755	807	806	777	780	740	---	451		631
ITHACA NEW YORK	55	639	229	679	732	294	219	612	579	416	784	700	400	696	249	802	792	467	393	652	608	614	623	312	363	700	729	740	674	654		547
LAKE CHARLES LA.	591	571	617	645	567	522	691	682	658	685	653	607	589	512	427	472	527	672	724	723	709	637	433	528	657	403	436	435	193	122		556
LAKELAND FLORIDA	621	560*	625	459	482	389	626	666	574	555	706	667	705	669	694	686	529	638	518	679	711	710	655	562	440	444	525	518	647	516		593*
LANDER WYOMING	241	822	370	735	689	624	396	558	130	673	663	664	455	679	516	694	302	730	742	684	358	460	817	782	952	623	720	396	---	---		588
LARAMIE WYOMING	380	649	293	632	428	604	469	436	702	549	612	576	451	335	502	396	298	601	566	422	253	205	709	695	655	666	559	420	410	439		497
LAS VEGAS NEVADA	705	737	706	726	743	772	678	---	780	726	802	778	753	776	662	752	683	792	773	747	773	802	795	793	746	476	586	788	796	800		739
LITTLE ROCK ARKANSAS	515	559	607	328	485	560	545	585	560	605	578	622	624	630	207	232	285	500	526	628	651	597	580	---	648	652	563	593	377	387		525
LOS ANGELES CALIF.	464	585	464	432	483	548	512*	426	742	683	714	596	512	452	249	427	696	361	396	406	422	488*	495	508	621	537	717	766	764	751		541*
LOS ANGELES CALIF. U	638	610	558	498	558	620	486	216	667	607	736	610	659	592	304	310*	635*	363	373	405	527	647	694	682	764	679	776	778	770	778		585*
MADISON WISCONSIN	738	335	791	777	715	480	649	705	515	781	392	447	614	489	215	676	261	351	575	651	280	286	656	819	767	778	761	745	732	727		590
MANHATTAN KANSAS	609	699	708	184	141	690	561	721	763	703	358	598	425	620	746	637	490	722	659	670	540	381	759	776	772	759	727	719	715	573		614
MATANUSKA ALASKA	624	663	290	213	305	605	686	347	239	217	690	689	674	429	480	626	557	415	150	408	467	524	610	410	147	425	466	311	145	263		436
MAUNA LOA OB.HAWAII	484	716	838	832	834	835	860	855	848	736	663	841	868	857	683	852	865	841	864	746	779	762	460	648	519	512	796	766	839	844		761
MEDFORD OREGON	614	667	414	248	269	454	546	371	669*	482	761	727	710	728	246	413	459	414	715	709	788	762	769	769	766	423	795	778	659*	695		594*
MIAMI FLORIDA	391	298	172	268	181	325	392	352	500	443	678	667	616	600	629	740	668	566	696	683	590	466	431	358	454	416	656	626	676	514		502
MIDLAND TEXAS	726	676	494	565	706	660	696	605	---	---	473	636	440	562	693	598	548	694	659	622	638	672	489	486	714	654	657	669	631	641		618
NASHVILLE TENNESSEE	345	573	641	707	648	644	706	649	717	606	688	593	418	656	539	568	188	585	754	665	651	683	446	715	765	697	706	701	478	257		600

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

[1] Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JUNE 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
NEW YORK N.Y. U	177	337	404	699	770	313	375	224	476	555	780	629	234	694	377	767	778	639	195	668	583	391	285	179	761	751	616	706	656	617		521
NORTH OMAHA NEBRASKA	303	821	683	295	735	601	745	689	758	402	263	761	658	316	509	464	506	724	502	697	429	---	787	788	774	772	738	742	734	333		604
OAK RIDGE TENNESSEE	210	609	591	484	581	355	552	529	588	602	643	413	306	620	465	528	457	448	548	586	543	546	578	389	671	617	599	560	543	481		521
OKLAHOMA CITY OKLA.	648	---	---	---	---	---	---	---	---	---	---	263	289	464	463	403	525	602	648	528	654	645	464	671	667	648	627	642	484	600		---
PAGE ARIZONA	674	600	676	662	600	632	556	739	684	341	709	690	712	692	679	568	597	701	685	514	688	717	713	699	685	596	511	482	614	691		637
PHOENIX ARIZONA	693	665	688	681	679	707	687	637	706	704	724	708	716	710	703	720	706	710	727	735	732	713	701	646	664	434	661	685	686	690		687
PORTLAND MAINE	490	508	723	374	769	763	649	432	331	419	778	788	326	714	490	762	796	778	704	609	768	600	738	463	336	704	707	713	671	536		615
RAPID CITY S.DAK.	543	714	474	552	471	343	513	131	658	459	453	728	600	412	216	416	279	598	614	679	406	199	757	776	738	591	719	581	429	621		522
RIVERSIDE CALIFORNIA	672	681	567	629	649	698	482	432	612	748	780	731	696	695	621	617	659	759	526	552	657	711	720	696	678	676	701	721	739	748		662
SAINT CLOUD MINN.	574	456	764	761	670	325	504	385	222	632	340	622	569	192	625	235	398	164	477	420	447	145	413	620	636	582	636	656	679	416		485
SALT LAKE CITY UTAH	791	561	837	608	673	484	296	469	645	579	731	798	847	692	449	487	143	447	804	458	407	873	859	864	858	866	519	612	739	831		641
SAN ANTONIO TEXAS	721	663	582	673	707	701	685	693	591	571	489	526	596	568	277	279	678	664	640	726	644	629	690	524	590	607	533	559	532	592		598
SANTA MARIA CALIF.	648	654	---	610	674	644	706	545	475	723	720	665	670	732	533	647	750	733*	735	706	694	720	703	686	722	546	719	721	653	691		670*
SAULT STE MARIE MICH	809	---	736	812	756	623	420	703	518	801	681	145	689	619	431	803	500	187	738	656	694	662	517	546	491	697	751	679	663	659		620
SEATTLE TACOMA WASH.	175	590	438	227	479	450	105	125	601	177	196	331	312	662	552	151	208	252*	360	557	600	773	692	474	711	496	513	474	782	659		437*
SEATTLE WASH. UNIV.	142	649	439	228	512	318	81	96	668	187	210	348	245	527	452	79	212	186	219	415	499	716	571	562	703	457	532	479	719	729		406
SHREVEPORT LOUISIANA	---	---	635	649	413	689	648	629	675	610	708	773	641	581	378	440	473	600	696	688	685	719	563	660	685	731	618	698	528	606		622
SPOKANE WASHINGTON	529	494	---	353	506	411	337	117	748	767	412	611	755	689	674	478	341	421	693	676	724	834	798	---	819	721	752	841	789	789		610
STATE COLLEGE PENN.	117	648	361	656	735	107	554	476	619	595	795	527	353	713	404	794	800	673	345	683	600	568	372	358	806	748	697	773	652	665		573
STERLING VIRGINA	152	412	574	601	661	273	512	531	540	670	775	---	423	425	592	782	788	573	543	642	581	542	255	459	763	739	679	768	685	621		571
STILLWATER OKLAHOMA	582	335	628	234	320	624	629	695	672	662	---	---	341	560	566	514	534	596	669	608	697	676	603	727	735	691	674	589	655	424		580
SWAN ISLAND W.I.	604	236	489	689	537	687	701	376	478	620	659	132	180	---	729	753	---	755	665	738	590	702	621	526	237	668	433	520	---	---		551
TAMPA FLORIDA	602	462	728	420	366	402	722	664	702	419	301	521	613	658	624	623	638	610	415	647	615	600	563	605	---	---	623	661	673	497		570
TUCSON ARIZONA	664	641	646	670	676	699	689	705	703	696	703	698	700	694	687	694	732	727	737	744	745	754	730	562	689	316	624	574	674	671		675
WAKE ISLAND.PACIFIC	632	633	495	477	597	439	483	488	636	563	503	561	636	639	608	609	621	630	624	627	621	634	630	557	555	622	122	328	386	614		552

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

JUNE 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	314	425	28	411	284	203	61	-70	201	189	239	345	469	328	363	171	38	239	-5	271	306	319	459	453	356	339	298	345	463	443		276

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. **The instrument with which they were measured has not been checked by the Weather Bureau.**

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λSΩΩΩ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded ΩΩΩ) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g., 350 milli-atmo-cm. ozone implies an ozone layer 0.350 centimeter thick. The code λS designates the type of measurement made.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
December 1963		°F			°F			*In.*		*In.*
Hawaii	3 Stations	88	21+	Haleakala RS 338, Maui	30	30	Waikamoi 449, Maui	10.19	3 Stations	0.00
January 1964										
Alaska	Shearwater Bay	50	25	Copper Valley School	-57	21	Little Port Walter	23.53	Barrow WBAP	.07
Hawaii	Lahaina 361, Maui	88	1	Mauna Loa Slope Obs.	26	19	PH Wainiha 1115, Kauai	33.68	Puu Laau 102 A, Hawaii	.00

See reference notes with current data.

CORRECTIONS

Month	May 1954
page 137: Oklahoma	In Tillman and Cotton Counties, deaths and injuries were revised to 3 each, due to Tornado. See page 71, delayed data of Storm Data, June 1964, Vol. 6, No. 6.
Month	March 1957
page 70: New Orleans (U), La.	Station pressure should be 1012.2 mb.
Month	March 1960
page 91: New Orleans, La.	Station pressure should be 1018.5 mb; sea-level 1019.5 mb.
Month	Annual 1961
page 49: Reference notes	Data for the normals, means, and extremes table are based on records through 1961.
Month	January 1963
page 8: New Orleans (Audubon Park), La.	Station pressure should be 1013.9 mb.
page 21: New Orleans (Audubon Park), La.	Heating degree days should be 465, accumulated total 939.
page 37: Albuquerque, N. Mex.	Ozone data for the seventh should be 06356.
Month	February 1963
page 77: New Orleans (Audubon Park), La.	Heating degree days accumulated total should be 1349.
Month	March 1963
page 117: New Orleans (Audubon Park), La.	Station pressure should be 1012.2. Number of days clear (0-3) should be 9, partly cloudy (4-7) should be 8, cloudy (8-10) should be 14.
page 130: New Orleans (Audubon Park), La.	Heating degree days accumulated total should be 1422.
Month	April 1963
page 190: New Orleans (Audubon Park), La.	Heating degree days accumulated total should be 1424.
page 198: Argonne Nat. Lab.	Average daily langleys should be 353.
Month:	May 1963
page 229: New Orleans (Audubon Park), La.	Station pressure should be 1011.5 mb.
page 242: New Orleans (Audubon Park), La.	Heating degree Days accumulated total should be 1424.
page 243: Kentucky	Hailstorms property damage should be °5, Crops C; windstorms property damage 3, crops 0.
Month	June 1963
page 279: New Orleans (Audubon Park), La.	Station pressure should be 1008.1.
page 293: New Orleans (Audubon Park), La.	Heating degree days accumulated total should be 1424.
Month	July 1963
page 337: New Orleans (Audubon Park), La.	Station pressure should be 1010.2 mb.
Month	August 1963
page 387: New Orleans (Audubon Park), La.	Station pressure should be 1009.5 mb.
Month:	September 1963
page 437: New Orleans (Audubon Park), La.	Station pressure should be 1008.1 mb.
Month:	October 1963
page 489: New Orleans (Audubon Park), La.	Station pressure should be 1012.9 mb.; number of days partly cloudy (4-7) should be 11; Cloudy (8-10) should be 2; Sky cover (tenths) should be 3.0; possible sunshine (%) should be 77.
page 502: Sandusky (U), Ohio	Delete data - station closed September 30.
Month:	November 1963
page 539: New Orleans (Audubon Park), La.	Station pressure should be 1011.5 mb.; prevailing direction of winds should be E; fastest mile occurred on the 29+; number of days clear (0-3) should be 9, partly cloudy (4-7) should be 9; cloudy (8-10) should be 12; sky cover (tenths) should be 5.6; possible sunshine (%) should be 40.
Month:	December 1963
page 589: New Orleans (Audubon Park), La.	Station pressure should be 1015.6 mb; number of days clear (0-3) should be 9; partly cloudy (4-7) 7, cloudy (8-10) 15; sky cover (tenths) should be 6.1; possible sunshine (%) should be 43.
Month	Annual 1963
page 3 and cover:	The volume number should be 14.

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	CORPUS CHRISTI, TEXAS 2/ 1017 MB						CORPUS CHRISTI, TEXAS 3/ 1015 MB						CORPUS CHRISTI, TEXAS 5/ 1010 MB						• FAIRBANKS, ALASKA 5/ 994 MB						FLINT, MICH. 3/ 986 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	6	11.6	74	18	2.1	27	6	11.1	78	6	2.9	28	6	21.6	82	137	7.2	29	135	- 5.6	77	333	3.7	22	234	- 5.2	72	251	4.1
1000	29	148	12.6	72	56	1.6	27	129	12.0	71	10	2.9	28	95	20.6	84			29	86	- 7.8		7	3.3	22	123				
950	29	574	11.2	66	172	4.9	27	554	10.6	59	165	1.4	28	533	18.6	80			29	486	- 5.8	64	355	1.0	22	525	- 6.0	74	286	9.5
900	29	1,039	10.0	54	216	6.8	27	1,007	8.8	59	239	4.1	28	1,002	18.3	57			29	912	- 7.8	76	295	3.7	22	948	- 6.8	66	302	12.0
850	29	1,503	8.9	47	235	9.3	27	1,479	6.7	52	243	7.0	28	1,492	17.4	45			29	1,355	- 9.7	74	239	5.8	22	1,393	- 8.1	55	298	14.8
800	29	2,034	7.6	40	240	13.6	27	1,975	5.3	47	254	12.0	28	2,007	14.9	41			29	1,820	-12.3	77	237	8.2	22	1,862	- 9.8	49	302	17.7
750	29	2,531	5.3	42	247	16.7	27	2,496	4.1	40	259	18.1	28	2,548	12.7	32			29	2,309	-15.3	74	248	10.1	22	2,356	-11.9	42	301	19.6
700	29	3,096	2.7	41	252	19.8	27	3,061	1.5	35	260	23.9	28	3,127	8.8	32			29	2,828	-18.4	71	244	12.8	22	2,884	-14.3		296	21.2
650	29	3,686	- .8	43	249	23.1	27	3,647	- 1.8	32	265	30.7	28	3,731	4.3	33			29	3,374	-22.0	71	243	14.6	22	3,439	-16.9		295	21.6
600	29	4,327	- 4.9	42	249	25.8	27	4,286	- 5.9	32	261	37.1	28	4,381	- .7	37			29	3,962	-25.8	66	245	16.1	22	4,041	-20.2		290	23.9
550	29	4,996	- 9.5	37	248	29.5	27	4,955	-10.3	32	262	42.9	28	5,061	- 6.0	44			29	4,579	-29.8	61	246	17.7	22	4,676	-23.9		286	26.2
500	29	5,736	-13.9	38	251	37.3	27	5,691	-14.0	37	261	54.8	28	5,808	-11.6	48			29	5,260	-34.2	57	248	20.2	22	5,370	-28.1		285	28.7
450	29	6,519	-19.0	44	251	44.3	27	6,477	-18.5	35	258	65.1	28	6,599	-16.7	39			29	5,983	-39.0		247	24.7	22	6,110	-33.2		289	30.3
400	29	7,397	-24.7	54	247	52.8	27	7,355	-23.6	34	259	73.8	28	7,483	-22.8	39			28	6,792	-44.4		250	28.2	22	6,936	-39.2		286	35.0
350	29	8,355	-31.4	48	250	52.6	27	8,319	-30.0	38	261	81.6	28	8,449	-29.6	40			28	7,675	-49.8		251	30.3	22	7,838	-45.9		282	35.9
300	29	9,428	-39.3	45	245	61.4	26	9,400	-37.8	31	261	95.2	28	9,530	-38.0	37			28	8,673	-53.4		259	32.8	22	8,850	-51.6		276	39.8
250	29	10,652	-48.6		247	67.2	26	10,633	-46.4		262	100.4	28	10,760	-47.5				27	9,850	-52.2		266	36.1	22	10,025	-53.8		268	47.4
200	28	12,085	-56.2		246	70.1	25	12,091	-54.6		259	103.9	28	12,128	-57.6				27	11,303	-49.7		265	29.9	21	11,465	-52.8		271	49.1
175	26	12,925	-58.2		245	64.7	24	12,944	-57.8		263	90.3	28	13,033	-61.9				26	12,178	-48.5		262	28.2	21	12,319	-52.0		270	47.8
150	26	13,890	-60.5		246	56.1	24	13,907	-61.2		263	83.7	26	13,984	-65.6				26	13,192	-48.2		260	24.7	21	13,330	-51.2		273	46.0
125	23	15,021	-63.8		248	50.7	22	15,031	-65.1		264	70.3	23	15,083	-68.2				25	14,396	-48.1		259	22.1	21	14,512	-52.2		271	39.6
100	20	16,371	-67.3		248	39.6	19	16,389	-69.6		264	55.6	19	16,423	-70.7				24	15,864	-48.1		258	20.0	21	15,950	-54.1		272	35.4
80	15	17,699	-67.2				15	17,710	-69.8		266	45.3	17	17,742	-72.3				24	17,336	-47.9		259	14.4	21	17,379	-54.7		273	32.6
70	14	18,502	-66.6				12	18,520	-69.4		266	44.9	16	18,529	-71.0				24	18,211	-47.8		269	10.1	21	18,238	-54.6		272	29.7
60	11	19,440	-63.4				12	19,446	-65.9		269	22.1	14	19,453	-67.7				24	19,234	-48.1		269	6.6	21	19,219	-54.8		277	25.3
50	11	20,563	-62.0				10	20,544	-63.0		283	12.8	14	20,563	-63.0				24	20,435	-48.1		261	4.7	21	20,386	-54.2		281	22.1
40	11	21,947	-60.3				10	21,928	-59.5		279	13.8	13	21,948	-59.3				22	21,901	-48.8		273	2.5	21	21,818	-53.6		285	16.1
30	8	23,749	-57.8				8	23,729	-57.2				13	23,772	-54.4				21	23,786	-49.1		334	1.2	21	23,667	-53.4		298	15.2
25	7	24,904	-55.3				7	24,887	-55.6				13	24,947	-51.8				19	24,984	-49.2		21	.8	21	24,841	-53.2		305	13.6
20	7	26,330	-54.7				5	26,304	-53.4				12	26,403	-48.3				18	26,444	-49.1		60	3.5	21	26,282	-52.0		319	13.8
15	7	28,180	-52.2										12	28,317	-43.8				16	28,333	-47.9		90	5.1	21	28,147	-51.2		306	15.5
10	6	30,829	-48.7										10	31,095	-38.6				15	31,022	-45.8		96	4.3	16	30,791	-48.7			
7													8	33,544	-35.4				12	33,415	-43.4				5	33,164	-46.4			
5													6	35,885	-31.4				7	35,690	-39.6									

Standard pressure surface (mb)	KEY WEST, FLORIDA 2 1018 MB						KEY WEST, FLORIDA 3 1015 MB						KEY WEST, FLORIDA 5 1017 MB						MERIDA, MEXICO 1/ 1019 MB						MERIDA, MEXICO 2/ 1018 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	3	19.6	86	50	3.7	19	3	18.5	81	40	2.7	26	3	24.2	81	97	6.8	31	11	15.7	95	56	4.3	31	11	18.0	95	81	5.1
1000	27	158	19.0	82	62	4.5	19	132	17.8	81	72	2.7	26	151	23.0	82	105	9.7	31	170	19.8	81	64	7.4	31	163	19.6	87	86	8.0
950	27	597	16.6	79	118	3.1	19	567	15.0	79	196	2.7	26	596	19.7	85	125	12.6	31	604	17.3	78	71	6.4	31	601	17.5	84	108	10.1
900	27	1,058	13.9	74	179	2.7	19	1,026	13.2	70	235	8.9	26	1,063	17.0	78	133	10.5	31	1,071	14.5	76	111	3.1	31	1,066	15.1	79	125	7.6
850	27	1,539	12.2	68	238	6.2	19	1,507	12.5	60	240	17.3	26	1,549	14.1	73	137	8.0	31	1,553	12.3	70	216	1.0	31	1,549	13.2	74	161	4.5
800	27	2,046	10.9	55	242	9.9	19	2,015	10.5	65	246	20.2	26	2,059	11.6	65	143	3.3	31	2,060	10.4	58	272	3.7	31	2,059	11.6	64	197	4.9
750	27	2,583	9.3	49	252	13.6	19	2,547	8.4	63	254	24.1	26	2,592	9.5	52	93	1.7	31	2,594	9.1	48	266	4.9	31	2,592	9.9	54	210	5.1
700	27	3,154	6.9	43	253	15.7	19	3,120	5.8	58	258	28.0	26	3,167	7.2	46	86	1.0	31	3,167	7.0	44	260	8.4	31	3,170	7.3	48	218	7.2
650	27	3,759	3.8	44	256	20.4	19	3,719	3.5	50	257	34.0	26	3,769	3.9	45	286	2.1	31	3,767	3.8	36	257	12.0	31	3,767	4.2	44	246	8.9
600	27	4,406	- .3	45	257	23.9	19	4,370	- .4	52	254	38.1	26	4,420	.0	44	315	6.4	31	4,420	.2	31	245	15.2	31	4,424	.2	39	238	11.1
550	27	5,092	- 4.5	41	258	28.4	19	5,055	- 4.1	44	258	42.7	26	5,106	- 4.0	41	306	10.1	31	5,103	- 3.5		249	18.3	31	5,108	- 3.6	32	239	15.9
500	27	5,842	- 8.9	39	258	32.8	19	5,808	- 8.4	40	258	50.1	26	5,858	- 8.9	40	302	15.5	31	5,861	- 8.4		256	23.7	31	5,865	- 8.3		241	18.5
450	27	6,647	-14.1	37	259	40.0	19	6,612	-13.7	37	259	58.5	26	6,561	-14.3	41	299	21.8	31	6,663	-13.7		254	29.1	31	6,668	-13.3		243	27.2
400	27	7,535	-20.4	37	257	46.0	19	7,503	-19.9	35	260	66.6	26	7,548	-21.0	40	300	27.8	31	7,559	-19.9		251	31.7	31	7,565	-19.5		244	34.0
350	27	8,510	-27.5	36	259	50.5	19	8,478	-27.4	35	262	69.3	26	8,520	-28.4	40	298	31.7	30	8,534	-26.6		249	36.5	31	8,543	-26.8		238	30.1
300	27	9,598	-36.5	41	262	54.8	19	9,568	-35.7	35	260	73.4	26	9,607	-36.8	40	298	37.9	29	9,626	-35.2		248	41.8	31	9,636	-35.5		244	31.7
250	27	10,833	-46.9		265	60.6	19	10,810	-44.9		261	79.3	26	10,843	-46.4		298	42.5	29	10,870	-44.9		252	37.3	31	10,877	-45.4		254	34.6
200	26	12,277	-56.6		266	65.7	19	12,269	-54.6		263	74.6	26	12,291	-56.4		298	51.9	29	12,324	-56.1		255	40.0	31	12,328	-55.6		254	34.6
175	25	13,115	-60.7		261	67.4	19	13,113	-59.5		263	80.8	25	13,128	-61.1		292	60.2	29	13,160	-61.6		257	42.0	31	13,171	-60.5		246	38.7
150	25	14,066	-64.0		264	65.7	19	14,067	-64.4		261	76.7	24	14,075	-66.2		290	54.2	29	14,104	-66.0		260	41.6	30	14,122	-64.8		249	46.0
125	25	15,169	-69.0		262	58.3	19	15,167	-69.8		263	66.2	24	15,169	-70.3		287	46.4	27	15,197	-70.3		247	34.6	30	15,221	-70.0		253	38.9
100	24	16,486	-73.0		264	47.0	19	16,481	-74.1		266	58.5	23	16,484	-73.4		282	36.7	21	16,522	-75.0		253	26.8	28	16,532	-74.2		247	23.9
80	24	17,790	-73.3		264	38.3	19	17,776	-75.1		261	46.2	21	17,781	-74.8		281	21.2	19	17,812	-76.0		250	21.8	28	17,829	-74.2		253	13.8
70	24	18,571	-72.5		263	32.2	19	18,554	-72.0		263	36.5	21	18,559	-73.1		289	14.6	19	18,588	-74.1		258	14.8	28	18,615	-72.3		259	8.0
60	24	19,481	-70.3		265	22.5	18	19,470	-68.8		260	25.3	20	19,467	-68.6		291	10.3	18	19,493	-69.1		256	16.5	28	19,521	-69.9		276	3.3
50	24	20,571	-67.5		276	13.2	18	20,572	-64.9		262	18.8	20	20,574	-63.9		297	4.7	18	20,596	-64.0		263	20.2	27	20,615	-66.5		287	8.2
40	24	21,932	-62.2		270	8.9	18	21,948	-60.1		266	11.8	19	21,954	-59.8		352	2.1	18	21,983	-58.4		267	24.5	27	21,977	-61.5		270	10.5
30	23	23,733	-56.6		330	5.2	18	23,765	-55.1		269	12.8	18	23,773	-54.2		21	1.6	18	23,823	-50.7		267	36.9	27	23,789	-55.4		282	10.1
25	23	24,896	-53.7		299	6.0	18	24,934	-53.6		296	9.9	16	24,960	-50.8		332	1.2	18	25,022	-46.5		262	37.1	25	24,955	-53.0		289	12.0
20	21	26,334	-51.5		284	9.5	16	26,368	-51.4		283	14.0	14	26,420	-46.7		292	5.1	18	26,517	-43.5		272	38.5	25	26,401	-50.6		278	12.0
15	20	28,216	-47.9		272	20.4	15	28,255	-46.6		270	25.6	13	28,352	-41.2		270	15.0	13	28,442	-43.1				18	28,296	-46.7		264	26.6
10	16	30,926	-40.5		271	28.2	14	30,982	-40.0		259	38.3	12	31,160	-36.2										9	31,012	-41.9			
7	12	33,354	-37.1				10	33,403	-36.5				6	33,666	-32.9															
5							5	35,706	-36.0																					

Standard pressure surface (mb)	MERIDA, MEXICO 3/ 1014 MB						MERIDA, MEXICO 4/ 1014 MB						MERIDA, MEXICO 5/ 1014 MB						MERIDA, MEXICO 6/ 1014 MB						POINT ARGUELLO, CALIF. 2/ 1008 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	11	17.2	94	94	3.7	31	11	21.5	93	120	5.6	30	11	22.9	89	118	7.0	31	11	23.4	89	110	5.4	30	113	6.3	82	55	1.6
1000	29	134	19.8	83	105	7.2	31	134	22.0	89	123	12.4	30	131	23.1	86	121	14.4	31	130	23.7	86	115	10.1	30	175	9.5	67	25	3.7
950	29	574	18.2	78	134	8.9	31	584	20.7	83	139	19.4	30	577	21.0	82	135	24.5	31	578	22.2	78	134	17.1	30	603	10.1	51	350	10.1
900	29	1,040	16.2	69	159	6.0	31	1,049	19.9	64	144	14.8	30	1,047	20.3	61	134	20.4	31	1,049	20.9	63	131	13.8	30	1,050	8.5	48	345	11.5
850	29	1,526	14.2	61	219	5.1	31	1,541	18.1	60	148	8.5	30	1,540	18.3	52	122	11.3	31	1,542	18.4	58	115	9.1	30	1,520	6.4	46	335	14.4
800	29	2,037	12.1	57	248	9.3	31	2,059	15.3	52	169	5.8	30	2,058	15.2	48	117	5.4	31	2,059	15.1	56	104	3.9	30	2,016	4.3	35	327	16.9
750	29	2,576	9.8	53	252	11.3	31	2,596	12.8	44	194	6.6	30	2,596	12.6	36	110	5.2	31	2,596	12.2	45	94	1.9	30	2,541	1.9	29	318	19.2
700	29	3,149	8.1	37	257	11.1	31	3,181	9.5	36	207	5.2	30	3,178	9.7	25	72	5.1	31	3,179	9.2	40	38	1.7	30	3,092	- 1.3	28	313	20.6
650	29	3,751	5.3	29	264	13.8	31	3,785	5.6	29	233	5.4	30	3,781	6.4	22	38	5.1	31	3,782	5.9	33	41	2.3	30	3,676	- 4.8	28	312	22.5
600	28	4,409	1.8	28	268	18.4	31	4,442	1.6	29	258	8.4	30	4,442	2.8		4	8.0	31	4,441	2.1	32	23	4.1	30	4,304	- 8.6	27	307	26.0
550	28	5,096	- 1.7		265	22.5	31	5,125	- 2.3		264	12.4	30	5,129	- 1.2		345	9.5	31	5,126	- 2.1		19	5.2	30	4,967	-13.2	27	306	28.7
500	28	5,860	- 6.5		261	27.2	31	5,890	- 7.0		257	15.3	30	5,896	- 6.3		333	9.5	31	5,890	- 7.1		6	5.2	30	5,691	-18.3	29	306	32.1
450	28	6,666	-12.1		263	28.0	31	6,636	-12.2		253	19.6	30	6,706	-12.2		324	12.0	31	6,697	-12.6		335	5.1	30	6,466	-24.1	31	305	33.8
400	28	7,568	-18.8		258	31.9	31	7,598	-18.4		248	25.6	30	7,603	-18.6		298	14.4	31	7,593	-18.8	29	326	7.2	30	7,318	-30.6	33	306	35.9
350	28	8,548	-26.2		259	31.7	31	8,580	-25.3		253	29.9	30	8,586	-25.5		300	23.3	31	8,574	-25.9		313	9.9	30	8,251	-38.1	27	307	39.2
300	28	9,643	-34.6		268	39.2	31	9,679	-34.1		265	35.9	30	9,685	-34.0		294	33.0	31	9,672	-34.1		295	14.2	30	9,294	-45.9		305	41.8
250	28	10,892	-43.8		270	46.2	31	10,929	-44.3		269	38.9	30	10,936	-43.8		294	37.9	31	10,923	-43.8		290	17.3	30	10,485	-53.9		300	44.5
200	28	12,357	-53.6		266	50.5	31	12,386	-55.0		265	40.0	30	12,397	-55.2		294	42.2	31	12,383	-55.3		277	24.3	30	11,898	-59.2		294	46.6
175	28	13,206	-58.5		263	52.1	31	13,232	-60.0		259	43.1	30	13,238	-60.9		288	42.2	31	13,223	-60.9		279	28.4	30	12,734	-59.1		289	45.8
150	28	14,162	-64.4		265	42.0	30	14,185	-65.0		257	38.3	30	14,183	-66.7		285	39.2	31	14,169	-66.1		280	27.4	30	13,701	-58.5		286	48.6
125	28	15,259	-70.6		267	35.2	30	15,285	-69.3		249	26.6	30	15,272	-71.2		284	32.1	31	15,264	-70.1		288	20.0	30	14,843	-60.5		287	42.2
100	28	16,563	-76.1				30	16,578	-74.5		237	23.7	30	16,579	-75.2		288	24.1	30	16,585	-72.1		325	10.7	30	16,224	-62.7		284	36.1
80	28	17,846	-76.5				30	17,888	-75.8		226	13.0	30	17,865	-77.0		294	15.7	30	17,900	-71.3		34	9.7	30	17,598	-63.2		288	26.2
70	28	18,624	-73.4				30	18,566	-72.8		233	7.8	30	18,638	-74.3		299	8.9	30	18,693	-68.8		64	11.1	30	18,418	-63.1		293	20.4
60	28	19,531	-69.0				30	19,576	-68.7		239	3.5	30	19,548	-68.1		272	4.7	30	19,626	-63.9		94	10.3	30	19,370	-61.7		301	12.8
50	28	20,633	-64.4		259	10.5	30	20,674	-66.2		270	4.1	30	20,659	-62.5		280	3.5	30	20,755	-59.5		90	11.8	30	20,504	-59.7		318	9.1
40	28	22,019	-58.2		254	10.1	28	22,044	-60.6		315	5.1	30	22,059	-56.3		309	2.7	30	22,167	-55.0		89	14.2	30	21,907	-57.5		346	6.8
30	26	23,854	-53.0		264	13.2	27	23,963	-54.7		338	4.9	29	23,908	-50.8		67	4.7	30	24,030	-49.2		90	19.0	29	23,735	-54.3		41	6.6
25	26	25,026	-50.6		269	15.2	26	25,033	-52.9		322	6.6	29	25,104	-47.7		74	1.9	29	25,236	-46.3		84	21.8	28	24,914	-52.3		59	7.8
20	25	26,499	-47.4				24	26,482	-49.9		311	10.5	29	26,590	-43.4		296	.6	28	26,727	-43.3		90	22.0	28	26,362	-50.7		71	11.1
15	18	28,418	-45.9				17	28,388	-45.3				20	28,539	-41.0		91	3.3	24	28,676	-40.0		88	19.0	28	28,245	-48.3		65	9.7
10							5	31,112	-41.6										5	31,466	-38.0				28	30,937	-44.1		57	10.5
7																									23	33,351	-40.7		42	14.2
5																									6	35,676	-38.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

	POINT ARGUELLO, CALIF. 3/ 1006 MB						SAN NICOLAS, CALIF. 2/ 998 MB						SAN NICOLAS, CALIF. 3/ 997 MB					
					Wind						Wind						Wind	
Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	29	113	5.5	78	78	2.9	28	174	10.7	78	329	8.0	28	174	11.2	66	332	8.2
1000	29	161	8.8	65	45	3.7	28	160			350	5.6	28	147				
950	29	590	11.7	38	3	9.1	28	588	12.2	42	344	10.3	28	579	13.6	32	360	9.3
900	29	1,040	10.0	30	355	9.9	28	1,041	10.0	39	348	7.4	28	1,032	11.0	29	28	6.2
850	29	1,513	7.7	25	342	11.7	28	1,514	7.5	36	334	8.5	28	1,506	8.5	25	2	6.4
800	29	2,011	5.4	24	329	13.2	28	2,011	5.6	31	330	10.9	28	2,005	6.2	23	349	7.4
750	29	2,536	3.0	22	329	15.3	28	2,534	3.0	31	321	12.8	28	2,531	3.7	23	331	12.2
700	29	3,092	.0	20	328	14.6	28	3,092	- .3	31	323	14.8	28	3,089	.7	22	328	14.8
650	29	3,678	- 4.0	20	328	16.7	28	3,677	- 3.9	31	322	17.3	28	3,675	- 3.3	22	334	16.7
600	29	4,308	- 8.3	20	326	17.9	28	4,308	- 8.0	29	320	20.4	28	4,308	- 7.6	22	324	19.0
550	29	4,971	-12.9	20	326	19.0	28	4,974	-12.7	28	322	23.7	28	4,969	-12.3	25	321	20.8
500	29	5,696	-18.4	22	323	21.2	28	5,699	-17.7	26	318	26.2	28	5,700	-17.8	26	319	20.0
450	29	6,464	-24.7	23	321	22.9	28	6,473	-23.5	31	313	29.1	28	6,472	-24.0	27	315	22.0
400	29	7,319	-31.6	24	318	23.9	28	7,331	-29.9	31	313	33.2	28	7,328	-30.8	28	310	23.7
350	29	8,249	-39.0	21	317	25.6	28	8,268	-37.3	30	310	37.9	28	8,261	-38.1	33	297	28.0
300	29	9,289	-46.5		300	31.1	28	9,314	-45.5		307	39.2	28	9,305	-46.0		284	38.3
250	29	10,478	-54.0		284	39.6	28	10,507	-53.8		308	44.9	28	10,498	-52.9		273	55.8
200	29	11,899	-55.9		278	53.4	28	11,923	-58.1		303	44.7	28	11,924	-56.2		272	71.1
175	29	12,748	-55.7		279	51.3	28	12,763	-58.6		298	45.1	28	12,772	-56.3		272	62.2
150	29	13,727	-57.0		280	48.2	28	13,732	-58.8		296	43.3	28	13,750	-57.5		277	52.4
125	29	14,875	-59.4		282	42.5	28	14,872	-61.2		295	42.3	27	14,895	-60.3		276	47.8
100	29	16,263	-61.8		286	33.8	28	16,248	-64.0		295	33.8	27	16,276	-63.3		280	36.3
80	29	17,640	-62.7		292	25.3	28	17,610	-65.0		295	25.8	27	17,646	-63.6		284	26.8
70	29	18,464	-62.3		296	20.0	28	18,424	-64.4		300	19.6	27	18,464	-63.4		288	19.2
60	29	19,417	-61.4		307	15.7	28	19,371	-62.7		302	14.0	27	19,415	-62.5		298	15.2
50	29	20,553	-59.4		339	9.1	28	20,500	-60.8		307	10.5	27	20,544	-60.5		323	10.1
40	29	21,957	-57.3		41	7.2	28	21,896	-58.4		353	6.2	27	21,944	-57.5		26	5.2
30	29	23,786	-54.9		57	12.4	28	23,720	-55.1		31	5.2	27	23,771	-55.4		61	8.7
25	29	24,954	-53.6		68	15.3	28	24,890	-53.0		62	5.8	27	24,937	-54.1		67	11.7
20	28	26,397	-51.6		72	18.5	28	26,334	-51.5		63	5.6	27	26,374	-52.2		72	14.6
15	27	28,270	-49.2		72	21.8	28	28,209	-49.4		70	3.3	27	28,246	-49.7		73	14.4
10	27	30,955	-44.6		74	20.2	27	30,891	-45.2		47	1.9	27	30,926	-45.0		73	12.2
7	22	33,371	-40.0		63	19.2	22	33,281	-42.8		45	3.7	25	33,319	-40.7		80	9.9
5	9	35,753	-34.0				16	35,548	-39.3		290	8.9	15	35,638	-35.2		8	8.4
4							7	37,116	-36.6									
3							5	49,108	-35.0									

1/ December 1963
2/ January 1964
3/ February 1964
4/ March 1964
5/ April 1964
6/ May 1964

Also see reference notes with current data.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code ʌ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

DELAYED DATA

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
February 1964																																
Caribou, Maine				00400		00348																										

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e g , 350 milli-atmo-cm ozone implies an ozone layer 0 350 centimeter thick The code ʌ s designates the type of measurement made

SOLAR RADIATION DATA

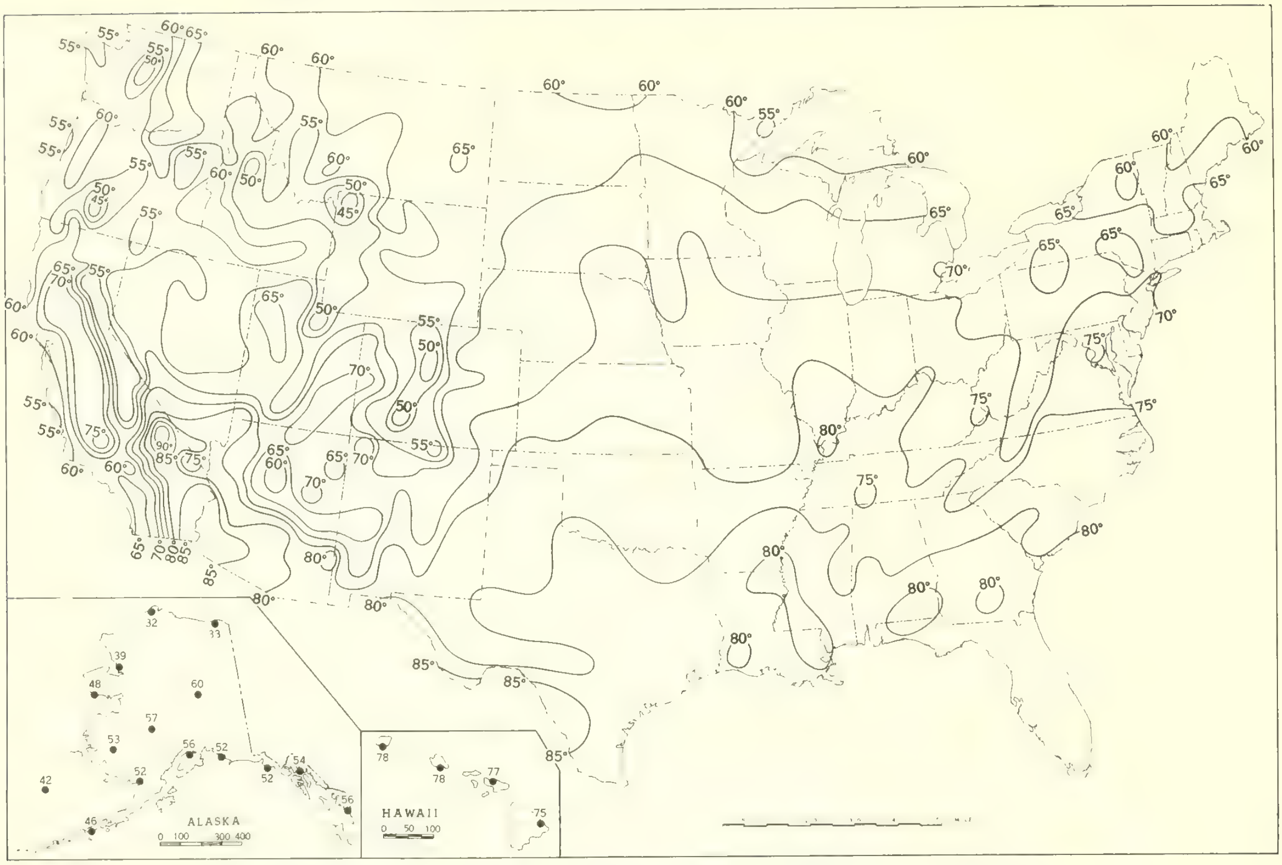
Average daily values (direct and diffuse) received on a horizontal surface, tabulated in langleys

YEAR 1963

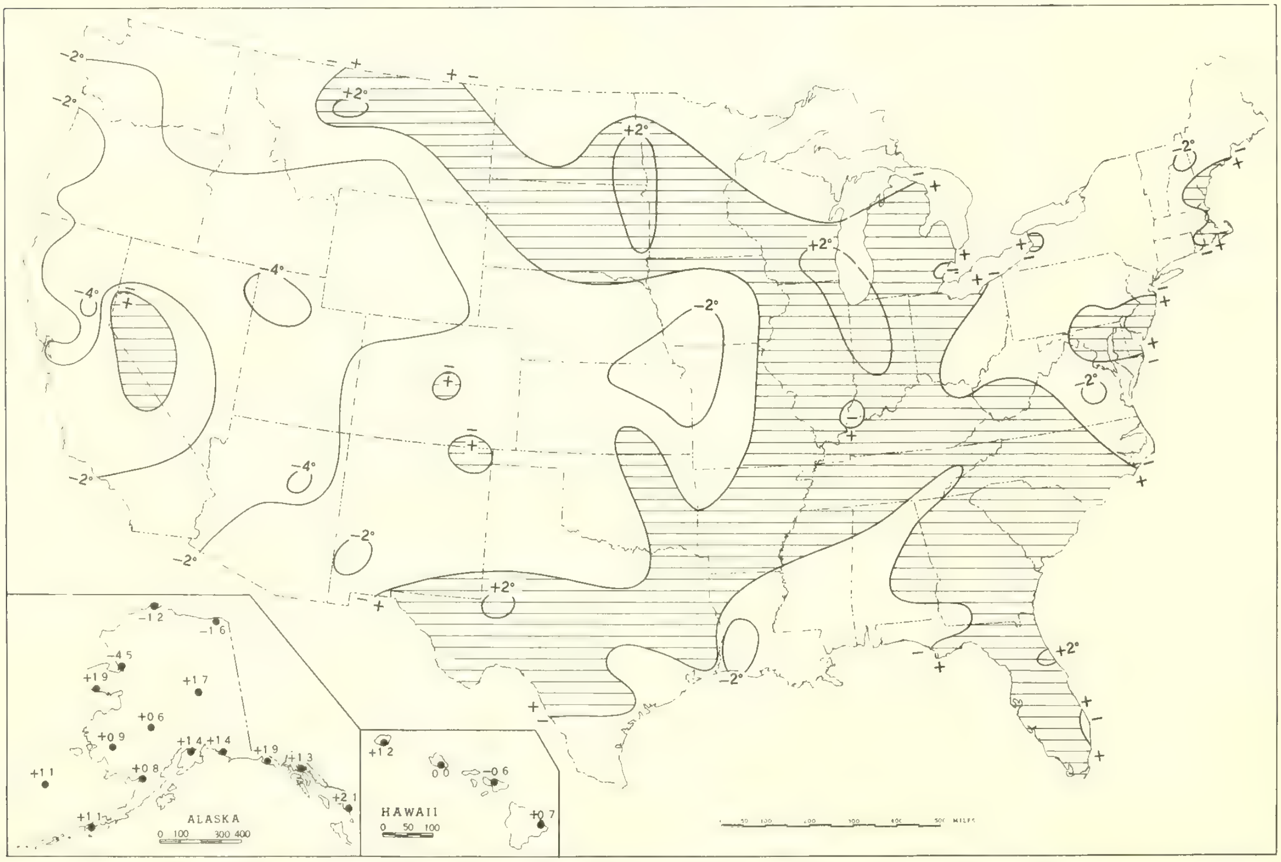
Station	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Inyokern China Lake, Calif.	350	468	588	728	805	859	881	748	590	466	367	331	598

Note Langley is the unit used to denote one gram calorie per square centimeter.

Chart I. A. Average Temperature (°F.) at Surface, June 1964.



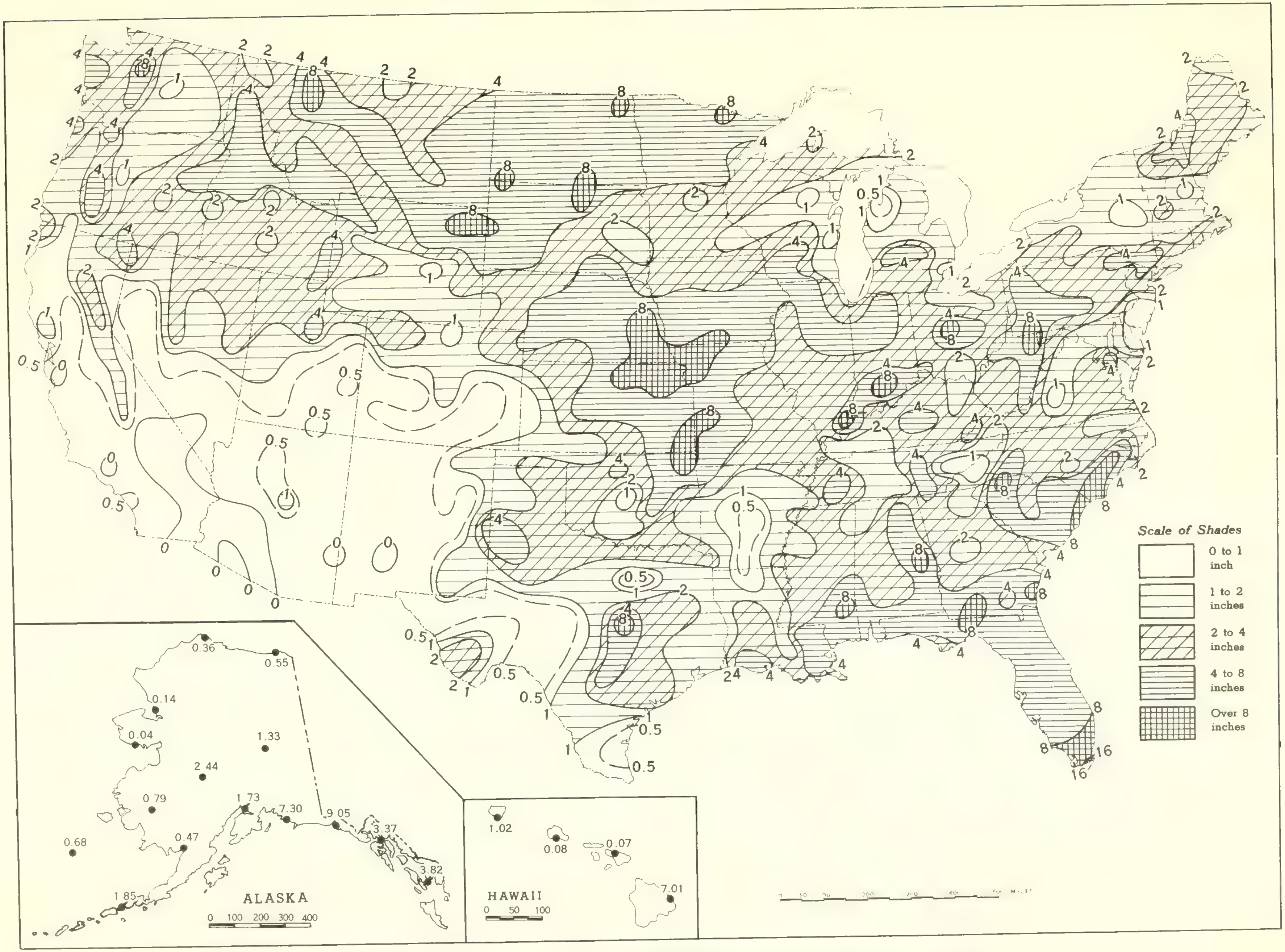
B. Departure of Average Temperature from Normal (°F.), June 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

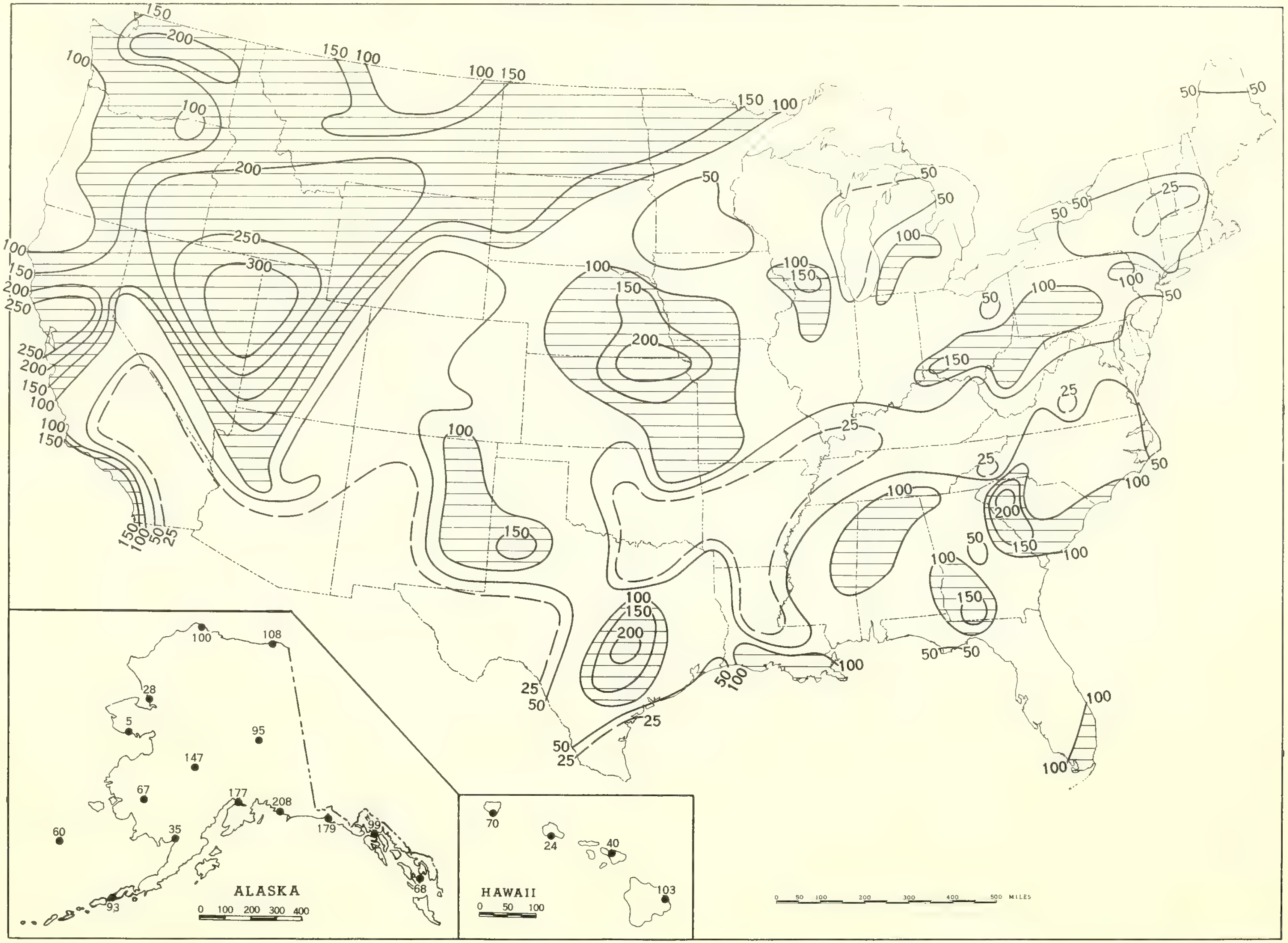
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), June 1964.



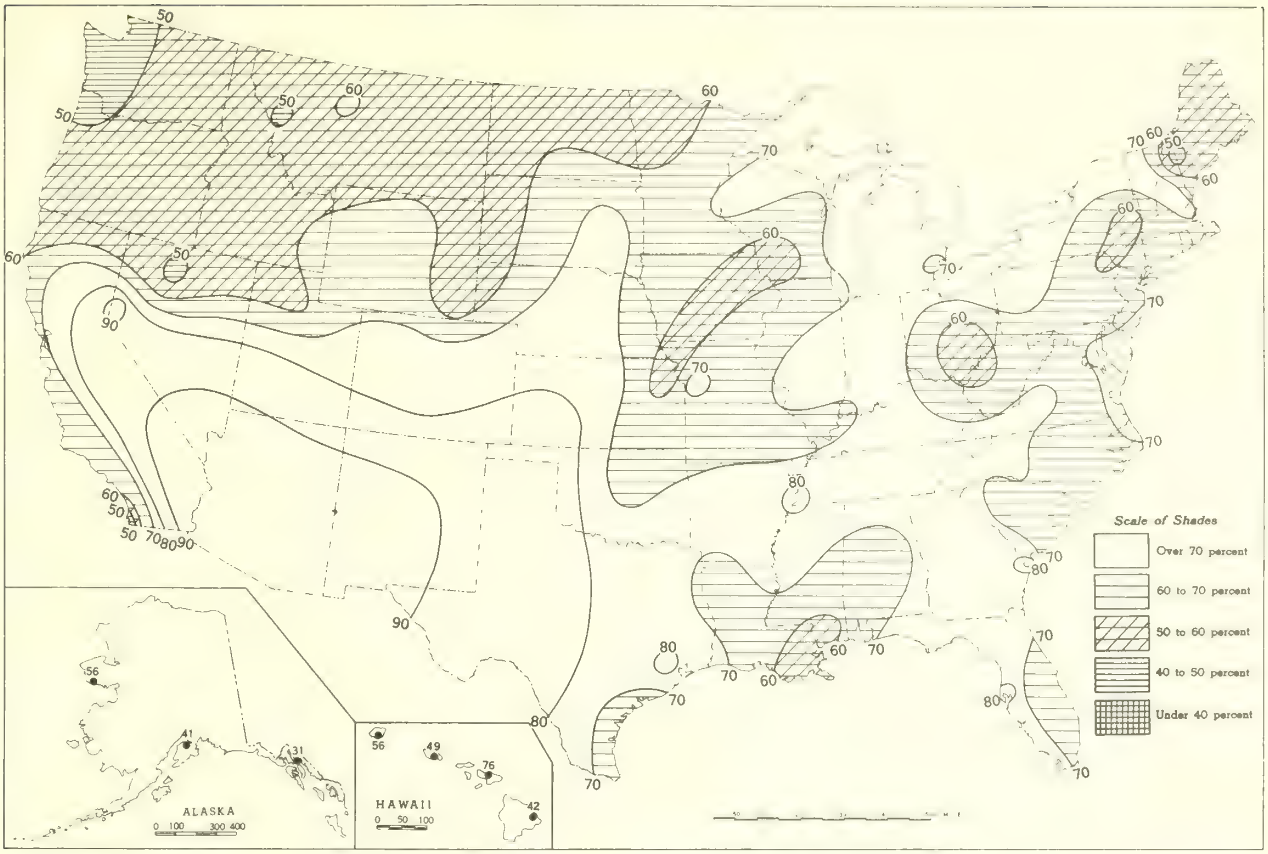
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, June 1964.

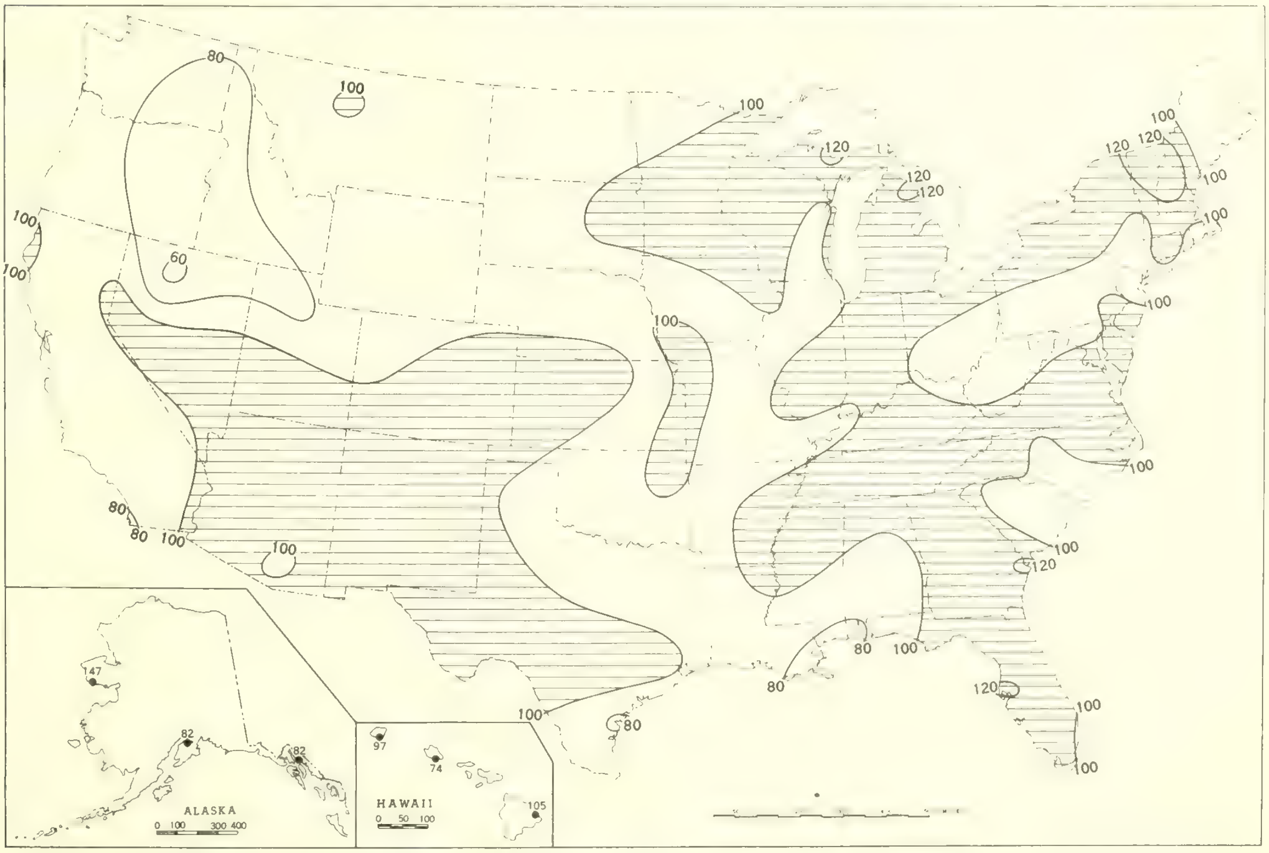


Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, June 1964.

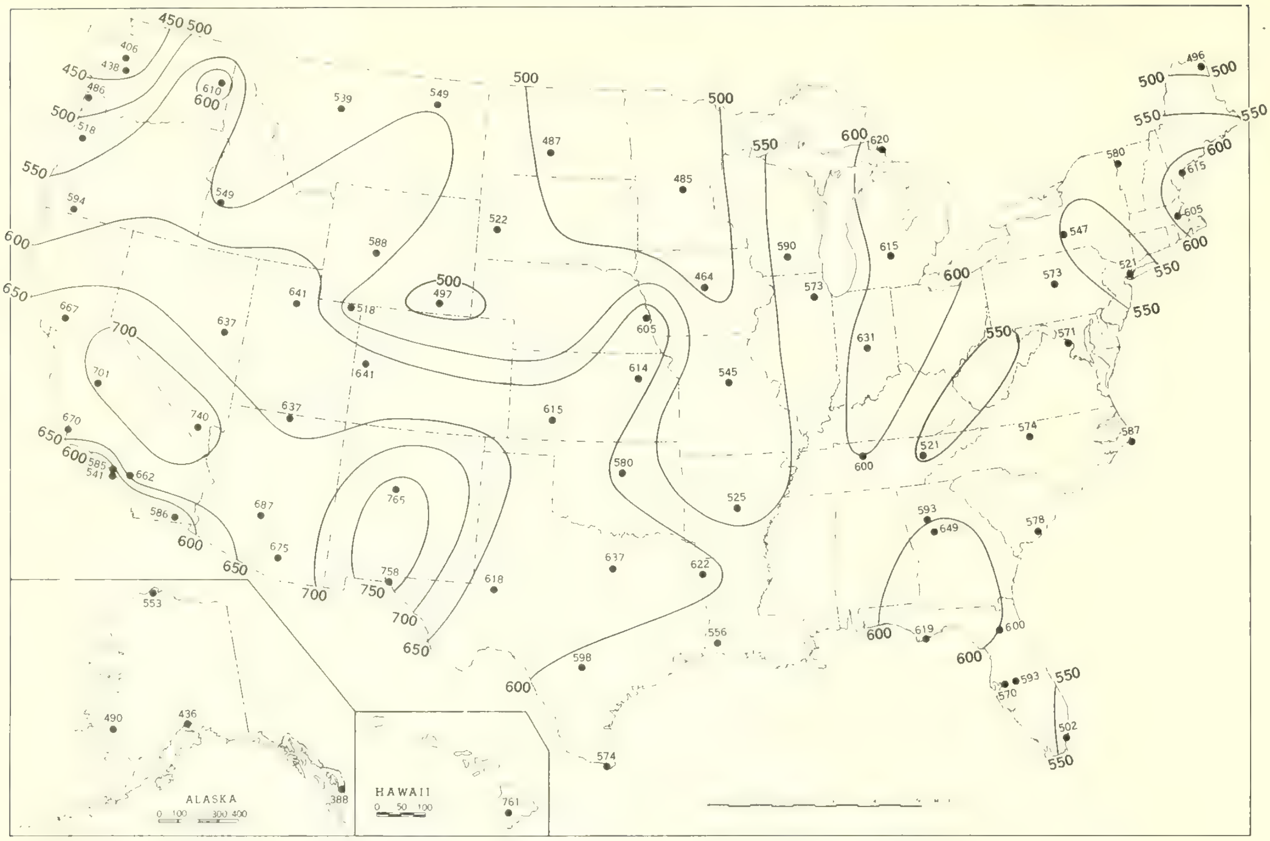


B. Percentage of Mean Monthly Sunshine, June 1964.

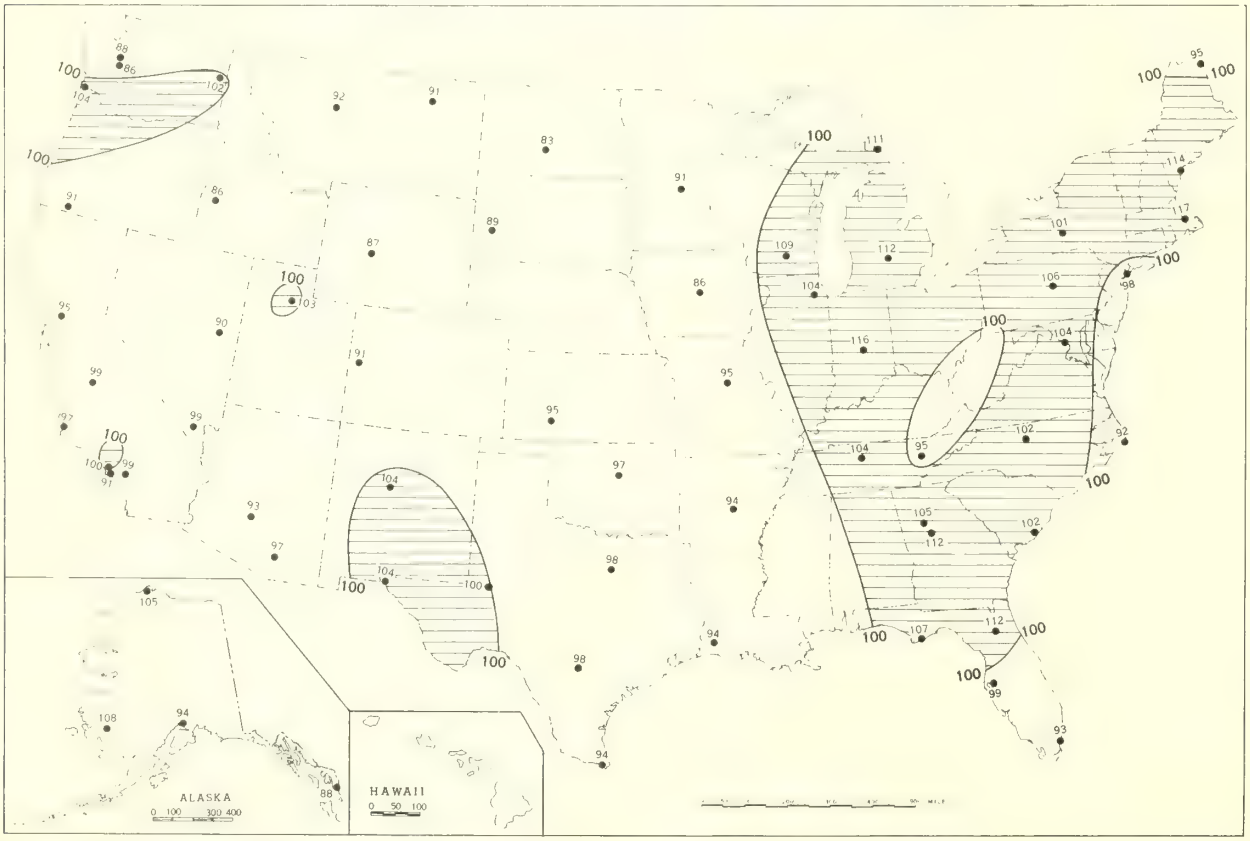


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, June 1964.

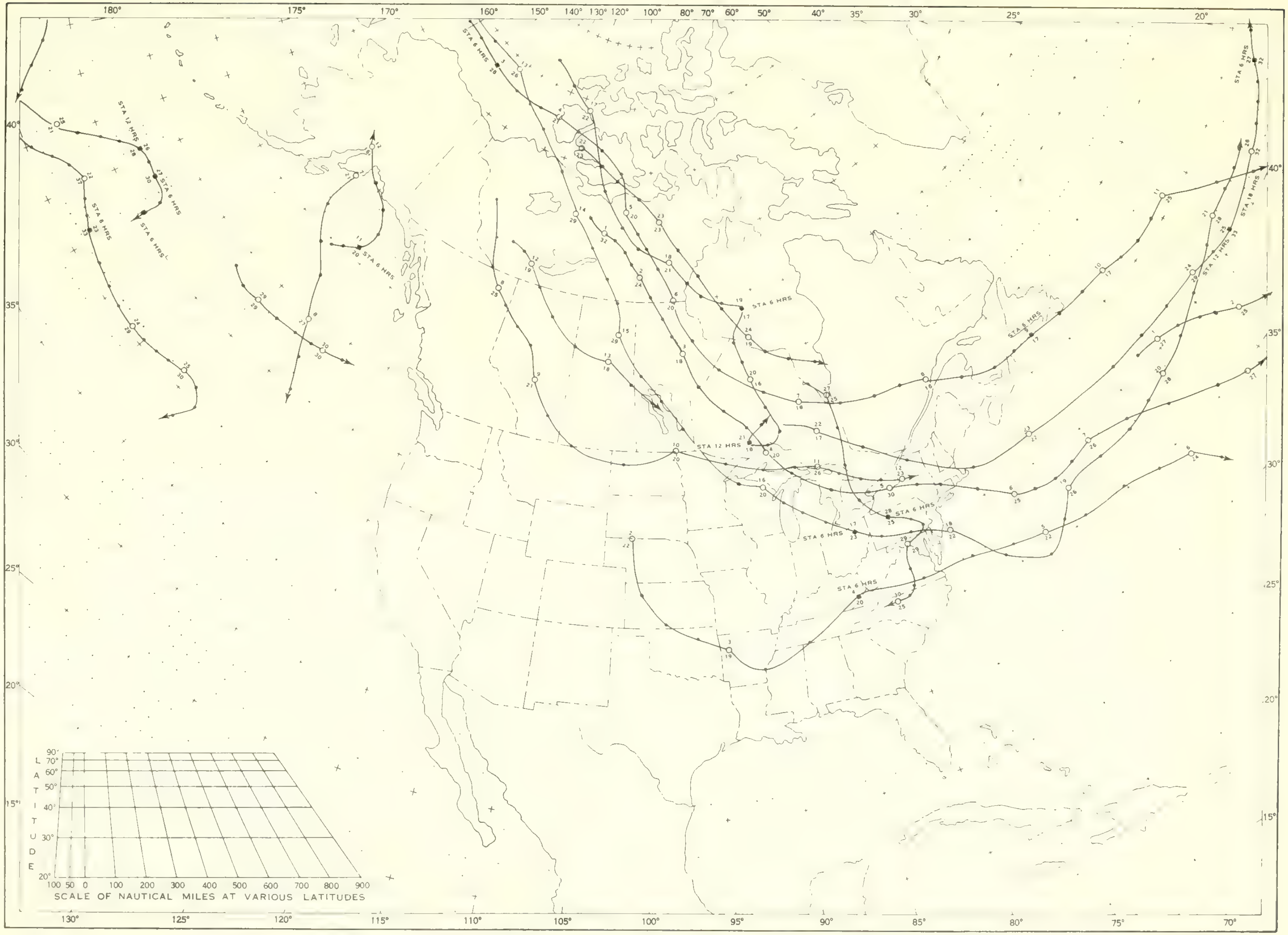


B. Percentage of Mean Daily Solar Radiation, June 1964.



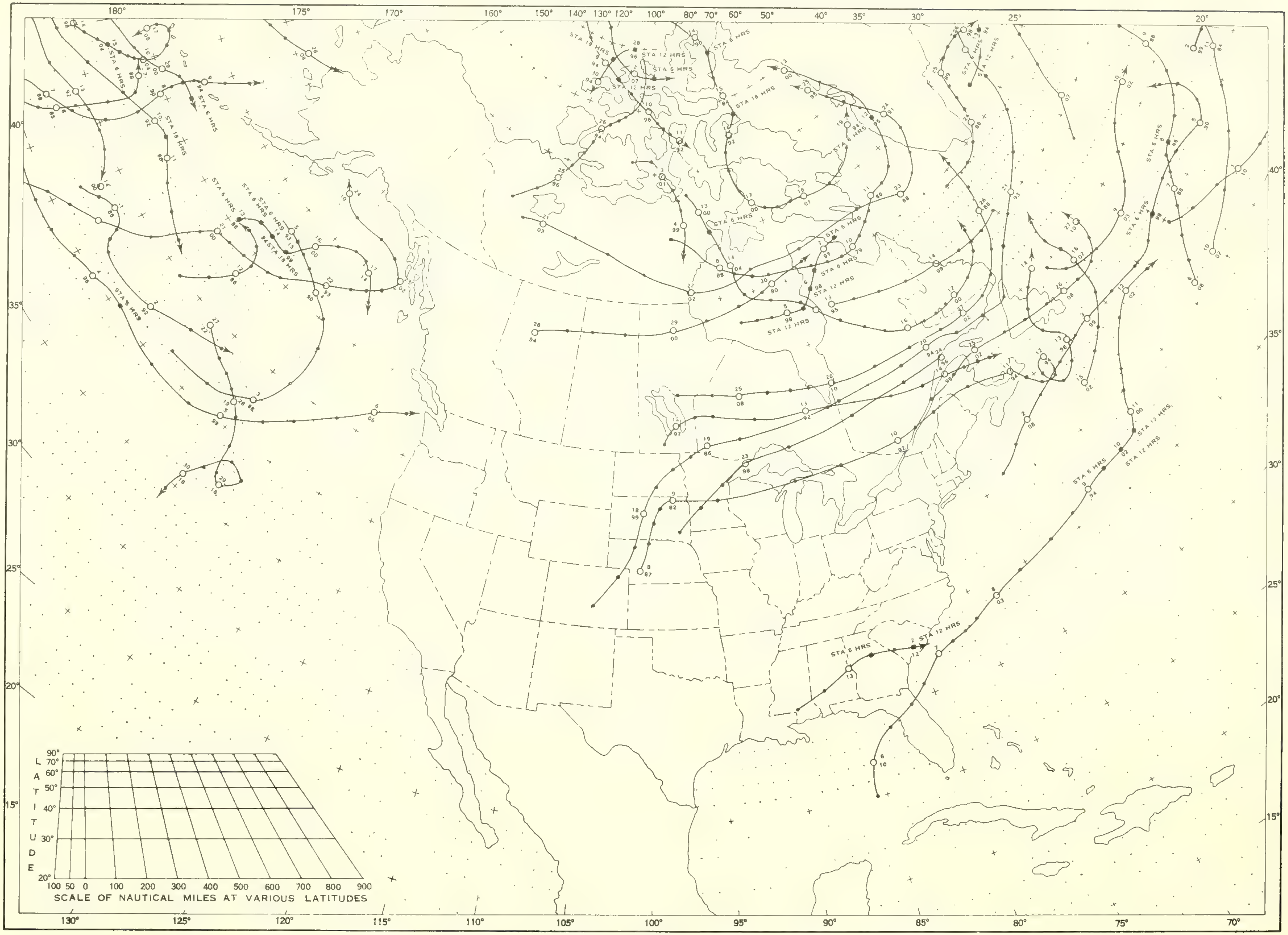
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, June 1964.



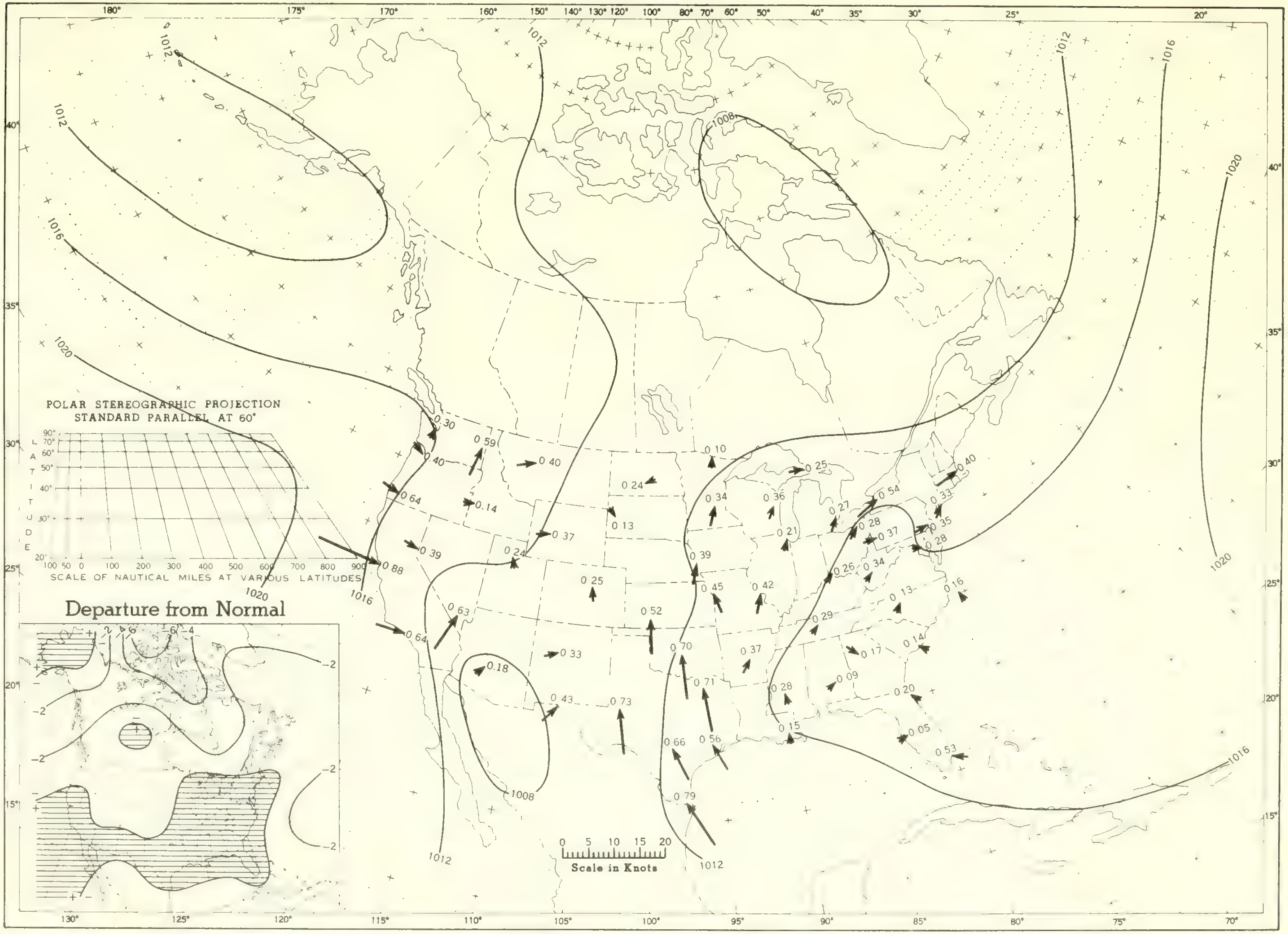
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, June 1964.



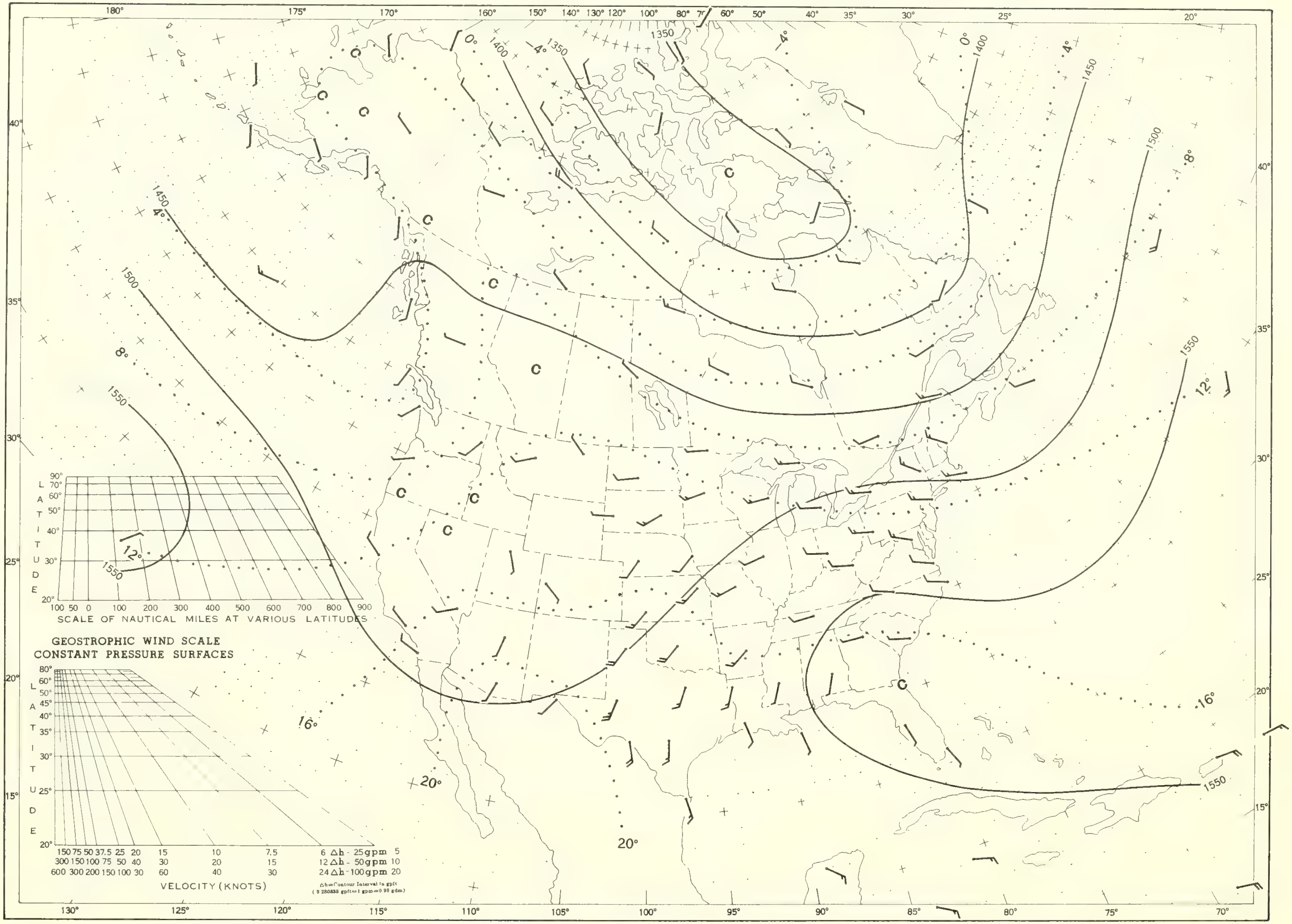
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, June 1964. Inset: Departure of Average Pressure (mb.) from Normal, June 1964.



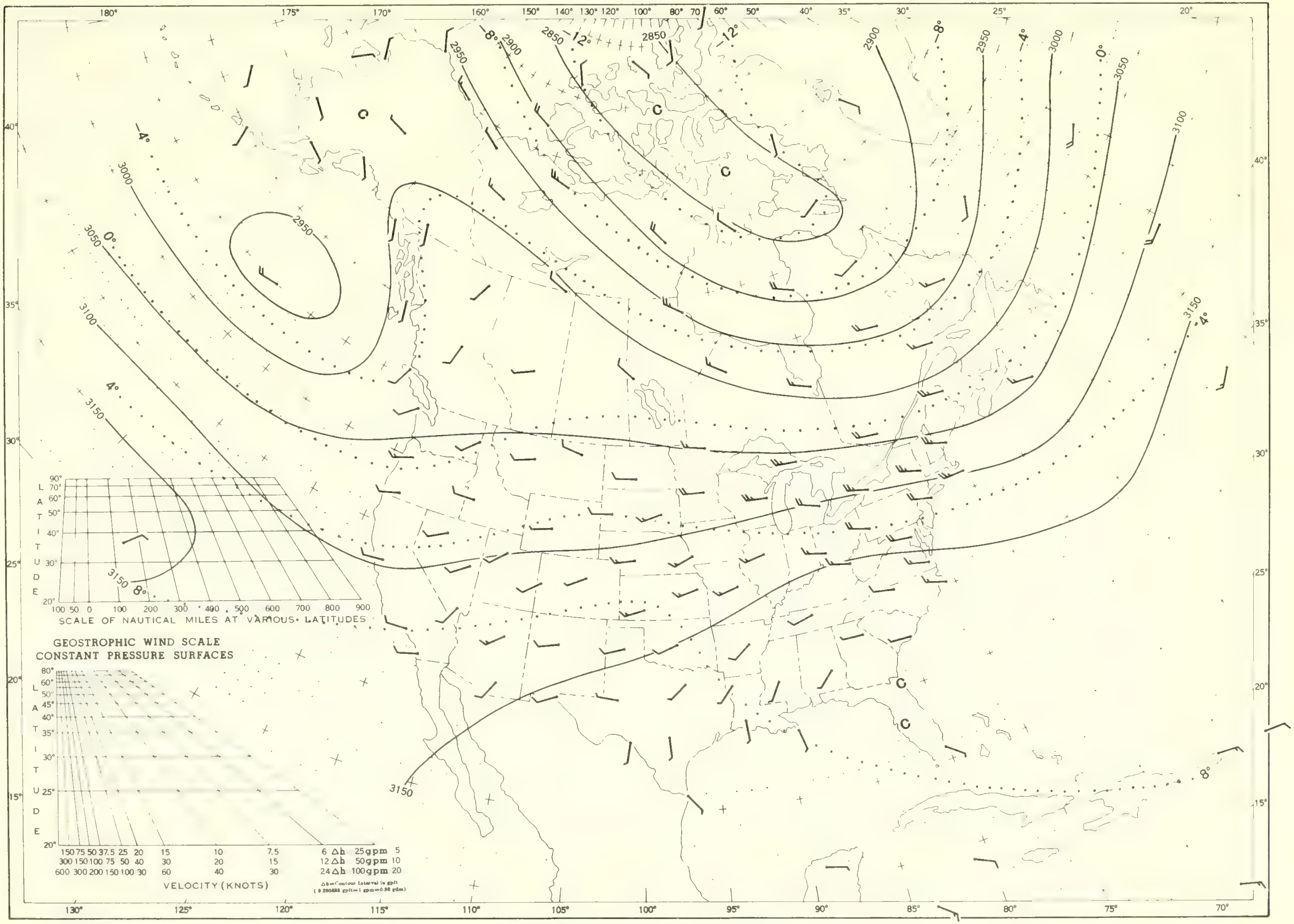
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed – average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10 intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, June 1964. Average Height and Temperature, and Resultant Winds.



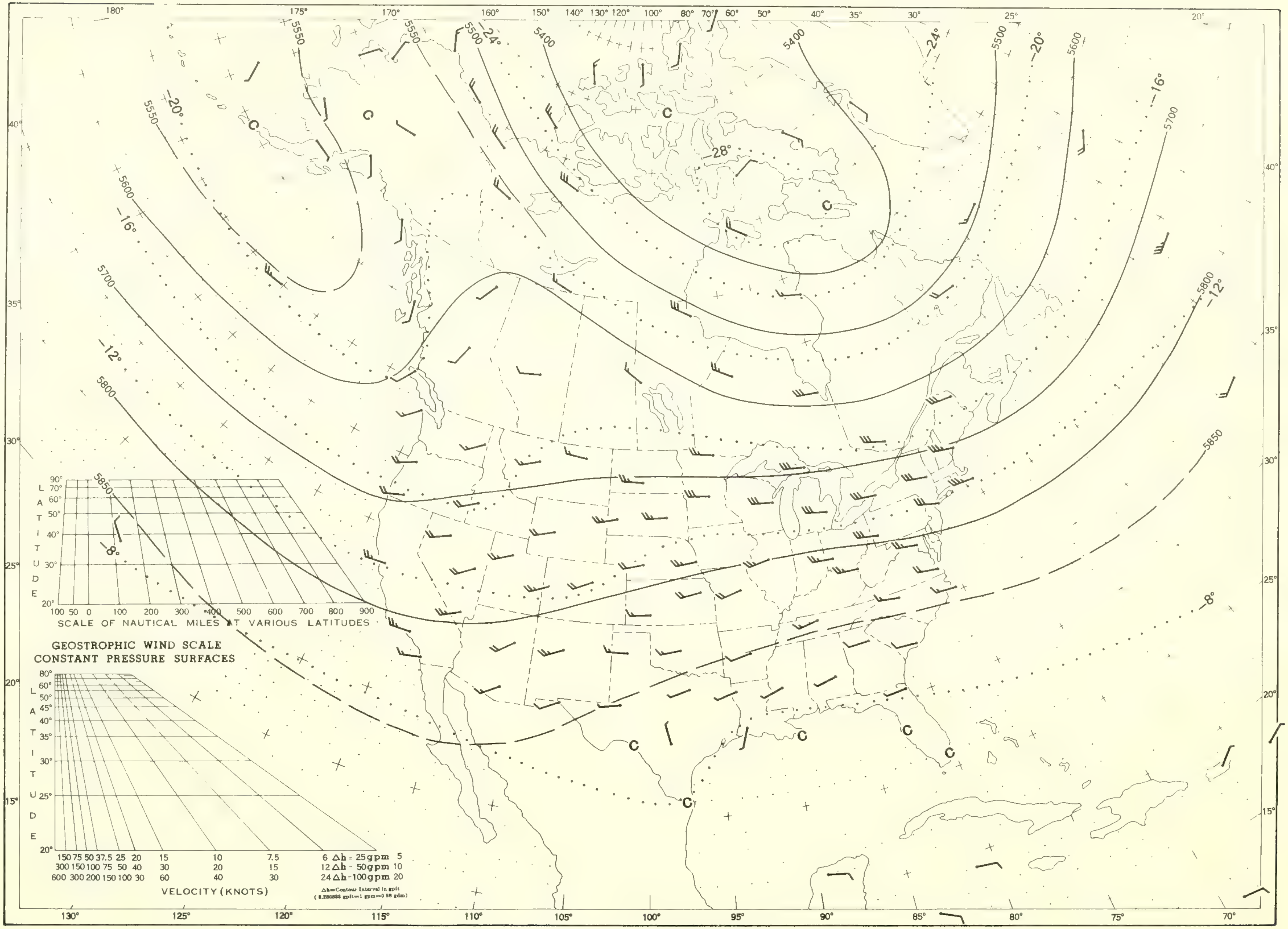
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, June 1964. Average Height and Temperature, and Resultant Winds.



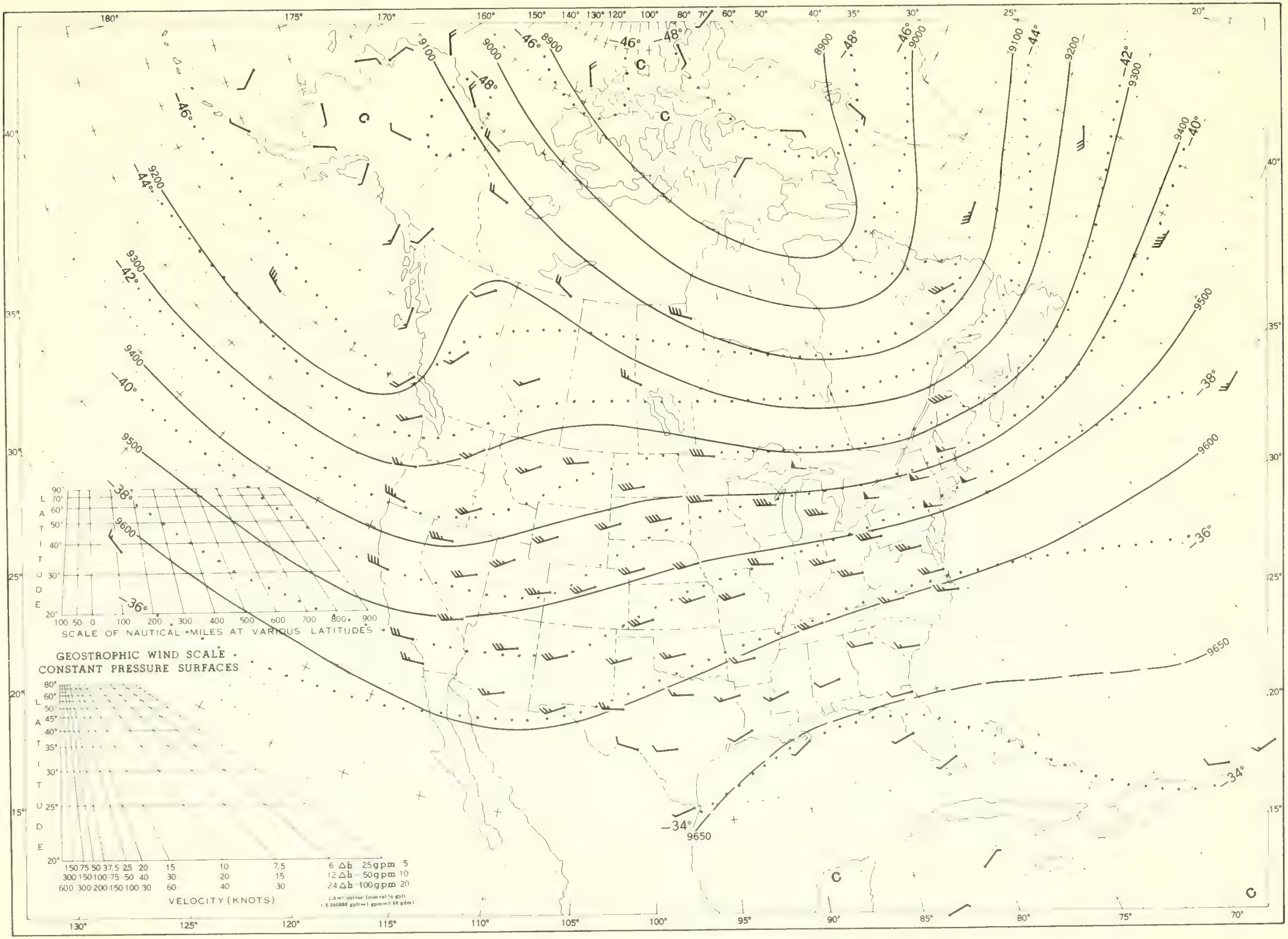
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, June 1964. Average Height and Temperature, and Resultant Winds.



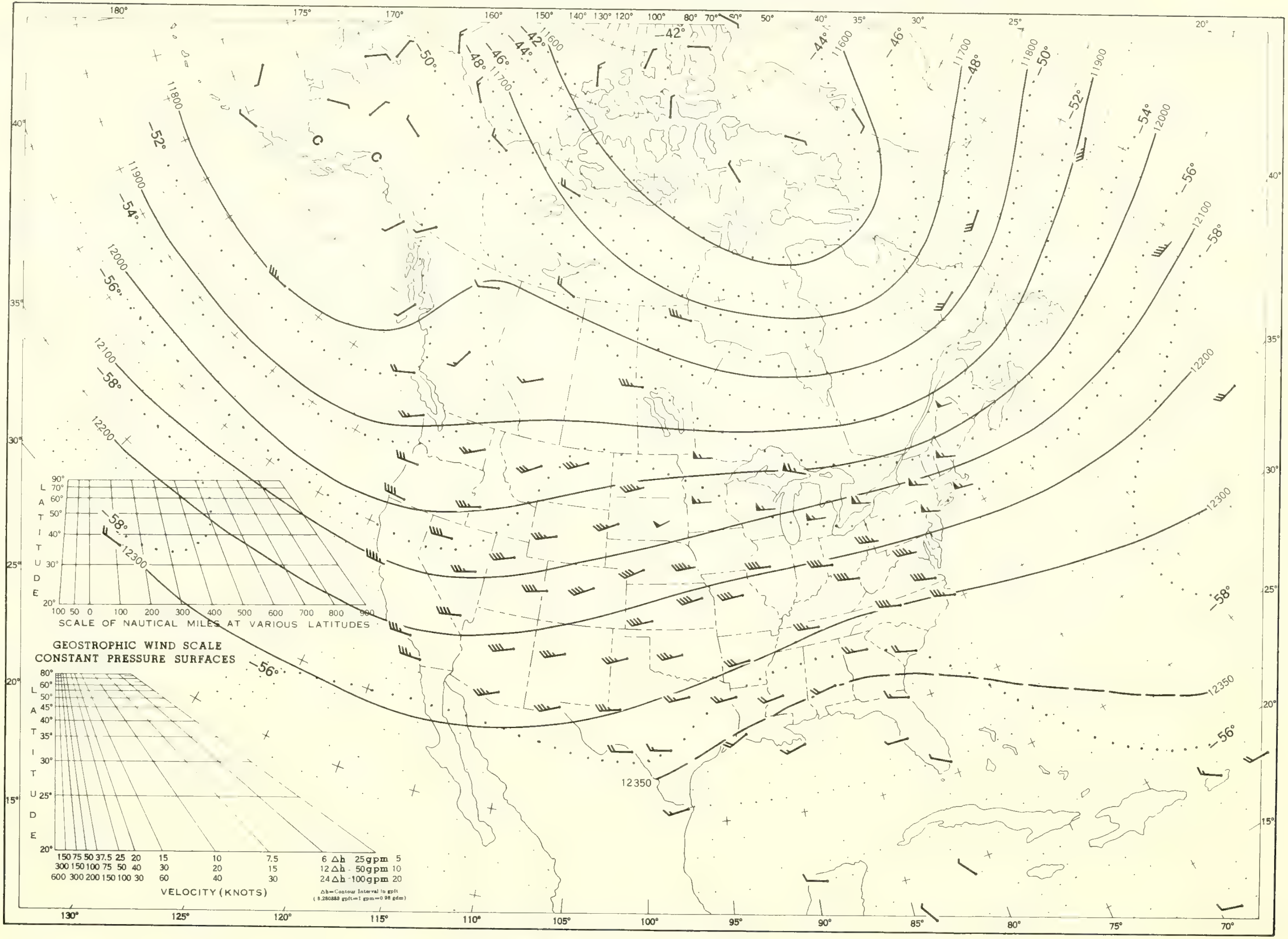
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, June 1964. Average Height and Temperature, and Resultant Winds.



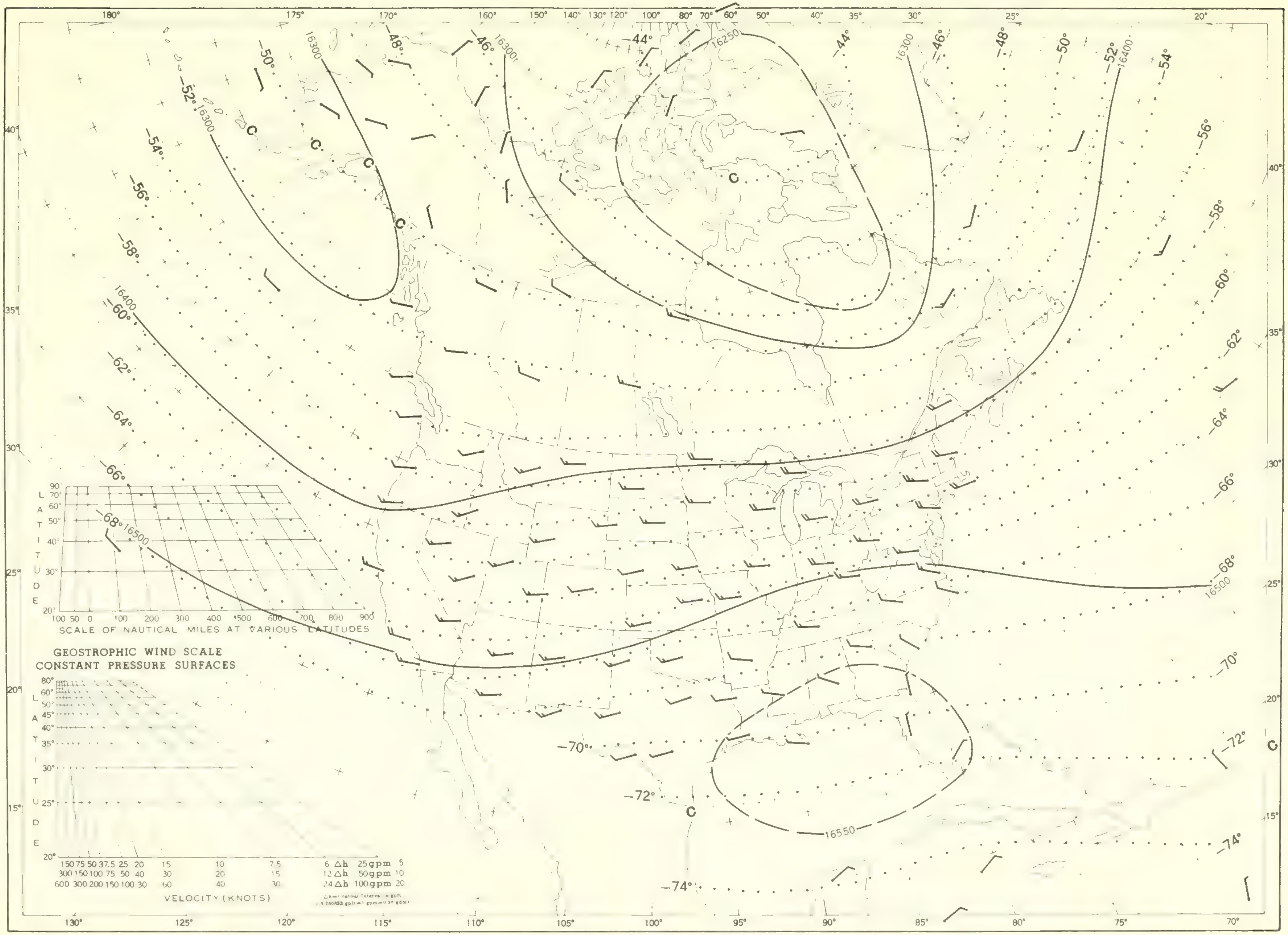
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, June 1964. Average Height and Temperature, and Resultant Winds.



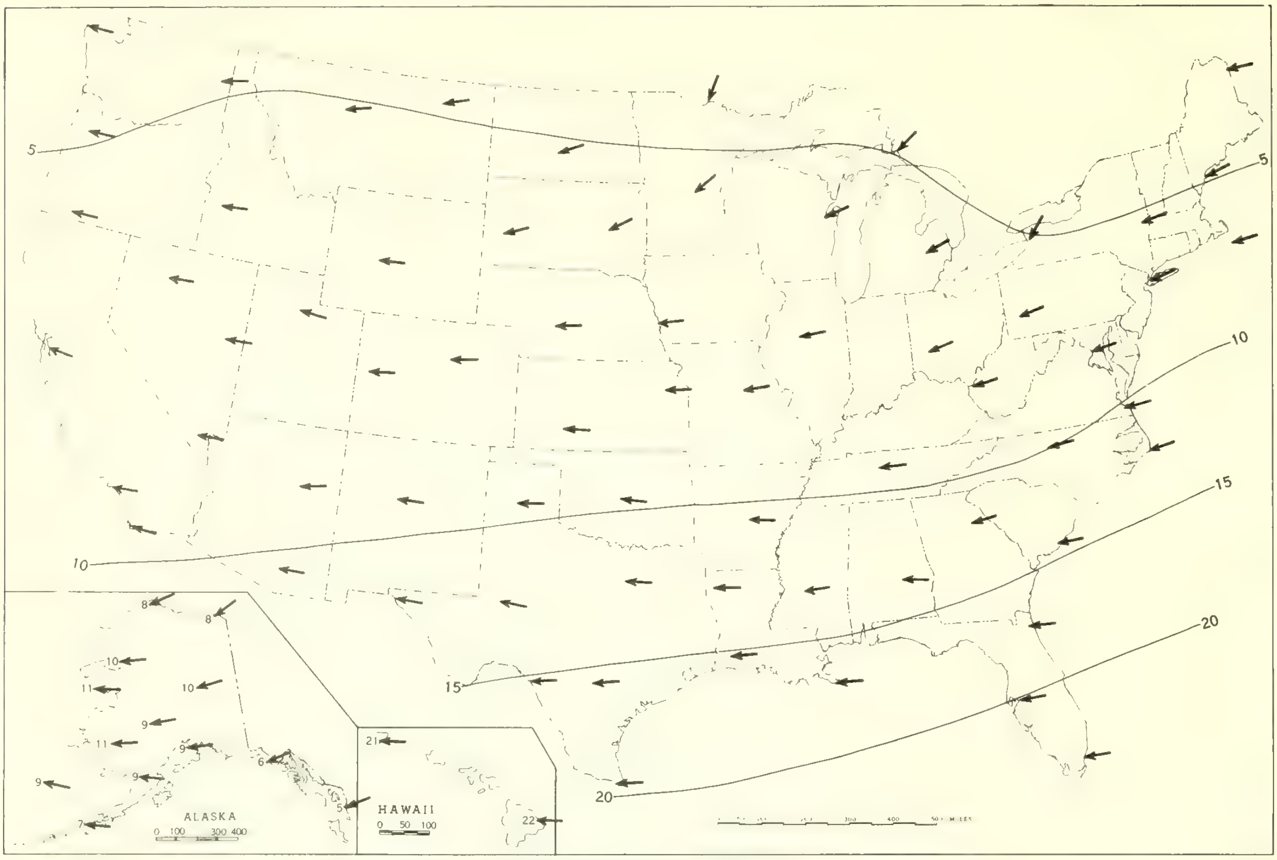
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, June 1964. Average Height and Temperature, and Resultant Winds.

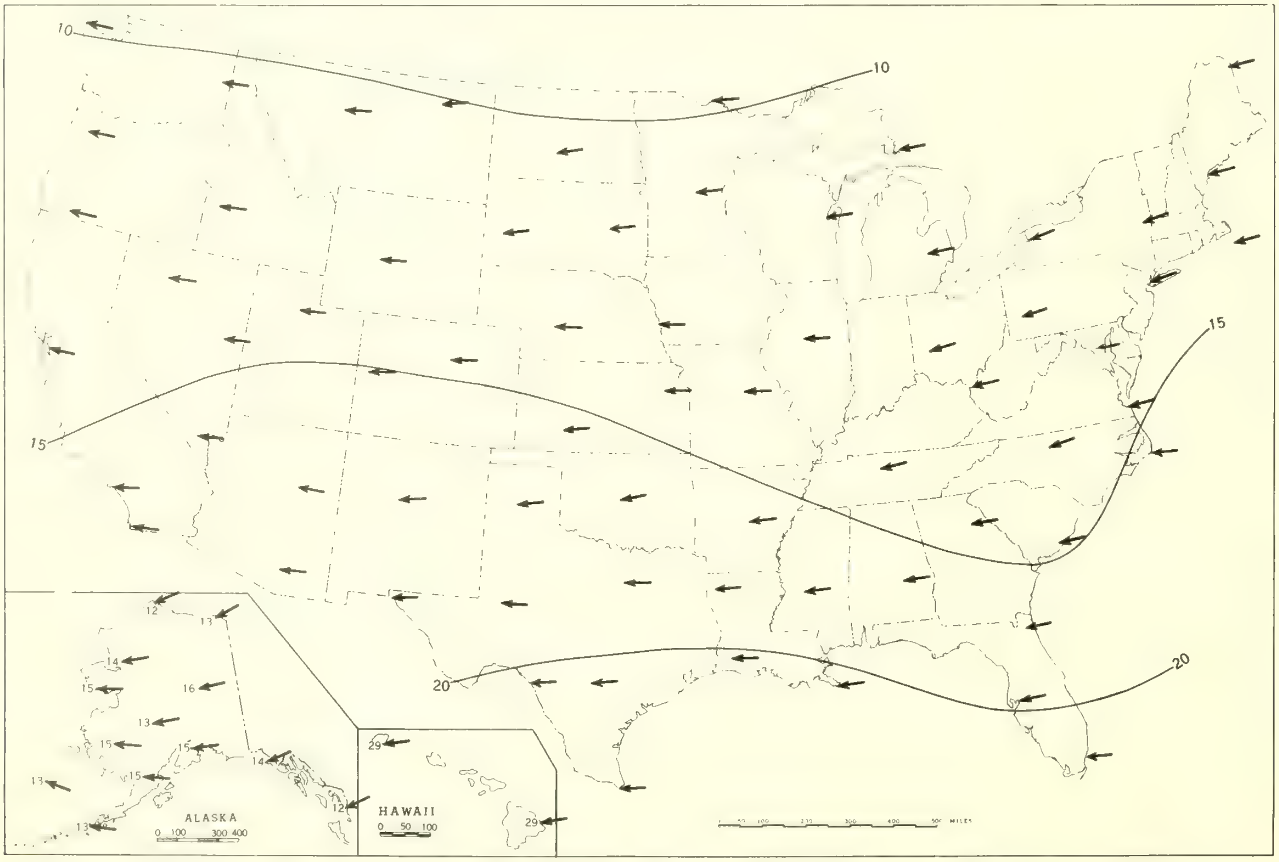


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, June 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, June 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JULY 1964
Volume 15 No. 7

UNIVERSITY
DEC 9
MECH. & AGR.

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 7 JULY 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

July averaged cooler than normal over the Northwest and Southeast and warmer than normal over the Southwest, Central, and Northeast. July was extremely dry over central and southern California and northeastward to southeastern Montana, and over parts of Texas. The heaviest rains fell over the Florida Panhandle and along the South Carolina coast.

TEMPERATURE.--Cloudy weather kept afternoon temperatures lower than in most Julies over the Far Northwest. Maximum temperature at Olympia, Wash., averaged almost 6° below normal. At Medford, Ore., there was twice the usual number of cloudy and partly cloudy days. Northern California averaged cooler than normal. Temperatures at Red Bluff, Calif., averaged 2.2° below normal. Mt. Shasta reported that the weather was favorable for building and highway construction.

Sunny mild weather predominated over the Rocky Mountains and Great Plains. The weather favored haying and harvest in North Dakota and some stations in South Dakota registered the highest temperatures in several years. Nebraska recorded that July was warm, dry, and windy. At Concordia, Kan., temperatures averaged warmer than in any July since 1957. Temperatures equaled or exceeded 100° on 14 days at Dodge City, Kan. It was the hottest July in many years at Oklahoma City, Okla., and Wichita Falls, Tex., recorded 100° or higher on 27 days. The daily maximum temperatures at Wichita Falls averaged 103.4°. Most other Texas locations continued hot throughout most of July.

Cool temperatures persisted over the Great Lakes region and in the Northeast during the first half of July. The last half was relatively warm. Monthly temperatures averaged slightly above normal. Parkersburg, W. Va., registered 90° or higher on 12 consecutive days, the longest such spell since 1940.

Cool weather prevailed over the Southeast during most of July. It was the first July of record when the temperature at Atlanta did not reach 90°. At Athens, Ga., it was the coldest July since 1906. It was the coldest July of record at Augusta, Ga., and the coolest since 1950 at Greenville, S. C. Birmingham, Ala., recorded the coolest July since 1950 and Mobile wrote that the clouds were effective in keeping the temperatures below normal.

PRECIPITATION.--Spots in the Far Northwest received generous rains in July. The longest period without rain at Olympia, Wash., was 6 days. The distribution of rain throughout the month did not permit the hay to cure properly. The July total rainfall at Walla Walla, Wash., was the second greatest July total of record. Pendleton, Ore., received three times the normal July rainfall. Almost an inch of rain fell at Eureka, Calif., where the July normal is 0.11 inch.

An area extending from San Francisco, Calif., to San Diego and northeastward to southeastern Montana received less than 0.50 inch of rain in July. It was the driest July in 30 years at Billings, Mont. No rain of consequence fell at Sheridan, Wyo., and over half the rain at Cheyenne fell in 1 hour. Wendover, Utah, recorded "very dry" and Reno, Nev., noted that the fire hazard increased. Numerous small range fires and a few large range fires occurred in that area. Parts of Texas were hot and dry in July. El Paso received less rain than in any July since 1935 and July 1964 was the third driest of record at San Antonio.

Most of the Nation from the Dakotas to Kansas and eastward to the Atlantic and from Missouri southeastward to the Atlantic and Gulf coasts received more than 2 inches of rain in July. Small areas in the Florida Panhandle and along the South Carolina coast received more than 10 inches.

Near normal rainfall fell in the Great Lakes region. An exception was Milwaukee, Wis., where the total, 7.66 inches, exceeded all previous July totals of the record which began in 1871.

Frequent thunderstorms provided substantial rains over the Southeast. The thunderstorms in Arkansas were accompanied by damaging lightning and wind. Much of Georgia was cool and rainy. It was "rainier than usual" at Atlanta. Augusta recorded the rainiest July since 1950 and Athens, the rainiest since 1919. Well distributed rains kept the crops and pastures in good condition in the Lakeland, Fla., area but Ft. Myers complained of unusual dryness. Crops suffered from dry weather at Roanoke, Va. Charleston, W. Va., recorded the least July rainfall since 1924.

In the Northeast, Albany, N. Y., was experiencing the third successive summer drought. Concord, N. H., received almost normal rainfall, almost all of which fell during the first several days of the month. The last part of the month was almost rainless at Concord. Numerous thunderstorms provided almost the normal total rainfall at Caribou, Maine. Daily rains the first 10 days produced the normal July amount at Boston, Mass. Buffalo, N. Y., was fairly dry except for heavy showers at midmonth. The three-month period, May to July, was the driest of record at Washington, D. C.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	101	29+	Russellville 2	50	14	Ozark 6NNW	13.48	Warrior Lock and Dam	2.19
Alaska	3 Stations	85	31+	Tok	10	6	Yakutat WBAP	16.35	Barrow WBAP	.08
Arizona	Dateland	120	12	Fort Valley	31	1	Fort Huachucha	8.90	Cortaro 3SW	.00
Arkansas	Warren	112	6	2 Stations	48	14+	Saint Charles	5.75	Rogers	.14
California	Death Valley	123	24	White Mountain 2	14	3	Crescent City 1N	2.15	264 Stations	.00
Colorado	LaJunta FAA AP	109	5	Fraser	28	3+	Rico	5.00	Otis 11NE	T
Connecticut	Hartford WB AP	101	1	Coventry	39	31	Cockaponset RS	5.86	Putnam Water Works	1.48
Delaware	Bridgeville 1NW	100	1	Georgetown 5SW	52	6	Lewes 1SW	5.88	Middletown 1WSW	2.81
Florida	2 Stations	99	13	Myakka River State Park	55	27	Tallahassee WB AP	20.12	Dry Tortugas	.67
Georgia	Nashville 5 SSE	98	16	2 Stations	49	6	Savannah WB AP	20.10	Waleska	3.88
Hawaii	Mana 1026, Kauai	92	7	Mauna Loa Slope Obs.	31	9+	Kahana 883, Oahu	27.59	2 Stations, Hawaii	.00
Idaho	Glenns Ferry	107	8	Warren	24	24	Warren	2.51	Atlanta 3	.00
Illinois	4 Stations	100	27+	Kankakee 3SW	44	5	Antioch	7.52	Carlyle Reservoir	.59
Indiana	2 Stations	98	24+	Wheatfield 2NNW	43	5	Washington	9.22	Monroeville 3ENE	1.67
Iowa	Hawarden	104	22	2 Stations	45	13	Humbolt No 2	11.74	Dorchester 4S	.21
Kansas	2 Stations	113	6+	2 Stations	49	13	Longford	6.95	3 Stations	.18
Kentucky	Ashland	102	26	Vanceburg	46	5	Gamaliel 1S	10.29	Hickman 1E	.66
Louisiana	3 Stations	105	25+	Quarantine	54	16	Morgan City	20.34	2 Stations	.15
Maine	2 Stations	96	28+	Eustis 2	34	31	Clayton Lake 2	7.63	Bar Harbor	1.27
Maryland	Charlotte Hall 1ESE	99	16	3 Stations	40	31+	Blackwater Refuge	9.17	Brighton Dam	.95
Massachusetts	Sandwich	102	1	Adams	40	31	Chester 2	4.90	Chatham Light Station	1.15
Michigan	7 Stations	97	28+	4 Stations	36	30+	East Tawas U S Forest	7.38	Dearborn	.49
Minnesota	Winona	102	18	Two Harbors	27	30	Tyler	7.87	Whiteface Reservoir	.66
Mississippi	Clarksdale	103	9	Batesville 2SW	51	14	Liberty 1W	13.21	Cleveland	1.05
Missouri	Marble Hill	106	7	Licking 4N	45	13	Ellsinore	7.75	Macon	.59
Montana	Miles City	107	21	2 Stations	29	24	Bigfork 10S	4.72	Ballantine	.00
Nebraska	2 Stations	110	22+	Harrisburg 10NW	45	12	Bloomfield	5.97	Harrisburg 10NW	.20
Nevada	Boulder City	117	15	Charleston	27	25	Mina	.96	9 Stations	.00
New Hampshire	Windham	100	1	Grafton	32	31	Fabyan	7.36	Wolfboro	.71
New Jersey	2 Stations	101	2+	Long Valley	45	7	Hightstown 1N	9.81	Atlantic City	1.37
New Mexico	2 Stations	109	4+	2 Stations	33	20+	Cloudcroft Ranger Station	6.39	Farnsworth Ranch	.00
New York	3 Stations	100	29+	Indian Lake 2SW	32	31	Burdett 1NE	6.45	Auburn Water Works	.57
North Carolina	2 Stations	98	30+	Celo 2S	39	6	Hamlet	14.54	Elizabeth City FAA AP	2.72
North Dakota	Fort Yates	105	17	Hannah 2N	41	29	Forbes 9NNW	5.56	Sentinel Butte 20S	.40
Ohio	Carpenter	102	26	New Philadelphia	40	6	Mineral Ridge Water Works	6.92	Put in Bay Perry Mon	.75
Oklahoma	Frederick	113	25	Kenton	48	13	Quinton	4.70	3 Stations	.00
Oregon	Arlington	109	12	Brothers	23	9	Tillamook	3.63	Harper	.02
Pennsylvania	Bethlehem Lehigh Univ	104	1	Clermont 4NW	33	31	Johnstown	8.39	Susquehanna	1.20
Puerto Rico	Ponce	97	16	Caquas 2ENE	59	25+	Rio Grande El Verde	13.47	Coamo Dam	.64
Rhode Island	Providence WB AP	97	1	Kingston	42	16	Kingston	4.46	Block Island WB AP	1.89
South Carolina	Summerville 2WNW	99	16	2 Stations	51	12+	Ridgeland 2SE	27.15	Crescent 1W	3.95
South Dakota	2 Stations	112	23+	Stephen 1ENE	32	29	Armour	6.19	Angostura Dam	.19
Tennessee	Norris	105	25	Mountain City 2	41	6	Lafayette	11.78	Samburg Wildlife Ref	1.42
Texas	2 Stations	113	11+	6 Stations	52	13	Woodsboro	11.87	19 Stations	.00
Utah	Saint George Power House	110	12	Strawberry Hwy Station	25	1	Cedar Breaks Nat Mon	2.74	6 Stations	.00
Vermont	2 Stations	97	2+	Chelsea	33	31	Canaan	6.88	Chittenden	1.52
Virginia	Alexander City Garage	99	30	Burkes Garden	37	6	Meadows of Dan 5SW	15.52	Timberville	1.42
Washington	Little Goose Dam	110	13	Rainier Paradise RS	31	9	Quinault River RS	6.60	4 Stations	.02
West Virginia	Benson	98	27	Canaan Valley	32	7	Hacker Valley	8.50	Mathias	1.33
Wisconsin	2 Stations	103	20+	Prentice 5W	31	13	West Bend	10.33	Brule RS	.67
Wyoming	Spencer 10NE	107	21	3 Stations	28	25+	Tennyson	2.56	2 Stations	.00

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet		Average speed	Prevailing direction	Fastest mile			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max. 90° F. or above	Min. 32° F. or below						.01 inch or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	991.8	1016.6	87	68	77.7	-3.9	94	8	58	14	2	0	71	83	4.34	-0.82	1.56	15	13	0.0	0	5.7	27	39	N	8	5	9	17	7.1	51
HUNTSVILLE	605	993.3	1016.2	87	69	77.9	-3.2	95	8	57	14	6	0	68	75	7.42	3.17	3.63	14	14	0.0	0	4.2	16	32*	4	25	4	16	11	6.3	
MOBILE	211	1013.6	1015.8	89	72	80.5	-2.1	94	21+	69	16	14	0	72	81	8.83	-0.84	2.07	17	18	0.0	0	7.5	27	34*	12	28	3	8	20	7.5	
MONTGOMERY	195	1008.3	1016.3	88	72	80.0	-1.8	92	24+	67	6	8	0	72	81	5.19	-0.21	2.14	16	19	0.0	0	5.9	18	27	W	29	0	10	21	8.1	44
ALASKA												B																				
ANCHORAGE	90	1006.1	1011.0	65	49	57.1		75	7	36	1	3	0	49	76	1.08	0.00	0.39	14	1	0.0	0	6.8	18	20*	17	3+	5	7	19	7.4	48
ANNETTE	110	1010.5	1014.4	61	50	55.6	-1.7	76	14	45	2	1	0	48	79	6.23	0.21	1.05	22	0	0.0	0	7.4	18	23*	19	7+	0	3	28	9.5	
BARROW	22	1012.1	1012.8	44	33	38.1	-1.0	67	23	28	3	0	15	33	86	0.08	-0.69	0.03	5	0	0.1	T	10.7	27	23*	10	14	1	9	21	7.8	
BARTER ISLAND	39	1010.8	1012.8	44	33	38.5	-2.8	64	6	26	13+	0	12	34	85	0.50	-0.38	0.47	4	0	2.2	T	9.0	8	24*	29	18	4	14	13	6.7	
BETHEL	125	1009.9	1011.4	65	48	56.6	1.9	77	8	43	25	7	0	49	79	0.66	-1.37	0.17	12	1	0.0	0	9.2	31	20*	27	2	2	8	21	8.3	
COLD BAY	94	1008.8	1012.7	52	43	47.8	-1.9	61	26+	37	5	0	0	44	89	1.74	-0.08	0.50	17	0	0.0	0	14.0	15	42*	15	21	0	2	29	9.5	
CORDOVA	40	1009.8	1011.4	62	45	53.4	0.2	73	14+	37	20	5	0	48	82	5.03	-1.24	0.82	17	0	0.0	0	4.7	7	17*	22	14+	3	4	24	8.3	
FAIRBANKS	436	992.6	1009.3	70	49	59.7	0.0	82	16	37	20	18	0	49	72	1.28	-0.56	0.43	14	5	0.0	0	5.5	22	18*	6	17	3	14	14	7.1	
JUNEAU	17	1012.1	1012.7	61	48	54.3	-1.0	78	14	43	14+	4	0	50	87	6.94	2.45	1.88	21	0	0.0	0	9.2	11	24*	12	11+	3	5	23	8.4	26
KING SALMON	43	1009.7	1011.0	64	44	54.1	-0.8	75	7	34	1	6	0	45	74	1.74	-0.32	0.63	14	0	0.0	0	9.9	18	26*	19	13	1	10	20	8.1	
KOTZEBUE	10	1010.1	1010.6	56	44	50.2	-2.5	73	22	34	9	2	0	44	81	0.45	-1.01	0.29	4	0	0.0	0	12.5	30	35*	31	18	5	9	17	7.0	
MC GRATH	334	997.1	1009.6	70	50	60.0	1.3	82	28	40	20	17	0	49	70	1.42	-1.01	0.47	18	6	0.0	0	5.5	32	18*	36	18	1	7	23	8.3	
NOME	13	1010.0	1010.6	60	45	52.4	2.9	74	8	37	19+	1	0	45	75	0.25	-2.04	0.13	2	0	0.0	0	9.7	25	28*	27	31	4	12	15	7.1	47
ST. PAUL ISLAND	22	1010.4	1011.5	49	40	44.9	-0.6	55	23	37	5+	0	0	43	94	1.51	-0.74	0.57	13	0	0.0	0	11.2	32	24*	14	21+	0	2	29	9.6	
SHEMYA	122	1007.2	1011.0	46	42	44.2	-2.2	50	30+	39	14+	0	0	43	95	2.40	0.25	0.74	14	0	0.0	0	15.7	9	35*	29	21+	0	0	31	10.0	
YAKUTAT	28	1012.0	1013.1	58	48	52.9	-1.2	70	14+	40	21	2	0	48	85	16.35	7.92	4.28	18	1	0.0	0	7.1	9	23*	13	2	3	5	23	8.3	
ARIZONA																																
FLAGSTAFF	6993	794.2	1015.3	82	52	66.9	1.4	90	7	40	1	1	0	45	54	5.23	2.95	2.55	10	18	0.0	0	6.0	20	23*	20	4	6	8	17	6.5	
PHOENIX	1117	976.9	1008.6	104	77	90.6	0.8	112	3	72	15+	30	0	58	39	0.60	-0.17	0.30	5	6	0.0	0	7.4	27	39Y	ENE	23	11	12	8	4.6	82
PRESCOTT	5014	879.9	1012.4	90	62	76.3	0.3	99	7	56	1	17	0	48	44	2.60	0.52	1.42	7	15	0.0	0	8.4	20	39	N	13	9	8	14	6.0	75
TUCSON	2584	976.9	1009.7	98	74	86.2	-0.1	106	5+	69	31+	27	0	55	43	4.82	2.76	1.42	10	14	0.0	0	9.2	18	54	S	24	8	11	12	5.9	70
WINSLOW	4880	876.9	1012.3	96	65	80.6	0.4	102	6+	56	16	28	0	49	42	1.63	0.61	0.64	6	11	0.0	0	8.5	22	29*	19	19	9	12	10	5.6	
YUMA	199	1003.0	1008.0	105	81	93.2	-1.1	114	12	73	1	31	0	56	33	0.02	-0.21	0.02	1	1	0.0	0	9.7	18	42	S	29	16	10	5	3.6	89
ARKANSAS																																
FORT SMITH	449	997.5	1014.1	99	68	83.7	0.7	106	9+	54	14	28	0	65	58	0.41	-2.39	0.38	4	5	0.0	0	6.3	7	35	N	8	13	12	6	4.5	79
LITTLE ROCK	257	1002.2	1015.1	95	71	83.2	1.3	105	8+	58	14	28	0	71	72	3.79	0.45	1.76	9	12	0.0	0	6.1	24	47	N	9	15	11	5	4.1	69
TEXARKANA	361	1001.3	1014.9	97	73	84.9	2.3	102	8	65	13	30	0	71	69	3.09	-0.75	1.75	6	9	0.0	0	4.9	22								
CALIFORNIA																																
BAKERSFIELD	494	993.5	1010.9	99	69	84.1	-0.2	110	13	60	5+	29	0	49	31	T	-0.01	T	0	0	0.0	0	6.1	31	21*	32	25	29	2	0	0.7	
BISHOP	4108	873.0		98	56	77.0	0.4	105	24	48	3	30	0			T	-0.12	T	0	2	0.0	0						25	4	2	1.6	
BLUE CANYON	5280	840.5		75	57	65.9	-2.1	84	25+	47	4	0	0			T	-0.09	T	0	0	0.0	0			19*	18	30	29	2	0	0.6	
BURBANK	699	986.4	1011.9	89	60	74.8	1.0	96	13	53	5	15	0	55	58	T	0.00	T	0	0	0.0	0	7.8	19	16*	15	7	29	2	0	0.9	
EUREKA U	43	1014.6		61	53	56.6	0.3	65	31+	49	27+	0	0			0.83	0.72	0.27	6	1	0.0	0	6.8	N#	20	SW	26+	7	6	18	6.9	56
FRESNO	326	999.1	1010.7	99	63	81.0	-0.3	107	13+	53	5+	30	0	50	37	T	0.00	T	0	1	0.0	0	8.1	31	20	NW	8	28	2	1	0.7	97
LONG BEACH	34	1011.1	1012.7	81	59	70.0	-1.6	88	28	53	5	0	0	57	71	T	0.00	T	0	0	0.0	0	5.5	30	15*	27	29+	23	8	0	2.4	
LOS ANGELES	97	1009.2	1013.0	73	61	66.8	-2.3	77	28+	55	5+	0	0	58	76	T	-0.01	T	0	0	0.0	0	9.5	26	24Y	W	4	20	10	1	2.8	
MT SHASTA R	3544	892.4		84	50	66.6	-1.4	97	11	40	31	6	0			0.49	0.19	0.37	3	3	0.0	0						23	5	3	1.9	
OAKLAND	3	1014.1	1014.4	68	56	62.2	-2.1	84	10	53	7+	0	0	54	77	0.03	0.03	0.01	3	0	0.0	0	10.3	30	24*	25	8	17	10	4	3.3	
RED BLUFF	341	998.5	1010.9	97	66	81.6	-2.2	111	24	52	4	29	0	47	33	T	-0.04	T	0	1	0.0	0	7.3	17	24	S	29	28	2	1	1.1	94
SACRAMENTO	17	1010.6	1012.0	94	58	75.9	0.5	106	24+	51	5	25	0	54	55	0.01	0.01	0.01	1	0	0.0	0	9.6	22	27	SW	4	29	1	1	0.7	99
SACRAMENTO U	23			91	59	75.0	1.0	103	11	52	1	17	0			0.01	0.01				0.0	0										
SANDBERG R	4517	863.5		86	64	74.9	0.5	96	13	50	5	8	0			0.00	-0.02	0.00	0	0	0.0	0	11.5		28*	35	16	29	1	1	0.8	
SAN DIEGO	13	1009.5	1012.6	76	63	69.2	-0.9	82	11	57	2	0	0	59	76	0.00	-0.01	0.00	0	0	0.0	0	7.3	30	17	NW	29+	16	14	1	3.5	77
SAN FRANCISCO	8	1014.1	1014.7	72	55	63.1	0.4	91	11	51	10+	1	0	52	75	T	-0.01	T	0	0	0.0	0	14.1	30	33	W	21	23	5	3	2.7	
SAN FRANCISCO U	52			65	53	58.9	0.1	81	10	50	12+	0	0			T	-0.01	T	0	0	0.0	0	10.9	W#	34	SW	31					70
SANTA CATALINA	1568	957.7		84	63	73.7	5.0	95	12	51	4	4	0			0.00	-0.02	0.00	0	0	0.0	0						24	7	0	1.3	
SANTA MARIA	238	1005.8		72	50	60.8	-1.4	83	10	43	3	0	0			0.06	0.03	0.06	1	0	0.0	0						23	8	0	2.6	
STOCKTON	28	1010.7	1012.4	95	60	77.7	-0.5	107	11	53	5+	25	0	51	46	0.00	-0.01	0.00	0	0	0.0	0	9.8	27	24*	27	8	29	1	1	0.6	
COLORADO																																
ALAMOSA	7536	776.6		84	49	66.8	1.9	91	4	42	1	3	0			0.91	-0.16	0.28	10	14	0.0	0						8	21	2	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

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State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	814.4	1012.8	90	60	75.3	4.8	99	4	50	13	19	0	46	41	1.14	- 1.23	0.50	12	17	0.0	0	9.5	36	32*	29	5	5	22	4	5.3	
DENVER	5283	839.4	1011.5	92	59	75.8	2.9	98	27+	51	13	27	0	46	38	0.72	- 0.81	0.37	5	10	0.0	0	6.9	18	30	N	10	8	18	5	4.7	80
GRAND JUNCTION	4849	859.3	1010.4	97	66	81.3	3.1	102	20+	59	3+	30	0	42	29	0.65	0.08	0.36	3	4	0.0	0	9.9	13	34	SW	14	13	12	6	4.4	80
PUEBLO	4639	857.4	1011.5	96	61	78.8	2.3	102	20+	51	13	30	0	49	40	0.73	- 1.09	0.26	5	6	0.0	0	9.7	30	73	NE	28	12	16	3	4.4	77
CONNECTICUT																																
BRIDGEPORT	7	1015.4	1016.3	80	64	72.3	- 1.4	90	1	54	26	1	0	64	79	1.85	- 1.92	1.50	8	3	0.0	0	12.6	23	29*	29	29+	8	12	11	6.3	
HARTFORD	169	1009.7	1015.5	86	65	75.0	1.6	101	1	54	31	10	0	63	72	3.07	- 0.54	0.75	12	4	0.0	0	7.9	18	33	W	1	5	10	16	6.9	57
NEW HAVEN	6	1015.1		80	63	71.5	- 0.4	88	1	54	31	0	0			3.02	- 0.41	1.95	8	3	0.0	0	7.4		22	S	15	6	13	12	6.4	60
DELAWARE																																
WILMINGTON	78	1012.8	1016.1	85	67	75.8	- 0.2	96	1	56	5	4	0	64	70	3.70	- 0.55	2.33	5	5	0.0	0	8.8	23	27*	20	13	8	11	12	5.9	
DIST.OF COLUMBIA																																
WASHINGTON U	72			88	70	78.7		96	29	61	5	13	0			1.36		0.90	5													
WASH NATL AP	14	1010.8	1015.2	88	70	79.1	0.9	96	29+	61	6	16	0	64	64	1.87	- 2.28	0.71	8	2	0.0	0	9.0	18	29	SW	21	6	12	13	6.4	56
FLORIDA																																
APALACHICOLA U	13	1015.1		86	75	80.4	- 1.1	89	15+	71	7	0	0			10.14	2.21	3.56	17	17	0.0	0	6.3					5	6	20	7.4	42
DAYTONA BEACH	31	1016.3	1018.0	89	73	81.0	0.9	95	13	69	8	13	0	71	76	7.67	0.93	3.38	13	12	0.0	0	8.7	18	37*	13	22	3	11	17	7.2	
FORT MYERS	13	1016.5		92	73	82.9	0.7	97	14	71	29+	29	0			2.28	- 6.80	0.79	14	17	0.0	0	8.8		29*	14	17	2	19	10	6.5	
JACKSONVILLE	24	1015.1	1016.8	90	73	81.4	- 1.2	94	31+	66	8	18	0	72	79	6.12	- 1.56	1.60	17	15	0.0	0	9.7	22	45	E	16	4	10	17	7.5	54
KEY WEST	5	1015.8	1017.0	89	80	84.6	1.3	91	14+	76	8+	5	0	74	72	1.63	- 2.53	0.77	11	7	0.0	0	11.1	12	37	SE	14	5	12	14	6.5	77
LAKELAND U	214			89	73	81.1	- 0.5	95	28	70	30+	19	0			5.65	- 2.65	1.25	17	17	0.0	0	6.5					4	9	18	7.1	52
MIAMI BEACH	9			87	79	82.9	0.6	95	8	73	16+	2	0			4.41	- 0.04	2.01	13		0.0	0	13.9					5	19	7	6.0	73
MIAMI	7	1016.2	1017.4	89	77	82.8	1.0	92	10	73	25	9	0	74	76	5.51	- 1.24	1.13	18	16	0.0	0	8.8	12	31*	27	25	1	20	10	6.8	
ORLANDO	106	1013.2	1017.9	91	73	81.6	- 0.9	95	30+	70	23+	21	0	72	79	6.68	- 1.32	2.34	16	4	0.0	0	8.5	18	31*	15	3	6	10	15	6.8	
PENSACOLA	13			88	72	80.4	- 1.3	93	6	69	8	11	0			10.53	2.51	1.84	18	16	0.0	0	5.9	24	35	N	24					49
TALLAHASSEE	58	1014.3	1016.9	89	72	80.5	- 0.8	93	31+	67	7	14	0	72	82	20.12	12.07	8.94	22	19	0.0	0	7.3	9	29*	12	16	2	12	17	7.6	
TAMPA	19	1015.4	1017.0	90	74	82.0	0.4	97	14	69	8	21	0	72	76	9.75	1.13	4.08	15	21	0.0	0	10.4	27	31*	26	26	5	7	19	7.3	70
WEST PALM BEACH	15	1016.5	1017.6	89	75	82.4	- 0.2	93	11	70	24	13	0	74	80	5.29	- 1.37	1.40	11	14	0.0	0	8.9	12	32*	28	24	1	16	14	7.1	
GEORGIA																																
ATHENS	803	987.8	1016.4	86	68	76.8	- 2.9	90	28+	62	6	3	0	69	83	10.53	5.54	4.14	18	13	0.0	0	6.5	24	25*	22	13	2	6	23	8.1	
ATLANTA	1005	975.2	1016.6	84	69	76.5	- 2.3	89	28	63	11	0	0	68	80	7.14	2.42	1.68	18	14	0.0	0	6.0	27	45	SE	22	1	13	17	7.7	54
AUGUSTA	143	1009.5	1016.2	88	70	79.2	- 1.5	94	10+	60	7+	12	0	69	77	9.66	5.16	3.05	17	17	0.0	0	6.9	24	30*	24	14	3	1	27	8.3	
COLUMBUS	385	1002.2		88	70	79.0	- 2.1	93	31	63	7	5	0			9.57	3.70	2.11	18	15	0.0	0	5.4		30*	27	20	0	7	24	8.3	
MACON	356	1003.2	1016.6	87	70	78.5	- 3.4	93	11	63	6	8	0	70	83	4.77	- 0.87	1.51	22	15	0.0	0	6.7	24	33	SW	14	1	4	26	8.7	41
ROME	637	993.6		87	67	76.8	- 2.2	93	28	54	6	8	0			6.98	2.09	1.46	19	17	0.0	0										
SAVANNAH	48	1014.4	1016.9	89	70	79.1	- 2.2	96	10	61	7	13	0	71	80	20.10	13.49	5.86	23	21	0.0	0	8.9	24	39	N	9	4	5	22	7.8	59
HAWAII																																
HILO	31	1015.4	1017.0	83	67	75.2	0.3	86	24	65	18+	0	0	67	78	6.39	- 3.43	0.91	27	0	0.0	0	8.8	25	22*	1	22+	2	10	19	7.7	30
HONOLULU	7	1016.1	1016.4	86	73	79.3	0.5	87	28+	69	10	0	0	62	58	1.34	0.90	0.87	10	2	0.0	0	11.3	6	28	NE	29	9	13	9	5.5	57
KAHULUI	44	1013.5	1016.2	85	69	77.2	- 1.1	90	25	63	9	1	0	67	75	0.27	- 0.16	0.19	6	1	0.0	0	13.9	5	31	NE	19+	17	9	5	3.9	79
LIHUE	115	1012.8	1018.1	84	72	78.2	- 0.6	85	29+	69	12+	0	0	68	73	3.00	1.06	0.51	25	0	0.0	0	14.3	5	25	NE	21+	2	19	10	6.7	53
IDAHO																																
BOISE	2838	917.2	1011.2	91	58	74.9	- 0.3	101	17	48	24	21	0	47	41	0.41	0.20	0.35	3	2	0.0	0	7.5	31	31	NW	29	25	4	2	1.7	88
IDAHO FALLS 42NW R	4790			90	49	69.8	0.7	98	27	42	6	16	0			0.36	- 0.08	0.23	3				8.1		30A	SW	16					
IDAHO FALLS 46W R	4933	848.6		89	50	69.4	0.4	96	27	41	6	12	0			0.49	0.23	0.28	3	4	0.0	0	8.5		26A	WSW	23					
LEWISTON	1413	961.6		87	59	72.7	- 1.1	105	12	52	4	13	0			2.15	1.72	1.40	4	6	0.0	0						15	7	9	4.2	
POCATELLO	4444	863.2	1012.1	92	54	72.6	0.2	99	17	44	25+	20	0	45	41	0.30	- 0.21	0.16	3	6	0.0	0	9.6	18	33	SW	4	25	5	1	2.0	91
ILLINOIS																																
CAIRO U	314	1002.1		90	72	81.0	- 0.1	98	7	59	13	23	0			2.87	- 0.32	0.66	9	5	0.0	0	5.8	S#	32	NE	6	8	13	10	5.5	74
CHICAGO O HARE	658	991.1	1015.5	83	61	72.1	- 0.6	93	22+	46	5	8	0	63	74	4.23	0.84	2.39	11	8	0.0	0	8.3	21	37*	34	18	11	8	12	5.6	
CHICAGO MIDWAY	610	993.1	1015.7	85	67	75.7	0.1	94	17	54	13	12	0	63	66	4.83	1.46	2.09	11	7	0.0	0	8.0	21	29	NW	7	11	9	11	5.5	61
MOLINE	582	993.4	1015.1	86	67	76.6	1.0	97	24	53	13	11	0	66	71	5.31	2.05	1.14	10	9	0.0	0	6.9	17	47	W	7	10	12	9	5.5	68
PEORIA	652	993.4	1015.4	87	66	76.2	0.2	98	24	50	13	12	0	66	74	1.59	- 1.95	0.56	8	9	0.0	0	7.5	18	38	NW	7	10	8	13	5.5	71

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CLIMATOLOGICAL DATA

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State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet		Average speed	Prevailing direction	Fastest mile			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max. 90°F. or above	Min. 32°F. or below						.01 inch or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	988.1	1015.0	83	63	72.8	- 1.4	91	19+	50	13	5	0	64	76	5.20	1.06	1.68	11	9	0.0	0	8.2	18	23*	34	24	11	11	9	5.2	
SPRINGFIELD	588	991.9	1014.7	89	67	77.9	- 0.1	97	24+	51	13	16	0	64	64	1.32	- 2.17	0.60	6	7	0.0	0	8.6	18	30	NW	8+	11	9	11	5.3	75
INDIANA																																
EVANSVILLE	381	1000.1	1015.8	90	65	77.6	- 1.2	96	3	52	5	20	0	67	74	2.35	- 0.97	1.08	9	7	0.0	0	5.7	36	23	SW	18	9	17	5	5.0	70
FORT WAYNE	791	985.1	1015.9	85	64	74.5	0.3	94	28	53	5	11	0	63	70	2.20	- 1.17	1.65	7	6	0.0	0	7.1	23	24	N	12+	10	13	8	5.6	78
INDIANAPOLIS	793	986.3	1015.9	85	65	74.6	- 0.6	93	23	53	5	7	0	65	75	4.09	0.59	0.98	9	6	0.0	0	6.8	22	31	SW	3	5	16	10	6.2	65
SOUTH BEND	768	987.8	1015.5	84	64	74.0	0.4	92	24	50	5	9	0	61	67	4.80	1.33	1.73	10	11	0.0	0	8.1	22	24*	19	6	8	12	11	5.5	
IOWA																																
BURLINGTON	694	990.2	1015.3	88	67	77.0	0.4	99	24	53	13	13	0	66	72	2.23	- 1.17	0.74	10	11	0.0	0	8.1	20	65	NW	7	9	12	10	5.3	77
DES MOINES	948	984.2	1014.9	87	68	77.2	- 0.3	96	28	55	13	15	0	65	69	3.37	0.31	1.60	9	9	0.0	0	10.2	14	40	NW	7	14	11	6	4.7	72
DUBUQUE	1065	990.0		84	64	73.7	1.1	93	24+	52	13	8	0			2.43	- 1.08	1.20	8	7	0.0	0						9	12	10	5.6	
SIOUX CITY	1095	973.0	1013.4	90	67	78.5	1.1	102	22	59	13	17	0	67	70	6.00	2.89	1.23	11	10	0.0	0	10.1	16	52	N	9	15	13	3	3.9	82
WATERLOO	868	982.6		88	64	75.8	2.0	96	24+	50	13	14	0			3.48	- 0.31	1.89	5	6	0.0	0	8.6	18	23*	33	28	12	15	4	4.7	
KANSAS																																
CONCORDIA	1470	963.6	1012.3	95	70	82.9	2.6	108	6	57	13	25	0	62	54	3.01	0.18	2.03	6	10	0.0	0	12.2	17	37	NW	7	13	13	5	4.6	80
DODGE CITY	2594	926.4	1012.2	97	69	83.1	2.9	105	15+	57	13	27	0	59	50	5.30	2.99	3.28	9	16	0.0	0	13.9	19	65	S	4	15	11	5	4.1	81
GOODLAND	3645	888.0	1011.7	96	64	79.8	3.2	108	4	54	13	27	0	54	48	1.97	- 0.70	1.78	6	14	0.0	0	14.8	18	40*	36	8+	15	13	3	3.5	
TOPEKA	877	978.7	1013.5	93	70	81.2	1.3	103	22	56	13	21	0	67	64	1.81	- 1.79	0.63	6	12	0.0	0	11.7	18	50	N	8	8	16	7	5.3	67
WICHITA	1321	965.1	1012.5	97	73	85.0	4.1	106	24	59	13	28	0	65	55	2.23	- 1.41	1.01	6	7	0.0	0	11.3	18	36	SE	25+	10	16	5	4.6	79
KENTUCKY																																
COVINGTON	869	984.1	1015.5	87	62	74.2	- 1.2	95	23	52	6	13	0	65	77	2.56	- 1.05	0.99	11	12	0.0	0	5.5	20	27*	27	3	6	19	6	5.4	
LEXINGTON	979	980.8	1016.0	86	65	75.2	- 2.2	93	3	52	5	6	0	64	70	3.99	0.01	1.93	10	9	0.0	0	5.7	18	29*	31	25	13	12	6	4.6	
LOUISVILLE	474	996.4	1015.3	88	65	76.4	- 1.2	94	25+	54	5	11	0	67	75	3.03	- 0.33	0.99	11	8	0.0	0	5.3	18	40	N	7	7	18	6	5.5	61
LOUISIANA																																
ALEXANDRIA	92	1011.1	1015.5	89	70	79.5	- 2.7	95	24+	63	14	19	0	72	82	5.92	0.67	1.67	11	12	0.0	0	4.8	22	40*	9	24	9	9	13	6.2	
BATON ROUGE	64	1013.1	1016.0	90	74	81.8	- 0.9	95	7+	70	14	20	0	74	82	9.37	3.10	2.74	14	14	0.0	0	5.7	24	23*	6	24+	5	14	12	6.8	
LAKE CHARLES	14	1014.3	1015.8	87	72	79.6	- 2.7	93	24+	68	17+	8	0	72	82	4.86	- 2.43	2.25	13	13	0.0	0	7.0	14	21*	24	25+	6	15	10	6.4	
NEW ORLEANS	3	1014.0	1016.0	89	72	80.6	- 1.0	93	23+	68	14+	14	0	75	87	5.90	- 0.82	1.19	13	16	0.0	0	5.8	24	23*	20	28+	3	11	17	7.1	
NEW ORLEANS AUDUBON	6	1009.4		91	73	81.6	- 1.0	96	22+	69	13+	20	0			6.38	- 1.74	1.29	20	18			3.4		14	E	16	3	10	18	7.5	43
SHREVEPORT	252	1006.5	1015.6	96	73	84.2	0.5	101	7	67	14	30	0	69	65	0.15	- 3.60	0.08	3	3	0.0	0	9.3	18	25*	36	23+	14	14	3	4.3	77
MAINE																																
CARIBOU	624	991.6		75	56	65.8	1.3	93	18	45	24	1	0			3.58	- 0.46	1.16	17	10	0.0	0						1	16	14	7.3	
PORTLAND	61	1011.6	1015.6	77	58	67.6	- 0.5	92	18+	45	31	2	0	60	80	3.47	0.61	1.01	12	10	0.0	0	8.0	18	30	N	22	7	8	16	6.7	62
MARYLAND																																
BALTIMORE	146	1010.8	1015.6	87	67	77.0	0.2	97	1	57	5	10	0	64	69	2.66	- 1.56	1.23	8	2	0.0	0	7.6	18	22	SE	12+	9	10	12	6.0	66
BALTIMORE U	14			88	72	79.7	0.6	98	1	64	5	10	0			3.01	- 1.38	1.05	8													
MASSACHUSETTS																																
BLUE HILL OBS R	629	991.8		79	61	70.1	- 0.8	98	1	53	31	3	0			2.38	- 0.89	1.62	14	0	0.0	0	12.9	SW								49
BOSTON	15	1011.0	1015.7	80	64	71.5	- 2.2	97	1	57	11	5	0	63	79	3.12	0.24	1.34	11	5	0.0	0	11.4	24	45*	N	1	7	10	14	6.7	48
NANTUCKET	43	1015.6	1016.3	73	61	67.3	- 0.7	92	1	54	12	1	0	62	88	2.78	0.07	1.57	6	5	0.0	0	12.1	23	28	N	26	3	4	24	8.4	49
PITTSFIELD	1170			80	58	68.9	1.1	92	19+	42	31	3	0			2.40	- 2.49	0.57	11		0.0	0										
WORCESTER	986	979.8	1016.0	77	60	68.6	- 1.2	94	1	50	31	1	0	60	77	3.02	- 0.61	1.29	12	7	0.0	0	8.9	24	24*	17	8+	8	9	14	6.5	
MICHIGAN																																
ALPENA	689	993.5	1015.6	80	55	67.6	1.7	94	17	40	31+	3	0	55	68	4.30	1.44	1.37	12	6	0.0	0	6.4	30#	27	W	11	6	17	8	5.7	73
DETROIT	619	989.2	1015.4	86	66	76.0	1.6	96	20	54	5	13	0	61	64	2.37	- 0.45	1.16	11	7	0.0	0	8.6	18	29	W	3	8	16	7	5.2	66
DETROIT M WAYNE CO	633	991.4	1015.9	85	60	72.9	0.0	95	27	46	5	14	0	59	66	1.11	- 1.5	0.55	9	6	0.0	0	8.4	22				8	16	7	5.4	
DETROIT WILLOW RUN	711	987.6	1015.5	86	62	74.2	0.0	95	27	49	31+	14	0	62	70	1.79	- 0.8	0.85	8	5	0.0	0	7.8	24	25*	30	25	7	16	8	5.5	
FLINT	766	988.7	1016.2	84	60	71.7	1.6	93	28	47	30+	5	0	60	70	2.82	- 0.09	1.69	8	7	0.0	0	7.6	24	21*	31	20+	10	12	9	5.2	
GRAND RAPIDS	689	990.6	1015.4	84	62	73.1	1.2	95	24	49	5	11	0	62	71	2.14	- 0.59	1.61	7	7	0.0	0	8.4	27	22	W	14+	10	10	11	5.6	67
LANSING	852	983.9	1015.4	85	61	73.2	1.5	95	19	44	5	7	0	63	73	3.07	0.49	1.32	10	8	0.0	0	6.2	24	28	SE	6	10	13	8	5.2	61
MARQUETTE U	677	988.8		77	59	67.6	0.9	94	16	51	5	3	0			2.95	- 0.25	1.93	6	4	0.0	0	6.9	W#	25	NW	25	11	12	8	5.1	72

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
MUSKEGON	627	993.1	1015.8	83	62	72.4	1.1	93	24+	49	5	5	0	60	68	1.10	- 1.31	0.67	8	11	0.0	0	8.1	22	21*	35	29+	10	11	10	5.2	
SAULT STE MARIE	721	992.9	1015.5	78	55	66.5	1.9	87	24+	45	30+	0	0	56	73	1.92	- 0.56	0.62	11	5	0.0	0	9.1	30	28*	33	29	11	8	12	5.5	68
MINNESOTA																																
DULUTH	1426	974.4	1015.8	79	54	66.3	0.8	94	17	43	30	2	0	53	66	1.47	- 2.07	0.70	7	8	0.0	0	8.8	12	31	E	19	7	17	7	5.4	81
INTERNATIONAL FALLS	1179	973.1	1013.8	81	55	68.2	2.6	96	16	43	30	3	0	59	74	1.97	- 1.52	1.00	12	12	0.0	0	8.3	14	28*	14	23	9	15	7	5.4	
MINNEAPOLIS	822	981.3	1014.1	88	65	76.0	3.7	97	23+	53	13	12	0	61	63	2.02	- 1.25	0.88	9	5	0.0	0	7.9	13	33	WSW	22	11	15	5	4.5	73
ROCHESTER	1297	978.3	1015.2	86	61	73.8	1.5	97	19+	47	13	12	0	59	63	1.18	- 2.50	0.68	6	5	0.0	0	11.2	18	30*	20	16	12	13	6	4.8	
ST CLOUD	1034	976.5		87	62	74.2	3.2	98	23+	52	12	11	0			1.71	- 1.55	0.87	7	6	0.0	0						13	11	7	4.7	
MISSISSIPPI																																
JACKSON	305	1004.1	1016.1	91	72	81.3		95	22+	63	14	23	0	71	75	5.17		1.67	10	9	0.0	0	7.0	21	32*	SE	15+	8	11	12	5.8	
MERIDIAN	292	1002.8	1016.4	90	69	79.5	- 2.0	95	8	60	14	19	0	71	80	4.69	- 1.53	1.10	12	12	0.0	0	5.8	18	40*	3	6	2	16	13	6.4	
VICKSBURG U	234	1006.5		89	72	80.5	- 1.3	95	7	67	14+	16	0			6.28	2.38	2.72	8	7	0.0	0	6.9		30	NE	9	5	13	13	6.1	66
MISSOURI																																
COLUMBIA	778	986.1	1014.0	90	69	79.7	1.0	98	21	53	13	18	0	66	67	3.29	- 0.12	1.66	8	12	0.0	0	8.2	16	24	NE	12	10	14	7	5.2	73
KANSAS CITY	742	979.5	1013.4	92	73	82.5	1.0	104	22	60	13	18	0	67	61	2.94	- 0.25	0.89	8	10	0.0	0	8.8	19	47	N	1	8	14	9	5.4	76
ST JOSEPH	809	980.2		90	69	79.4	0.0	100	22	54	13	18	0			1.89	- 1.33	0.89	10	9	0.0	0	7.2		35*	35	1	11	17	3	4.3	
ST LOUIS	535	994.6	1015.2	88	69	78.5	0.4	95	27	54	13	14	0	69	75	4.25	0.95	2.81	9	7	0.0	0	9.1	18	38	SE	6	11	10	10	5.3	70
ST LOUIS RFC	465			90	71	80.3	- 0.4	97	26	58	13	18	0			3.10	- 0.21	1.67	8		0.0	0										
SPRINGFIELD	1265	968.4	1014.9	91	67	78.9	0.1	100	22	50	13	20	0	68	73	0.98	- 2.91	0.36	9	6	0.0	0	7.8	16	22	NE	8	13	14	4	4.5	72
MONTANA																																
BILLINGS	3567	890.5	1011.6	90	61	75.6	0.9	100	21	52	28	16	0	51	45	0.10	- 0.80	0.09	3	6	0.0	0	9.3	22	59	NW	14	24	5	2	2.3	84
GLASGOW	2277	938.7		89	60	74.3	3.6	102	21+	49	28	12	0			1.20	- 0.13	0.51	11	12	0.0	0						21	9	1	3.0	
GREAT FALLS	3662	888.0	1012.1	88	57	72.4	3.0	99	12	50	25	15	0	47	44	1.50	0.22	0.39	10	10	0.0	0	10.2	23	38	NW	12	21	9	1	2.5	88
HAVRE	2582	924.9		88	56	71.7	1.7	97	12	45	28	14	0			1.18	- 0.09	0.33	9	13	0.0	0	9.3		49	W	2	23	7	1	2.8	87
HELENA	3893	873.7	1013.1	87	54	70.2	1.8	95	22	48	31+	10	0	46	45	0.83	- 0.20	0.30	5	9	0.0	0	7.3	24	38	SW	8	18	13	0	2.7	84
KALISPELL	2965	911.4		81	47	64.0	- 1.7	94	8	38	24	5	0			1.69	0.65	0.75	9	7	0.0	0	6.3		32	3	27	16	9	6	3.7	
MILES CITY	2629	376.9	1011.4	93	64	78.2	2.9	105	21	53	28+	23	0	52	43	0.54	- 0.80	0.29	5	12	0.0	0	7.8	13	35*	32	23+					
MISSOULA	3190	902.0	1014.6	84	49	66.2	- 0.8	96	12+	40	24	6	0	50	62	0.94	0.09	0.48	7	8	0.0	0	7.6	32	33	NW	15	18	8	5	3.3	80
NEBRASKA																																
GRAND ISLAND	1841	947.9	1012.7	93	66	79.4	2.2	105	23+	54	29	22	0	62	60	3.00	0.49	1.86	9	8	0.0	0	10.8	17	46*	27	7	14	13	4	3.9	
LINCOLN U	1150			93	71	82.0	1.9	105	6	60	13	22	0			3.18	- 0.09	1.27	11	9	0.0	0	10.7	SE#	47	NW	7	10	16	5	5.0	78
NORFOLK	1544	958.3		91	67	79.0	2.0	104	22	57	26+	20	0			2.52	- 0.50	0.70	9	8	0.0	0						17	11	3	3.8	
NORTH PLATTE	2779	924.5	1011.5	92	63	77.5	1.4	102	30	56	29+	20	0	59	57	4.52	2.00	3.15	9	12	0.0	0	10.8	17	52	NW	7	16	11	4	3.7	91
OMAHA	978	974.4	1013.3	91	69	80.1	1.6	101	31	57	13	20	0	65	63	4.61	1.24	1.21	11	10	0.0	0	8.0	16	40	NW	2	13	13	5	4.2	74
OMAHA N OMAHA AP	1323	966.4		88	68	77.7	1.1	97	31	58	13	14	0			3.90	0.33	1.08	10	10	0.0	0						10	15	6	4.9	
SCOTTSBLUFF	3950	878.9	1011.4	94	62	77.9	3.2	103	22	53	13	24	0	55	51	0.69	- 0.76	0.44	6	10	0.0	0	9.6	12	26*	8	7	17	12	2	3.3	
VALENTINE	2587	922.9		93	63	78.0	2.6	109	23+	55	12	19	0			3.38	1.06	1.96	8	10	0.0	0	10.3	S#	40	E	29	23	6	2	3.0	81
NEVADA																																
ELKO	5075	845.1	1012.2	91	49	69.9	0.3	96	20	39	5+	21	0	34	28	0.18	- 0.22	0.15	4	1	0.0	0	6.3	23	23*	32	28+	23	5	3	2.2	
ELY	6257	811.0	1011.3	88	49	68.4	0.9	92	24+	35	5	12	0	33	29	0.02	- 0.63	0.02	1	2	0.0	0	9.3	19	30	SE	4	21	7	3	2.5	87
LAS VEGAS	2162	937.7	1009.1	105	77	90.7	1.0	110	29+	65	1	31	0	39	20	0.24	- 0.26	0.22	2	4	0.0	0	11.0	18	40*	22	25	17	12	2	3.4	87
RENO	4404	862.9	1013.4	94	48	70.7	3.0	101	11	37	31	26	0	40	35	0.13	- 0.14	0.13	1	2	0.0	0	7.2	29	37	SW	12	26	4	1	1.1	99
WINNEMUCCA	4299	867.4		92	51	71.3	0.3	98	25	36	3	24	0			0.40	0.13	0.39	2	5	0.0	0	8.9	27	40	W	28	26	3	2	1.5	88
NEW HAMPSHIRE																																
CONCORD	339	1004.8	1015.6	82	59	70.8	1.2	95	28	47	31	5	0	60	75	3.37	- 0.04	1.26	12	9	0.0	0	5.3	20	25*	36	1	5	12	14	6.6	49
MT WASHINGTON OBS	6262	810.1		57	45	50.9	1.8	67	18	29	31	0	2			5.57	- 1.14	0.87	19	9	0.0	0	21.9	W#	73Y	W	30	0	6	25	8.6	26
NEW JERSEY																																
ATLANTIC CITY	58	1014.2	1016.4	85	68	76.3	1.2	97	1	58	6+	8	0	65	73	2.79	- 0.93	2.04	7	6	0.0	0	8.5	20	23*	20	3	5	10	16	6.7	67
ATLANTIC CITY U	10			80	68	73.6	- 0.6	92	1	59	6+	2	0			1.37	- 2.49	0.93	9				12.8		30*	NW	29					
NEWARK	11	1014.7	1016.0	84	68	76.0	- 1.3	99	1	61	31+	9	0	63	69	4.74	1.07	2.03	14	5	0.0	0	10.4	23	23*	10	9+	6	13	12	6.2	
TRENTON U	56	1007.8		85	67	75.7	- 0.3	97	1	59	5	6	0			7.29	3.11	4.85	14	6	0.0	0	8.1	SW#	29	SW	3	8	11	12	6.2	54

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	849.8	1011.9	92	65	78.2	- 0.3	99	4+	54	13	26	0	50	44	1.87	0.67	0.88	14	15	0.0	0	6.6	18	39	SE	7	11	15	5	4.7	79
CLAYTON	4969	847.6		93	63	77.6	3.1	102	3	53	13	26	0			1.33	- 1.00	0.54	10	16	0.0	0						15	8	8	4.6	
RATON	6379	809.8		89	56	72.3	2.5	96	6+	44	13	16	0			0.86	- 1.54	0.68	9	16	0.0	0						7	20	4	5.2	
ROSWELL	3619	893.5		98	66	81.7	3.1	105	2	59	14	30	0			0.17	- 1.60	0.14	2	2	0.0	0	9.3		31	SW	9	21	7	3	3.2	79
SILVER CITY	5373	837.3		91	63	77.1	0.0	100	4	58	31+	24	0			1.88	- 0.21	0.73	10	17	0.0	0						7	19	5	5.2	
NEW YORK																																
ALBANY	277	1011.7	1015.6	86	63	74.4	2.3	97	18+	50	31	11	0	60	67	1.29	- 2.20	0.39	8	8	0.0	0	7.5	17	35	W	29	6	9	16	6.6	49
BINGHAMTON	1590	958.1	1016.2	80	61	70.3	1.9	90	20	51	31	1	0	59	71	4.80	1.09	1.74	10	10	0.0	0	8.7	34	38	NW	29	8	11	12	6.5	68
BUFFALO	705	987.3	1015.1	82	64	73.1	3.3	93	28	50	31	4	0	61	70	2.57	0.00	1.82	9	6	0.0	0	9.4	23	30	SW	14	6	18	7	5.7	71
NEW YORK U	132	1005.3		84	67	75.4	- 1.4	99	1	61	26+	7	0			4.17	0.47	2.12	10	1	0.0	0	8.1	SW#	23	NE	9	13	7	11	5.5	48
NEW YORK LA GUARDIA	19	1013.5	1015.7	83	69	76.1	- 0.7	97	1	61	9	6	0	64	70	4.56	0.85	1.79	8	5	0.0	0	11.1	18	30	NE	9	2	17	12	6.4	
ROCHESTER	543	996.5	1015.5	85	63	73.8	2.2	98	28	49	31	9	0	59	63	1.52	- 1.32	0.69	10	7	0.0	0	7.5	22	24	NW	29+	10	15	6	5.1	74
SCHENECTADY	217			85	63	73.7	0.5	94	28+	51	31	10	0			3.10	- 0.36	1.11	11	4	0.0	0			35*	SW	29	13	13	5	4.5	
SYRACUSE	417	993.2	1014.7	84	62	73.2	1.0	96	28	50	31	8	0	61	70	2.15	- 0.94	0.97	9	7	0.0	0	7.6	27	28	NW	29	10	16	5	4.9	63
NORTH CAROLINA																																
ASHEVILLE U	2203	938.3		83	63	72.9	- 1.5	90	28	52	6	1	0			3.29	- 1.02	1.18	14	11	0.0	0	5.1	S#	19	SE	17+	1	16	14	7.1	53
CAPE HATTERAS R	7	1016.0	1016.7	84	70	77.3	- 0.7	88	20	57	7+	0	0	70	79	6.29	0.14	1.43	20	6	0.0	0	9.9	23	32	SW	29	4	4	23	7.8	71
CHARLOTTE	735	988.7	1016.3	86	68	76.9	- 2.3	91	3	57	6	3	0	68	79	5.39	0.51				0.0	0	7.2	18	26	W	15					
GREENSBORO	891	985.2	1016.6	85	68	76.4	- 0.9	90	29+	59	6	3	0	67	78	6.61	1.82	1.36	15	12	0.0	0	6.4	18	25	NW	29	2	11	18	7.4	44
RALEIGH	433	1002.4	1016.0	86	67	76.4	- 1.5	91	3	56	6	3	0	68	79	4.06	- 1.43	0.97	17	12	0.0	0	7.5	18	32*	27	13	3	7	21	7.6	51
WILMINGTON	30	1014.4	1017.2	86	71	78.3	- 1.7	92	30	62	7+	3	0	71	81	7.45	- 0.23	1.94	17	12	0.0	0	7.8	22	25	N	9	3	5	23	8.0	49
WINSTON SALEM	967	981.7	1016.2	86	69	77.5	- 0.5	93	7	59	5	5	0	68	76	8.17	3.54	2.43	14	10	0.0	0	6.5	23	23*	28	13	3	12	16	7.0	
NORTH DAKOTA																																
BISMARCK	1647	953.6	1013.0	85	58	71.7	0.0	95	22+	49	29+	8	0	58	65	2.18	- 0.01	1.09	9	13	0.0	0	9.1	7	38	SE	1	12	12	7	4.4	79
FARGO	900	979.3	1013.1	87	61	74.0	2.6	96	15	45	29	7	0	62	68	0.77	- 2.14	0.36	8	13	0.0	0	8.4	16	38	S	31	12	15	4	4.5	81
WILLISTON	1899	945.8		87	59	72.7	1.4	98	21	47	2	9	0			2.24	0.37	1.54	8	8	0.0	0	9.2	SE#	40	NW	5	17	9	5	4.1	81
OHIO																																
AKRON	1209	978.4	1016.2	85	61	72.9	0.3	93	27	50	31+	12	0	60	68	3.54	- 0.23	1.11	13	7	0.0	0	6.6	24	23*	33	21+	5	17	9	6.0	
CINCINNATI OBS	761			87	66	76.3	- 0.6	95	26+	56	5	15	0			1.67	- 1.92	0.66	10	9	0.0	0	3.7	N#	18	SW	3					51
CINCINNATI U	553	992.8		88	68	77.9	- 0.9	96	23	60	13+	15	0			2.48	- 1.05	0.75	10	8	0.0	0										
CLEVELAND	777	988.0	1015.5	82	62	72.2	0.7	93	28	50	5	5	0	62	71	3.37	0.06	1.51	6	3	0.0	0	8.2	22	30	SW	14	7	15	9	5.4	68
COLUMBUS	812	986.6	1016.2	85	64	74.4	- 0.4	93	27	52	5	11	0	63	71	2.97	- 0.96	1.41	9	8	0.0	0	6.4	36	45	NW	15	6	16	9	5.8	72
COLUMBUS U	724			86	67	76.8	0.4	96	27	58	14	14	0			3.17	- 0.50	0.93	9	7	0.0	0										
DAYTON	997	983.7	1015.9	86	64	75.1	- 0.1	95	27	55	5	12	0	63	72	2.15	- 1.38	0.87	12	6	0.0	0	7.4	21	25	W	28+	10	15	6	4.9	74
MANSFIELD	1296			83	62	72.4	0.7	93	27	52	5	7	0			2.16	- 1.32	0.70	9	8	0.0	0						8	16	7	5.6	
TOLEDO	676	990.6	1015.5	86	62	73.8	1.1	95	27+	48	6	12	0	59	65	1.58	- 1.01	0.56	10	7	0.0	0	7.3	23	29	NW	3	7	15	9	5.6	70
YOUNGSTOWN	1178	974.1	1016.2	82	60	71.1	0.6	91	27	48	6	2	0	60	70	4.18	- 0.14	1.84	10	8	0.0	0	8.3	24	25*	6	28	8	12	11	5.9	
OKLAHOMA																																
OKLAHOMA CITY	1280	970.9	1013.2	99	72	85.3	2.8	106	9	61	13	28	0	63	50	2.01	- 0.36	1.09	5	5	0.0	0	12.5	16	48	W	28	18	7	6	3.9	79
TULSA	676	989.9	1013.9	97	73	84.9	2.7	105	26+	59	14+	28	0	67	59	1.80	- 1.14	1.02	6	6	0.0	0	9.8	18	39	S	26	13	11	7	4.1	76
ORFGON																																
ASTORIA	8	1016.5	1017.1	66	52	59.2	- 1.4	76	11	44	23	0	0	54	83	2.59	1.32	0.81	14	0	0.0	0	8.5	33	26*	32	11	5	6	20	7.4	
BURNS U	4151	872.8		84	50	67.1	- 2.4	95	27+	37	5	7	0			0.53	0.19	0.23	6	6	0.0	0						19	8	4	3.1	
EUGENE	361	1002.8	1016.1	81	52	66.4	- 0.2	95	27	40	9	7	0	52	65	0.54	0.27	0.20	5	0	0.0	0	7.2	36	20*	36	25+	12	8	11	5.1	
MEACHAM	4050			75	49	62.0	- 1.4	90	12	39	16	1	0			1.43	0.93	0.64	8	5	0.0	0						14	6	11	4.7	
MEDFORD	1298	967.6	1014.6	88	54	70.9	- 1.1	103	25	42	9	13	0	51	55	0.97	0.76	0.60	4	5	0.0	0	6.0	30	23*	12	1	15	11	5	3.5	
PENDLETON	1482	960.8	1013.7	88	57	72.2	- 1.4	102	12	48	3	14	0	43	40	0.64	0.42	0.36	7	4	0.0	0	10.3	29	46*	20	7	16	8	7	3.8	
PORTLAND	21	1010.5	1016.0	76	53	64.5	- 2.7	89	11	47	9	0	0	52	67	0.68	0.27	0.46	10	0	0.0	0	7.8	32	26	SW	15	11	6	14	5.6	64
PORTLAND U	30			77	57	67.2	- 1.4	91	11	53	19+	2	0			0.74	0.35	0.54	8	0	0.0	0										
ROSEBURG	505	997.7		82	53	67.5	- 0.4	97	27	43	9	8	0			0.31	0.10	0.13	5	0	0.0	0	5.1	N#	17	N	23+	15	5	11	4.6	67
SALEM	195	1009.4	1016.7	81	52	66.4	0.3	97	11	41	9	6	0	53	66	0.45	0.10	0.34	5	0	0.0	0	7.4	18	22*	34	24	11	7	13	5.3	
SEXTON SUMMIT R	3836	885.1		73	50	61.3	- 2.3	90	27	39	9	1	0			0.62	0.30	0.35	6	0	0.0	0	10.8								3.1	

See footnotes at end of table

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
CANTON ISLAND	11	1009.4	1009.6	87	77	82.0	-1.6	88	27+	74	25+	0	0	70	70	0.23	-2.36	0.16	4	0	0.0	0	13.6	8	26*	8	25	11	13	7	4.9	
ENIWETOK	16	1009.9		87	77	82.2	-0.6	90	12	72	19	1	0			6.32	-0.13	1.61	25	2	0.0	0	10.0									
TAGUAC GUAM R	361	997.1		86	72	79.0	-0.5	89	26+	69	23+	0	0			7.67	-1.31	1.62	26	4	0.0	0	4.8		27	SE	11					50
JOHNSTON	7	1013.5	1014.1	84	76	80.1	-1.0	85	31+	73	16	0	0	70	73	0.87	-0.43	0.31	10	0	0.0	0	15.4	8	31	E	6+	6	21	4	4.9	73
KOROR R	94	1006.7	1009.6	88	76	82.0	1.1	90	29+	73	26	6	0	76	86	4.14	-11.03	0.82	18	3	0.0	0	4.5	18	23	NE	25	0	0	31	9.9	74
KWAJALEIN	8	1009.6	1009.7	86	76	81.1	-0.5	88	20+	73	16+	0	0	75	84	10.67	1.76	3.69	21	1	0.0	0	9.8	8	30*	8	8	2	9	20	8.0	
PONAPE R	123	1004.8	1009.4	87	72	79.6	-0.1	90	25+	69	21	3	0	74	88	14.33	-1.89	2.38	28	3	0.0	0	4.4	14	16	NE	3	0	9	22	8.7	52
TRUK MOEN ISLAND	5	1008.5	1008.8	87	74	80.5	0.0	90	23	72	29+	1	0	74	82	13.55	1.22	3.68	20	1	0.0	0	7.7	5	26	N	4	1	9	21	8.5	59
WAKE	11	1012.7	1013.1	87	77	81.9	-0.1	88	29+	73	22+	0	0	72	73	4.46	-0.14	0.92	21	4	0.0	0	11.7	8	23*	7	21	8	10	13	6.2	
YAP R	53	1007.5	1008.7	87	75	81.4	0.0	90	30+	71	21	2	0	77	84	9.44	-4.34	3.77	17	4	0.0	0	4.6	4	23	N	4	1	7	23	8.8	45
PENNSYLVANIA																																
ALLENTOWN	376	1002.0	1016.2	84	64	73.9	-0.2	95	1	54	10+	4	0	63	73	2.29	-2.53	0.91	11	8	0.0	0	8.0	22	32*	33	29	9	11	11	5.8	
ERIE	732	989.9	1015.7	81	64	72.5	1.4	93	28+	54	6	3	0	62	71	3.42	-0.25	1.84	10	5	0.0	0	11.4	18	26*	18	14	11	12	8	5.1	
HARRISBURG	335	1002.3	1016.0	86	66	76.1	-0.1	96	1	55	31	11	0	64	70	2.25	-1.26	1.54	5	3	0.0	0	7.0	26	22	NW	29	9	7	15	6.1	60
PHILADELPHIA	5	1011.5	1015.9	86	67	76.6	1.0	99	1	55	6+	9	0	65	71	3.83	-0.33	2.28	6	5	0.0	0	8.1	23	23	N	4	7	11	13	6.4	59
PITTSBURGH	1137	985.5	1016.0	83	62	72.3	0.2	90	27	51	6	1	0	58	66	4.48	0.60	1.94	10	8	0.0	0	6.8	24	25*	31	26+	6	15	10	6.0	75
PITTSBURGH U	749			85	66	75.8	0.0	94	27	55	31	11	0			3.95	0.35	2.25	10													55
READING U	266	1003.5		85	67	76.4	-0.5	96	1	58	10	10	0			3.04	-1.22	1.97	9	5	0.0	0			38	E	13	7	12	12	6.0	60
SCRANTON	940	982.4	1016.1	85	63	74.1	1.7	95	19	52	31+	10	0	61	69	1.23	-3.56	0.49	10	7	0.0	0	7.2	20	31	SE	12	5	15	11	6.0	53
WILLIAMSPORT	527	997.5	1016.2	85	64	74.7	1.1	94	1	52	7	8	0	64	74	3.37	-0.81	1.50	10	10	0.0	0	5.9	18	23*	32	18+	3	18	10	6.2	
RHODE ISLAND																																
BLOCK ISLAND	110	1011.4		74	63	68.4	-1.2	85	1	58	11+	0	0			1.89	-0.80	0.84	7	4	0.0	0						4	11	16	7.2	
PROVIDENCE	55	1009.6	1015.5	80	63	71.7	-0.4	97	1	55	31	3	0	63	77	2.63	-0.28	1.14	12	5	0.0	0	9.3	22	35*	34	1	8	8	15	6.6	52
SOUTH CAROLINA																																
CHARLESTON	41	1014.9	1016.8	86	70	78.0	-2.6	93	30	60	7	6	0	71	84	18.46	10.75	5.60	21	17	0.0	0	8.0	20	46Y	SW	13	2	5	24	8.2	33
CHARLESTON U	9			84	73	78.6	-2.9	91	30+	70	14+	2	0			23.75	15.97	4.00	23		0.0	0			34	W	14					
COLUMBIA	217	1003.6	1016.2	88	70	78.8	-2.8	94	10	59	6	11	0	69	79	10.32	4.23	2.42	19	12	0.0	0	7.0	23	23*	6	16	3	4	24	8.0	39
FLORENCE	146	1010.6	1016.3	86	69	77.6	-3.1	92	30+	62	6+	6	0	70	83	10.06	3.82	1.86	19	16	0.0	0	7.2	18	23*	24	15	3	5	23	8.1	
GNVLE SPARTANBURG	957	979.8	1016.2	86	69	77.6	-2.3	92	29	60	6	3	0	68	76	7.44	2.79	3.89	12	12	0.0	0	7.0	24	33	W	15	4	10	17	7.1	54
SOUTH DAKOTA																																
HURON	1282	965.9	1012.0	94	63	78.6	3.6	108	23	50	29+	24	0	60	58	0.69	-1.12	0.25	7	10	0.0	0	11.6	12	50	NW	22	16	10	5	4.1	80
RAPID CITY	3165	901.1	1012.5	91	63	76.7	2.9	104	21	54	13	18	0	56	54	0.77	-1.01	0.43	7	11	0.0	0	9.9	34	42	NW	23+	16	14	1	3.6	73
SIOUX FALLS	1420	962.9	1013.3	89	65	77.3	3.0	101	31	52	29	15	0	64	66	4.03	1.19	1.71	8	10	0.0	0	11.0	18	28*	4	11	16	11	4	3.6	
TENNESSEE																																
BRISTOL	1507	962.7	1016.2	86	64	75.2	-0.7	92	27+	52	6	7	0	64	74	3.73	-1.82	1.15	11	13	0.0	0	2.9	27	19*	34	29	4	16	11	6.5	
CHATTANOOGA	670	989.1	1016.3	86	68	76.8	-3.9	92	24+	58	6	8	0	69	82	4.99	-0.12				0.0	0	3.3	15	26	NW	21+					
KNOXVILLE	950	981.4	1016.5	85	66	75.7	-2.7	92	7	57	6	4	0	64	74	3.70	-1.12	1.37	10	10	0.0	0	6.0	24	36	SW	12	3	15	13	6.9	68
MEMPHIS	263	1000.7	1015.1	90	71	80.6	-0.7	97	7	60	14	20	0	72	76	6.14	2.60	2.91	9	9	0.0	0	5.8	9	56	NW	11	13	12	6	4.7	74
MEMPHIS U	271			90	73	81.4	-0.3	97	7	62	13	22	0			5.36	1.94	3.30	10		0.0	0										
NASHVILLE	577	995.6	1015.3	90	68	78.7	-1.5	95	28+	57	14	21	0	68	75	2.16	-1.56	0.69	13	12	0.0	0	6.1	18	38	NW	4	6	14	11	5.8	63
OAK RIDGE	905	984.4		86	64	74.9	-2.3	92	27+	54	15	6	0			3.41	-2.54	1.18	11	11	0.0	0	4.4		36Y		23	7	9	15	6.3	
TEXAS																																
ABILENE	1759	953.1	1012.7	99	75	87.0	3.8	104	26+	62	13	31	0	58	40	2.58	0.30	2.55	3	2	0.0	0	10.5	18	34	NE	29+	16	12	3	3.7	87
AMARILLO	3607	889.7	1011.7	95	68	81.9	1.3	102	10+	55	13	29	0	53	41	0.94	-1.40	0.71	6	7	0.0	0	12.9	21	42	SE	21+	17	10	4	3.6	77
AUSTIN	597	993.0	1014.5	96	74	85.2	0.7	103	25	71	14	30	0	69	63	0.65	-1.53	0.29	4	3	0.0	0	8.3	18	26	SW	20	14	13	4	3.8	78
BROWNSVILLE	16	1011.3	1013.8	93	76	84.9	0.9	97	25	73	17+	29	0	73	72	0.22	-1.46	0.22	1	1	0.0	0	12.9	13	26	E	18+	12	14	5	4.3	82
CORPUS CHRISTI	43	1013.3	1014.5	95	74	84.2	0.1	101	12	71	20+	28	0	75	77	2.25	-0.07	1.52	8	4	0.0	0	11.2	14	28	S	11	10	16	5	4.9	76
DALLAS	481	995.8	1014.0	99	77	88.3	3.4	105	24	66	13	31	0	65	50	0.19	-1.75	0.10	3	1	0.0	0	10.7	18	26	N	12	16	15	0	3.0	87
DEL RIO	1026	978.7	1012.2	100	76	88.2		106	2	72	30	30	0	63	48	0.34		0.29	3	5	0.0	0	11.4	12	35	4	2	16	13	2	3.4	
EL PASO	3918	885.9	1010.0	97	72	84.5	2.6	105	3	65	14+	29	0	54	38	0.18	-1.11	0.09	3	7	0.0	0	8.3	16	38	N	17	13	13	5	4.7	79
FORT WORTH	544	993.7	1014.1	100	75	87.1	1.7	105	26+	64	14	31	0	64	49	0.25	-1.50	0.22	2	3	0.0	0	8.9	18	23*	18	20	18	13	0	2.7	
GALVESTON U	7			87	78	82.3	-0.8	91	25	71	25	2	0			5.79	1.00	1.91	10	1	0.0	0	8.5		28	NE	25					71
HOUSTON U	41			93	78	85.6	1.7	102	25	73	17+	24	0			0.76	-4.39	0.35	7		0.0	0										
HOUSTON	50	1012.2	1014.9	94	74	83.7	0.7	101	25	70	25+	28	0	72	73	1.68	-2.61	0.87	8	6	0.0	0	8.7	16	40*	36	25	9	15	7	5.4	84

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 90 F or above	No of days: Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft	Mb.	Mb.	F	F.	F	F	F		F.				F	%	In	In	In			In	In.	M.p.h		M p.h							%
TEXAS																																
LAREDO	500	997.4	1012.6	99	77	87.7	0.2	104	2	74	17	31	0	67	56	0.81	-0.55	0.78	4	4	0.0	0	12.3	14	29*	13	28	20	8	3	3.5	
LUBBOCK	3243	904.0	1012.8	95	69	82.0	2.5	101	10	56	13	29	0	58	46	0.82	-1.19	0.82	1	3	0.0	0	12.5	18	29*	2	12	19	10	2	3.2	
MIDLAND	2854	915.2	1011.2	100	73	86.9	4.0	106	11	67	13	31	0	57	39	0.24	-1.64	0.19	2	4	0.0	0	10.8	16	29*	7	1	14	11	6	3.9	
PORT ARTHUR	16	1013.5	1015.0	90	74	82.1	0.2	96	24	71	17+	20	0	75	84	6.16	0.16	4.87	10	11	0.0	0	7.4	20	33	SE	1	4	19	8	5.8	54
SAN ANGELO	1903	946.7	1012.0	100	74	86.9	2.1	105	10+	66	13	31	0	59	43	0.47	-0.94	0.34	5	6	0.0	0	9.2	16	23*	12	22+	18	11	2	3.2	
SAN ANTONIO	792	989.9	1014.4	98	75	86.3	2.3	103	25	68	14	30	0	68	60	0.02	-2.07	0.02	1	2	0.0	0	9.4	16	29	SE	29	17	11	3	3.7	84
VICTORIA	104	1010.0		95	76	85.5	2.3	104	12	73	22+	28	0			1.81	-1.80	0.68	9	6	0.0	0	8.8		38Y		28	10	14	7	5.2	
WACO	500	994.5	1013.8	100	76	87.9	2.6	106	25	69	14+	31	0	66	51	0.23	-1.76	0.22	2	3	0.0	0	10.4	18	27*	36	25+	16	14	1	3.0	
WICHITA FALLS	994	976.9	1012.8	103	74	88.7	3.1	111	25	64	13	31	0	61	43	0.38	-1.59	0.32	3	4	0.0	0	11.0	12	35*	3	25	18	11	2	3.1	
UTAH																																
MILFORD	5028	844.9		95	55	75.1	1.3	102	29	38	6	29	0			0.13	-0.57	0.09	3	3	0.0	0						17	10	4	3.3	
SALT LAKE CITY	4220	867.3	1011.5	95	60	77.5	0.6	101	18	50	6+	29	0	41	30	0.26	-0.32	0.18	2	3	0.0	0	10.2	16	38	SW	14	22	8	1	2.2	91
WENDOVER	4237	869.4		93	70	81.4	2.0	101	21	62	5	25	0			0.03	-0.28	0.03	2	4	0.0	0						27	3	1	1.4	
VERMONT																																
BURLINGTON	331	999.9	1014.4	81	58	69.6	0.6	96	28	42	31	3	0	61	76	2.87	-0.98	0.94	13	13	0.0	0	7.4	18	25	Nw	30	4	15	12	6.7	57
VIRGINIA																																
LYNCHBURG	947	991.4		84	65	74.8	-1.5	91	7	58	5	5	0			6.07	1.86	2.40	12	8	0.0	0	4.7		34	N	10	5	7	19	7.1	56
NORFOLK	26	1015.4	1016.7	85	70	77.3	-1.5	94	1	63	6	6	0	67	74	7.33	1.41	1.74	13	9	0.0	0	10.3	18	32	NW	14	3	11	17	7.3	50
RICHMOND	162	1010.0	1016.1	85	66	75.8	-2.3	92	29+	56	5	6	0	66	78	6.46	0.85	2.00	16	6	0.0	0	7.3	18	34	Nw	4	4	10	17	7.0	51
ROANOKE	1174	975.0	1016.4	87	65	75.9	-0.7	95	7	54	6	13	0	63	70	3.37	-0.88	0.93	13	8	0.0	0	5.5	16	35*	18	17	6	12	13	6.4	
WASHINGTON																																
OLYMPIA	190	1009.3	1016.3	74	48	61.1	-2.8	86	28+	40	23+	0	0	53	76	1.07	0.31	0.51	9	0	0.0	0	7.2	20	26*	20	15	11	2	18	6.3	
SEATTLE TACOMA	400	1002.6	1016.5	72	55	63.5	-1.4	85	28+	51	9+	0	0	53	72	0.99	0.18	0.55	9	2	0.0	0	8.6	22	18*	24	30+	8	5	18	6.3	
SPOKANE	2356	945.1	1013.2	82	54	68.3	-2.2	99	12	45	23	8	0	43	45	0.84	0.21	0.29	9	0	0.0	0			32	SW	30					61
STAMPEDE PASS R	3958	880.5		63	46	54.6	-1.6	82	11	38	9	0	0			0.39	0.01	0.13	7	3	0.0	0	9.4	20	33	SW	14	14	7	10	4.4	75
TATOOSH ISLAND R	101	1013.3	1016.5	59	51	54.9	-0.6	64	27	46	16	0	0	52	92	2.16	0.70	0.80	15	0	0.0	29						11	4	16	6.1	
SEATTLE U	14			73	57	65.3	-0.3	85	12	54	9	0	0			3.73	1.39	1.46	21	0	0.0	0	10.5	17	33	S	8	2	7	22	8.3	36
WALLA WALLA U	949			87	61	73.6	-2.4	103	12	53	23	12	0			1.47	1.26		4	5	0.0	0										
YAKIMA	1061	974.7	1012.9	85	51	68.0	-3.0	101	12	42	31+	11	0	46	48	0.08	-0.05	0.03	3	2	0.0	0	7.9	27	25*	32	8	14	9	8	4.2	
WEST INDIES																																
SAN JUAN P.R.	5	1013.7	1016.6	87	76	81.8	1.4	91	4	73	26+	2	0	74	79	7.03	0.78	1.72	20	3	0.0	0	10.4	7	26	E	18+	2	18	11	6.5	68
SWAN ISLAND	28	1012.0		86	77	81.5	-1.0	87	29+	72	21	0	0			6.32	2.12	1.60	16	11	0.0	0						2	17	12	6.8	
WEST VIRGINIA																																
BECKLEY	2504	930.4	1016.8	80	58	68.9		88	28	46	6+	0	0	60	76	2.98		1.07	13	12	0.0	0	6.1	14	28*	28	8	1	13	17	7.6	
CHARLESTON	939	980.9	1015.9	86	64	75.0	0.1	95	28	51	6	11	0	63	73	2.76	-2.91	1.19	12	8	0.0	0	4.3	23	23*	6	24	1	20	10	6.4	
ELKINS	1970	948.7	1017.3	81	56	68.6	-1.5	89	28+	42	7	0	0	60	83	5.19	-0.30	1.38	14	11	0.0	0	4.1	27	26*	2	8	3	11	17	6.9	
HUNTINGTON	827	986.5	1016.2	87	65	76.0	0.8	95	23	51	6+	13	0	64	72	2.18	-2.32	1.02	8	12	0.0	0	4.4	21	18*	23	28	6	16	9	5.7	
PARKERSBURG U	615			86	65	75.4	-0.4	95	27	53	5	13	0			3.60	-0.51	1.77	7	10	0.0	0	5.1		21	S	1					60
WISCONSIN																																
GREEN BAY	682	992.8	1015.4	83	61	71.6	1.1	93	17+	50	13	4	0	62	75	4.55	1.84	1.57	12	10	0.0	0	7.6	6	34	SW	27	9	15	7	5.5	56
LA CROSSE	652	989.1	1014.9	87	65	76.3	2.5	99	17	54	13	14	0	63	69	3.39	-0.36	1.95	7	6	0.0	0	9.1	18	29*	10	18					
MADISON	858	989.3	1015.2	85	61	73.1	2.0	97	24+	46	13	11	0	62	69	4.28	0.70	1.54	11	13	0.0	0	7.2	18	57	NW	27	5	11	15	6.5	62
MILWAUKEE	672	991.2	1015.8	81	64	72.3	3.6	94	17	54	5	7	0	63	74	7.66	4.71	4.04	11	12	0.0	0	8.6	3	45	SW	17	9	15	7	5.2	72
WYOMING																																
CASPER	5319	838.7	1011.8	90	58	74.1	2.4	95	30+	51	12+	17	0	43	38	0.73	-0.27	0.53	7	9	0.0	0	9.3	25	40*	27	13	20	10	1	2.9	
CHEYENNE	6126	816.6	1013.6	86	56	70.9	0.9	91	21+	45	13	8	0	45	45	1.00	-0.82	0.68	9	11	0.0	0	11.6	30	42	SE	20	14	16	1	4.0	71
LANDER	5563	836.7	1012.0	90	58	74.2	3.6	98	21	53	15+	17	0	46	39	0.36	-0.41	0.26	3	8	0.0	0	7.8	24	49	SW	4	21	9	1	2.8	91
SHERIDAN	3942	884.3	1012.8	89	58	73.4	2.1	101	21	50	6	11	0	51	48	0.11	-1.08	0.05	3	7	0.0	0	7.6	12	38	SW	15	21	10	0	2.7	87

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	991.8	1016.6	30.6	20.0	25.4	-2.2	34.4	8	14.4	14	2	0	21.7	83	110	- 21	40	15	13	0	0	2.5	27	17.4	N	8	5	9	17	7.1	51
HUNTSVILLE	184	993.3	1016.2	30.6	20.6	25.5	1.8	35.0	8	13.9	14	6	0	20.0	75	188	81	92	14	14	0	0	1.9	16	14.3*	4	25	4	16	11	6.3	
MOBILE	64	1013.6	1015.8	31.7	22.2	26.9	1.2	34.4	21+	20.6	16	14	0	22.2	81	224	- 21	53	17	18	0	0	3.4	27	15.2*	12	28	3	8	20	7.5	
MONTGOMERY	59	1008.3	1016.3	31.1	22.2	26.7	1.0	33.3	24+	19.4	6	8	0	22.2	81	132	- 5	54	16	19	0	0	2.6	18	12.1	W	29	0	10	21	8.1	44
ALASKA												B																				
ANCHORAGE	27	1006.1	1011.0	18.3	9.4	13.9		23.9	7	2.2	1	3	0	9.4	76	27	0	10	14	1	0	0	3.0	18	8.9*	17	3+	5	7	19	7.4	48
ANNETTE	34	1010.5	1014.4	16.1	10.0	13.1	0.9	24.4	14	7.2	2	1	0	8.9	79	158	5	27	22	0	0	0	3.3	18	10.3*	19	7+	0	3	28	9.5	
BARROW	7	1012.1	1012.8	6.7	0.6	3.4	0.6	19.4	23	- 2.2	3	0	15	0.6	86	2	- 18	1	5	0	3	T	4.8	27	10.3*	10	14	1	9	21	7.8	
BARTER ISLAND	12	1010.8	1012.8	6.7	0.6	3.6	1.6	17.8	6	- 3.3	13+	0	12	1.1	85	13	- 10	12	4	0	56	T	4.0	8	10.7*	29	18	4	14	13	6.7	
BETHEL	38	1009.9	1011.4	18.3	8.9	13.7	1.1	25.0	8	6.1	25	7	0	9.4	79	17	- 35	4	12	1	0	0	4.1	31	8.9*	27	2	2	8	21	8.3	
COLD BAY	29	1008.8	1012.7	11.1	6.1	8.8	1.1	16.1	26+	2.8	5	0	0	6.7	89	44	- 2	13	17	0	0	0	6.3	15	18.8*	15	21	0	2	29	9.5	
CORDOVA	12	1009.8	1011.4	16.7	7.2	11.9	0.1	22.8	14+	2.8	20	5	0	8.9	82	128	- 31	21	17	0	0	0	2.1	7	7.6*	22	14+	3	4	24	8.3	
FAIRBANKS	133	992.6	1009.3	21.1	9.4	15.4	0.0	27.8	16	2.8	20	18	0	9.4	72	33	- 14	11	14	5	0	0	2.5	22	8.0*	6	17	3	14	14	7.1	
JUNEAU	5	1012.1	1012.7	16.1	8.9	12.4	0.6	25.6	14	6.1	14+	4	0	10.0	87	176	62	48	21	0	0	0	4.1	11	10.7*	12	11+	3	5	23	8.4	26
KING SALMON	13	1009.7	1011.0	17.8	6.7	12.3	0.4	23.9	7	1.1	1	6	0	7.2	74	44	- 8	16	14	0	0	0	4.4	18	11.6*	19	13	1	10	20	8.1	
KOTZEBUE	3	1010.1	1010.6	13.3	6.7	10.1	1.4	22.8	22	1.1	9	2	0	6.7	81	11	- 26	7	4	0	0	0	5.6	30	15.6*	31	18	5	9	17	7.0	
MC GRATH	102	997.1	1009.6	21.1	10.0	15.6	0.7	27.8	28	4.4	20	17	0	9.4	70	36	- 26	12	18	6	0	0	2.5	32	8.0*	36	18	1	7	23	8.3	
NOME	4	1010.0	1010.6	15.6	7.2	11.3	1.6	23.3	8	2.8	19+	1	0	7.2	75	6	- 52	3	2	0	0	0	4.3	25	12.5*	27	31	4	12	15	7.1	47
ST. PAUL ISLAND	7	1010.4	1011.5	9.4	4.4	7.2	0.3	12.8	23	2.8	5+	0	0	6.1	94	38	- 19	14	13	0	0	0	5.0	32	10.7*	14	21+	0	2	29	9.6	
SHEMYA	37	1007.2	1011.0	7.8	5.6	6.8	1.2	10.0	30+	3.9	14+	0	0	6.1	95	61	6	19	14	0	0	0	7.0	9	15.6*	29	21+	0	0	31	10.0	
YAKUTAT	9	1012.0	1013.1	14.4	8.9	11.6	0.7	21.1	14+	4.4	21	2	0	8.9	85	415	201	109	18	1	0	0	3.2	9	10.3*	13	2	3	5	23	8.3	
ARIZONA																																
FLAGSTAFF	2131	794.2	1015.3	27.8	11.1	19.4	0.8	32.2	7	4.4	1	1	0	7.2	54	133	75	65	10	18	0	0	2.7	20	10.3*	20	4	6	8	17	6.5	
PHOENIX	340	976.9	1008.6	40.0	25.0	32.6	0.4	44.4	3	22.2	15+	30	0	14.4	39	15	- 4	8	5	6	0	0	3.3	27	17.4Y	ENE	23	11	12	8	4.6	82
PRESCOTT	1528	879.9	1012.4	32.2	16.7	24.6	0.2	37.2	7	13.3	1	17	0	8.9	44	66	13	36	7	15	0	0	3.8	20	17.4	N	13	9	8	14	6.0	75
TUCSON	788	976.9	1009.7	36.7	23.3	30.1	0.1	41.1	5+	20.6	31+	27	0	12.8	43	122	70	36	10	14	0	0	4.1	18	24.1	S	24	8	11	12	5.9	70
WINSLOW	1487	876.9	1012.3	35.6	18.3	27.0	0.2	38.9	6+	13.3	16	28	0	9.4	42	41	15	16	6	11	0	0	3.8	22	13.0*	19	19	9	12	10	5.6	
YUMA	61	1003.0	1008.0	40.6	27.2	34.0	0.6	45.6	12	22.8	1	31	0	13.3	33	1	- 5	1	1	1	0	0	4.3	18	18.8	S	29	16	10	5	3.6	89
ARKANSAS																																
FORT SMITH	137	997.5	1014.1	37.2	20.0	28.7	0.4	41.1	9+	12.2	14	28	0	18.3	58	10	- 61	10	4	5	0	0	2.8	7	15.6	N	8	13	12	6	4.5	79
LITTLE ROCK	78	1002.2	1015.1	35.0	21.7	28.4	0.7	40.6	8+	14.4	14	28	0	21.7	72	96	11	45	9	12	0	0	2.7	24	21.0	N	9	15	11	5	4.1	69
TEXARKANA	110	1001.3	1014.9	36.1	22.8	29.4	1.3	38.9	8	18.3	13	30	0	21.7	69	78	- 19	44	6	9	0	0	2.2	22								
CALIFORNIA																																
BAKERSFIELD	151	993.5	1010.9	37.2	20.6	28.9	-0.1	43.3	13	15.6	5+	29	0	9.4	31	T		T	0	0	0	0	2.7	31	9.4*	32	25	29	2	0	0.7	
BISHOP	1252	873.0		36.7	13.3	25.0	0.2	40.6	24	8.9	3	30	0			T	- 3	T	0	2	0	0						25	4	2	1.6	
BLUE CANYON	1609	840.5		23.9	13.9	18.8	1.2	28.9	25+	8.3	4	0	0			T	- 2	T	0	0	0	0			8.5*	18	30	29	2	0	0.6	
BURBANK	213	986.4	1011.9	31.7	15.6	23.8	0.6	35.6	13	11.7	5	15	0	12.8	58	T	0	T	0	0	0	0	3.5	19	7.2*	15	7	29	2	0	0.9	
EUREKA U	13	1014.6		16.1	11.7	13.7	0.2	18.3	31+	9.4	27+	0	0			21	18	7	6	1	0	0	3.0	N#	8.9	SW	26+	7	6	18	6.9	56
FRESNO	99	999.1	1010.7	37.2	17.2	27.2	0.2	41.7	13+	11.7	5+	30	0	10.0	37	T	0	T	0	1	0	0	3.6	31	8.9	NW	8	28	2	1	0.7	97
LONG BEACH	10	1011.1	1012.7	27.2	15.0	21.1	0.9	31.1	28	11.7	5	0	0	13.9	71	T	0	T	0	0	0	0	2.5	30	6.7*	27	29+	23	8	0	2.4	
LOS ANGELES	30	1009.2	1013.0	22.8	16.1	19.3	-1.3	25.0	28+	12.8	5+	0	0	14.4	76	T		T	0	0	0	0	4.2	26	10.7Y	W	4	20	10	1	2.8	
MT SHASTA R	1080	892.4		28.9	10.0	19.2	0.8	36.1	11	4.4	31	6	0			12	5	9	3	3	0	0						23	5	3	1.9	
OAKLAND	1	1014.1	1014.4	20.0	13.3	16.8	1.2	28.9	10	11.7	7+	0	0	12.2	77	1	1	T	3	0	0	0	4.6	30	10.7*	25	8	17	10	4	3.3	
RED BLUFF	104	998.5	1010.9	36.1	18.9	27.6	1.2	43.9	24	11.1	4	29	0	8.3	33	T	- 1	T	0	1	0	0	3.3	17	10.7	S	29	28	2	1	1.1	94
SACRAMENTO	5	1010.6	1012.0	34.4	14.4	24.4	0.3	41.1	24+	10.6	5	25	0	12.2	55	T		T	1	0	0	0	4.3	22	12.1	SW	4	29	1	1	0.7	99
SACRAMENTO U	7			32.8	15.0	23.9	0.6	39.4	11	11.1	1	17	0			T		0			0	0										
SANDBERG R	1377	863.5		30.0	17.8	23.8	0.3	35.6	13	10.0	5	8	0			0	- 1	0	0	0	0	0	5.1		12.5*	35	16	29	1	1	0.8	
SAN DIEGO	4	1009.5	1012.6	24.4	17.2	20.7	-0.5	27.8	11	13.9	2	0	0	15.0	76	0		0	0	0	0	0	3.3	30	7.6	NW	29+	16	14	1	3.5	77
SAN FRANCISCO	2	1014.1	1014.7	22.2	12.8	17.3	0.2	32.8	11	10.6	10+	1	0	11.1	75	T		T	0	0	0	0	6.3	30	14.8	W	21	23	5	3	2.7	
SAN FRANCISCO U	16			18.3	11.7	14.9	0.1	27.2	10	10.0	12+	0	0			T		T	0	0	0	0	4.9	W#	15.2	SW	31					70
SANTA CATALINA	478	957.7		28.9	17.2	23.2	2.8	35.0	12	10.6	4	4	0			0	- 1	0	0	0	0	0						24	7	0	1.3	
SANTA MARIA	73	1005.8		22.2	10.0	16.0	0.8	28.3	10	6.1	3	0	0			2	1	2	1	0	0	0						23	8	0	2.6	
STOCKTON	9	1010.7	1012.4	35.0	15.6	25.4	-0.3	41.7	11	11.7	5+	25	0	10.6	46	0		0	0	0	0	0	4.4	27	10.7*	27	8	29	1	1	0.6	
COLORADO																																
ALAMOSA	2297	776.6		28.9	9.4	19.3	1.1	32.8	4	5.6	1	3	0			23	- 4	7	10	14	0	0						8	21	2	4.9	
COLORADO SPRINGS	1882	814.4	1012.8	32.2	15.6	24.1	2.7	37.2	4	10.0	13	19	0	7.8	41	29	- 31	13	12	17	0	0	4.2	36	14.3*	29	5	5	22	4	5.3	
DENVER	1610	839.4	1011.5	33.3	15.0	24.3	1.6	36.7	27+	10.6	13	27	0	7.8	38	18	- 21	9	5	10	0	0	3.1	18	13.4	N	10	8	18	5	4.7	80
GRAND JUNCTION	1478	859.3	1010.4	36.1	18.9	27.4	1.7	38.9	20+	15.0	3+	30	0	5.6	29	17	2	9	3	4	0	0	4.4	13	15.2	SW	14	13	12	6	4.4	80

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind						No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station ○	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1414	857.4	1011.5	35.6	16.1	26.0	1.3	38.9	20+	10.6	13	30	0	9.4	40	19	- 28	7	5	6	0	0	4.3	30	32.6	NE	28	12	16	3	4.4	77
CONNECTICUT																																
BRIDGEPORT	2	1015.4	1016.3	26.7	17.8	22.4	0.8	32.2	1	12.2	26	1	0	17.8	79	47	- 49	38	8	3	0	0	5.6	23	13.0*	29	29+	8	12	11	6.3	
HARTFORD	52	1009.7	1015.5	30.0	18.3	23.9	0.9	38.3	1	12.2	31	10	0	17.2	72	78	- 14	19	12	4	0	0	3.5	18	14.8	W	1	5	10	16	6.9	57
NEW HAVEN	2	1015.1		26.7	17.2	21.9	0.2	31.1	1	12.2	31	0	0			77	- 10	50	8	3	0	0	3.3		9.8	S	15	6	13	12	6.4	60
DELAWARE																																
WILMINGTON	24	1012.8	1016.1	29.4	19.4	24.3	-0.1	35.6	1	13.3	5	4	0	17.8	70	94	- 14	59	5	5	0	0	3.9	23	12.1*	20	13	8	11	12	5.9	
DIST.OF COLUMBIA																																
WASHINGTON U	22			31.1	21.1	25.9		35.6	29	16.1	5	13	0			35		23	5													
WASH NATL AP	4	1010.8	1015.2	31.1	21.1	26.2	0.5	35.6	29+	16.1	6	16	0	17.8	64	47	- 58	18	8	2	0	0	4.0	18	13.0	SW	21	6	12	13	6.4	56
FLORIDA																																
APALACHICOLA U	4	1015.1		30.0	23.9	26.9	0.6	31.7	15+	21.7	7	0	0			258	56	90	17	17	0	0	2.8					5	6	20	7.4	42
DAYTONA BEACH	9	1016.3	1018.0	31.7	22.8	27.2	0.5	35.0	13	20.6	8	13	0	21.7	76	195	24	86	13	12	0	0	3.9	18	16.5*	13	22	3	11	17	7.2	
FORT MYERS	4	1016.5		33.3	22.8	28.3	0.4	36.1	14	21.7	29+	29	0			58	-173	20	14	17	0	0	3.9		13.0*	14	17	2	19	10	6.5	
JACKSONVILLE	7	1015.1	1016.8	32.2	22.8	27.4	0.7	34.4	31+	18.9	8	18	0	22.2	79	155	- 40	41	17	15	0	0	4.3	22	20.1	E	16	4	10	17	7.5	54
KEY WEST	2	1015.8	1017.0	31.7	26.7	29.2	0.7	32.8	14+	24.4	8+	5	0	23.3	72	41	- 64	20	11	7	0	0	5.0	12	16.5	SE	14	5	12	14	6.5	77
LAKELAND U	65			31.7	22.8	27.3	-0.3	35.0	28	21.1	30+	19	0			144	- 67	32	17	17	0	0	2.9					4	9	18	7.1	52
MIAMI BEACH	3			30.6	26.1	28.3	0.3	35.0	8	22.8	16+	2	0			112	- 1	51	13		0	0	6.2					5	19	7	6.0	73
MIAMI	2	1016.2	1017.4	31.7	25.0	28.2	0.6	33.3	10	22.8	25	9	0	23.3	76	140	- 31	29	18	16	0	0	3.9	12	13.9*	27	25	1	20	10	6.8	
ORLANDO	32	1013.2	1017.9	32.8	22.8	27.6	-0.5	35.0	30+	21.1	23+	21	0	22.2	79	170	- 34	59	16	4	0	0	3.8	18	13.9*	15	3	6	10	15	6.8	
PENSACOLA	4			31.1	22.2	26.9	0.7	33.9	6	20.6	8	11	0			267	64	47	18	16	0	0	2.6	24	15.6	N	24					49
TALLAHASSEE	18	1014.3	1016.9	31.7	22.2	26.9	0.4	33.9	31+	19.4	7	14	0	22.2	82	511	307	227	22	19	0	0	3.3	9	13.0*	12	16	2	12	17	7.6	
TAMPA	6	1015.4	1017.0	32.2	23.3	27.8	0.2	36.1	14	20.6	8	21	0	22.2	76	248	29	104	15	21	0	0	4.6	27	13.9*	26	26	5	7	19	7.3	70
WEST PALM BEACH	5	1016.5	1017.6	31.7	23.9	28.0	0.1	33.9	11	21.1	24	13	0	23.3	80	134	35	36	11	14	0	0	4.0	12	14.3*	28	24	1	16	14	7.1	
GEORGIA																																
ATHENS	245	987.8	1016.4	30.0	20.0	24.9	1.6	32.2	28+	16.7	6	3	0	20.6	83	267	141	105	18	13	0	0	2.9	24	11.2*	22	13	2	6	23	8.1	
ATLANTA	306	975.2	1016.6	28.9	20.6	24.7	1.3	31.7	28	17.2	11	0	0	20.0	80	181	61	43	18	14	0	0	2.7	27	20.1	SE	22	1	13	17	7.7	54
AUGUSTA	44	1009.5	1016.2	31.1	21.1	26.2	0.8	34.4	10+	15.6	7+	12	0	20.6	77	245	131	77	17	17	0	0	3.1	24	13.4*	24	14	3	1	27	8.3	
COLUMBUS	117	1002.2		31.1	21.1	26.1	1.2	33.9	31	17.2	7	5	0			243	94	54	18	15	0	0	2.4		13.4*	27	20	0	7	24	8.3	
MACON	109	1003.2	1016.6	30.6	21.1	25.8	1.9	33.9	11	17.2	6	8	0	21.1	83	121	- 22	38	22	15	0	0	3.0	24	14.8	SW	14	1	4	26	8.7	41
ROME	194	993.6		30.6	19.4	24.9	1.2	33.9	28	12.2	6	8	0			177	53	37	19	17	0	0										
SAVANNAH	15	1014.4	1016.9	31.7	21.1	26.2	1.2	35.6	10	16.1	7	13	0	21.7	80	511	343	149	23	21	0	0	4.0	24	17.4	N	9	4	5	22	7.8	59
HAWAII																																
HILO	9	1015.4	1017.0	28.3	19.4	24.0	0.2	30.0	24	18.3	18+	0	0	19.4	78	162	- 87	23	27	0	0	0	3.9	25	9.8*	1	22+	2	10	19	7.7	30
HONOLULU	2	1016.1	1016.4	30.0	22.8	26.3	0.3	30.6	28+	20.6	10	0	0	16.7	58	34	23	22	10	2	0	0	5.1	6	12.5	NE	29	9	13	9	5.5	57
KAHULUI	13	1013.5	1016.2	29.4	20.6	25.1	0.6	32.2	25	17.2	9	1	0	19.4	75	7	- 4	5	6	1	0	0	6.2	5	13.9	NE	19+	17	9	5	3.9	79
LIHUE	35	1012.8	1018.1	28.9	22.2	25.7	0.3	29.4	29+	20.6	12+	0	0	20.0	73	76	27	13	25	0	0	0	6.4	5	11.2	NE	21+	2	19	10	6.7	53
IDAHO																																
BOISE	865	917.2	1011.2	32.8	14.4	23.8	-0.2	38.3	17	8.9	24	21	0	8.3	41	10	5	9	3	2	0	0	3.4	31	13.9	NW	29	25	4	2	1.7	88
IDAHO FALLS 42NW R	1460			32.2	9.4	21.0	0.4	36.7	27	5.6	6	16	0			9	- 2	6	3				3.6		13.4A	SW	16					
IDAHO FALLS 46W R	1504	848.6		31.7	10.0	20.8	0.2	35.6	27	5.0	6	12	0			12	6	7	3	4	0	0	3.8		11.6A	WSW	23					
LEWISTON	431	961.6		30.6	15.0	22.6	0.6	40.6	12	11.1	4	13	0			55	44	36	4	6	0	0						15	7	9	4.2	
POCATELLO	1355	863.2	1012.1	33.3	12.2	22.6	0.1	37.2	17	6.7	25+	20	0	7.2	41	8	- 5	4	3	6	0	0	4.3	18	14.8	SW	4	25	5	1	2.0	91
ILLINOIS																																
CAIRO U	96	1002.1		32.2	22.2	27.2	0.1	36.7	7	15.0	13	23	0			73	- 8	17	9	5	0	0	2.6	S#	14.3	NE	6	8	13	10	5.5	74
CHICAGO O HARE	201	991.1	1015.5	28.3	16.1	22.3	0.3	33.9	22+	7.8	5	8	0	17.2	74	107	21	61	11	8	0	0	3.7	21	16.5*	34	18	11	8	12	5.6	
CHICAGO MIDWAY	186	993.1	1015.7	29.4	19.4	24.3	0.1	34.4	17	12.2	13	12	0	17.2	66	123	37	53	11	7	0	0	3.6	21	13.0	NW	7	11	9	11	5.5	61
MOLINE	177	993.4	1015.1	30.0	19.4	24.8	0.6	36.1	24	11.7	13	11	0	18.9	71	135	52	29	10	9	0	0	3.1	17	21.0	W	7	10	12	9	5.5	68
PEORIA	199	993.4	1015.4	30.6	18.9	24.6	0.1	36.7	24	10.0	13	12	0	18.9	74	40	- 50	14	8	9	0	0	3.4	18	17.0	NW	7	10	8	13	5.5	71
ROCKFORD	222	988.1	1015.0	28.3	17.2	22.7	0.8	32.8	19+	10.0	13	5	0	17.8	76	132	27	43	11	9	0	0	3.7	18	10.3*	34	24	11	11	9	5.2	
SPRINGFIELD	179	991.9	1014.7	31.7	19.4	25.5	0.1	36.1	24+	10.6	13	16	0	17.8	64	34	- 55	15	6	7	0	0	3.8	18	13.4	NW	8+	11	9	11	5.3	75
INDIANA																																
EVANSVILLE	116	1000.1	1015.8	32.2	18.3	25.3	0.7	35.6	3	11.1	5	20	0	19.4	74	60	- 25	27	9	7	0	0	2.5	36	10.3	SW	18	9	17	5	5.0	70
FORT WAYNE	241	985.1	1015.9	29.4	17.8	23.6	0.2	34.4	28	11.7	5	11	0	17.2	70	56	- 30	42	7	6	0	0	3.2	23	10.7	N	12+	10	13	8	5.6	78

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No of days							No of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C				C.	%	Mm.	Mm.	Mm			Mm	Mm	M.p.s		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	986.3	1015.9	29.4	18.3	23.7	0.3	33.9	23	11.7	5	7	0	18.3	75	104	15	25	9	6	0	0	3.0	22	13.9	SW	3	5	16	10	6.2	65
SOUTH BEND	234	987.8	1015.5	28.9	17.8	23.3	0.2	33.3	24	10.0	5	9	0	16.1	67	122	34	44	10	11	0	0	3.6	22	10.7*	19	6	8	12	11	5.5	
IOWA																																
BURLINGTON	212	990.2	1015.3	31.1	19.4	25.0	0.2	37.2	24	11.7	13	13	0	18.9	72	57	- 30	19	10	11	0	0	3.6	20	29.1	NW	7	9	12	10	5.3	77
DES MOINES	289	984.2	1014.9	30.6	20.0	25.1	0.2	35.6	28	12.8	13	15	0	18.3	69	86	8	41	9	9	0	0	4.6	14	17.9	NW	7	14	11	6	4.7	72
DUBUQUE	325	990.0		28.9	17.8	23.2	0.6	33.9	24+	11.1	13	8	0			62	- 27	30	8	7	0	0						9	12	10	5.6	
SIOUX CITY	334	973.0	1013.4	32.2	19.4	25.8	0.6	38.9	22	15.0	13	17	0	19.4	70	152	73	31	11	10	0	0	4.5	16	23.2	N	9	15	13	3	3.9	82
WATERLOO	265	982.6		31.1	17.8	24.3	1.1	35.6	24+	10.0	13	14	0			88	- 8	48	5	6	0	0	3.8	18	10.3*	33	28	12	15	4	4.7	
KANSAS																																
CONCORDIA	448	963.6	1012.3	35.0	21.1	28.3	1.4	42.2	6	13.9	13	25	0	16.7	54	76	5	52	6	10	0	0	5.5	17	16.5	NW	7	13	13	5	4.6	80
DODGE CITY	791	926.4	1012.2	36.1	20.6	28.4	1.6	40.6	15+	13.9	13	27	0	15.0	50	135	76	83	9	16	0	0	6.2	19	29.1	S	4	15	11	5	4.1	81
GOODLAND	1111	888.0	1011.7	35.6	17.8	26.6	1.8	42.2	4	12.2	13	27	0	12.2	48	50	- 18	45	6	14	0	0	6.6	18	17.9*	36	8+	15	13	3	3.5	
TOPEKA	267	978.7	1013.5	33.9	21.1	27.3	0.7	39.4	22	13.3	13	21	0	19.4	64	46	- 45	16	6	12	0	0	5.2	18	22.4	N	8	8	16	7	5.3	67
WICHITA	403	965.1	1012.5	36.1	22.8	29.4	2.3	41.1	24	15.0	13	28	0	18.3	55	57	- 36	26	6	7	0	0	5.1	18	16.1	SE	25+	10	16	5	4.6	79
KENTUCKY																																
COVINGTON	265	984.1	1015.5	30.6	16.7	23.4	0.7	35.0	23	11.1	6	13	0	18.3	77	65	- 27	25	11	12	0	0	2.5	20	12.1*	27	3	6	19	6	5.4	
LEXINGTON	298	980.8	1016.0	30.0	18.3	24.0	1.2	33.9	3	11.1	5	6	0	17.8	70	101		49	10	9	0	0	2.5	18	13.0*	31	25	13	12	6	4.6	
LOUISVILLE	144	996.4	1015.3	31.1	18.3	24.7	0.7	34.4	25+	12.2	5	11	0	19.4	75	77	- 8	25	11	8	0	0	2.4	18	17.9	N	7	7	18	6	5.5	61
LOUISIANA																																
ALEXANDRIA	28	1011.1	1015.5	31.7	21.1	26.4	1.5	35.0	24+	17.2	14	19	0	22.2	82	150	17	42	11	12	0	0	2.1	22	17.9*	9	24	9	9	13	6.2	
BATON ROUGE	20	1013.1	1016.0	32.2	23.3	27.7	0.5	35.0	7+	21.1	14	20	0	23.3	82	238	79	70	14	14	0	0	2.5	24	10.3*	6	24+	5	14	12	6.8	
LAKE CHARLES	4	1014.3	1015.8	30.6	22.2	26.4	1.5	33.9	24+	20.0	17+	8	0	22.2	82	123	- 62	57	13	13	0	0	3.1	14	9.4*	24	25+	6	15	10	6.4	
NEW ORLEANS	1	1014.0	1016.0	31.7	22.2	27.0	0.6	33.9	23+	20.0	14+	14	0	23.9	87	150	- 21	30	13	16	0	0	2.6	24	10.3*	20	28+	3	11	17	7.1	
NEW ORLEANS AUDUBON	2	1009.4		32.8	22.8	27.6	0.6	35.6	22+	20.6	13+	20	0			162	- 44	33	20	18			1.5		6.3	E	16	3	10	18	7.5	43
SHREVEPORT	77	1006.5	1015.6	35.6	22.8	29.0	0.3	38.3	7	19.4	14	30	0	20.6	65	4	- 91	2	3	3	0	0	4.2	18	11.2*	36	23+	14	14	3	4.3	77
MAINE																																
CARIBOU	190	991.6		23.9	13.3	18.8	0.7	33.9	18	7.2	24	1	0			91	- 12	29	17	10	0	0						1	16	14	7.3	
PORTLAND	19	1011.6	1015.6	25.0	14.4	19.8	0.3	33.3	18+	7.2	31	2	0	15.6	80	88	15	26	12	10	0	0	3.6	18	13.4	N	22	7	8	16	6.7	62
MARYLAND																																
BALTIMORE	45	1010.8	1015.6	30.6	19.4	25.0	0.1	36.1	1	13.9	5	10	0	17.8	69	68	- 40	31	8	2	0	0	3.4	18	9.8	SE	12+	9	10	12	6.0	66
BALTIMORE U	4			31.1	22.2	26.5	0.3	36.7	1	17.8	5	10	0			76	- 35	27	8													
MASSACHUSETTS																																
BLUE HILL OBS R	192	991.8		26.1	16.1	21.2	0.4	36.7	1	11.7	31	3	0			60	- 23	41	14	0	0	0	5.8	SW								49
BOSTON	5	1011.0	1015.7	26.7	17.8	21.9	1.2	36.1	1	13.9	11	5	0	17.2	79	79	6	34	11	5	0	0	5.1	24	20.1*	N	1	7	10	14	6.7	48
NANTUCKET	13	1015.6	1016.3	22.8	16.1	19.6	-0.4	33.3	1	12.2	12	1	0	16.7	88	71	2	40	6	5	0	0	5.4	23	12.5	N	26	3	4	24	8.4	49
PITTSFIELD	357			26.7	14.4	20.5	0.6	33.3	19+	5.6	31	3	0			61	- 63	14	11		0	0										
WORCESTER	301	979.8	1016.0	25.0	15.6	20.3	0.7	34.4	1	10.0	31	1	0	15.6	77	77	- 15	33	12	7	0	0	4.0	24	10.7*	17	8+	8	9	14	6.5	
MICHIGAN																																
ALPENA	210	993.5	1015.6	26.7	12.8	19.8	0.9	34.4	17	4.4	31+	3	0	12.8	68	109	37	35	12	6	0	0	2.9	30#	12.1	W	11	6	17	8	5.7	73
DETROIT	189	989.2	1015.4	30.0	18.9	24.4	0.9	35.6	20	12.2	5	13	0	16.1	64	60	- 11	29	11	7	0	0	3.8	18	13.0	W	3	8	16	7	5.2	66
DETROIT M WAYNE CO	193	991.4	1015.9	29.4	15.6	22.7	0.0	35.0	27	7.8	5	14	0	15.0	66	28	- 38	14	9	6	0	0	3.8	22				8	16	7	5.4	
DETROIT WILLOW RUN	217	987.6	1015.5	30.0	16.7	23.4	0.0	35.0	27	9.4	31+	14	0	16.7	70	45	- 20	22	8	5	0	0	3.5	24	11.2*	30	25	7	16	8	5.5	
FLINT	233	988.7	1016.2	28.9	15.6	22.1	0.9	33.9	28	8.3	30+	5	0	15.6	70	72	- 2	43	8	7	0	0	3.4	24	9.4*	31	20+	10	12	9	5.2	
GRAND RAPIDS	210	990.6	1015.4	28.9	16.7	22.8	0.7	35.0	24	9.4	5	11	0	16.7	71	54	- 15	41	7	7	0	0	3.8	27	9.8	W	14+	10	10	11	5.6	67
LANSING	260	983.9	1015.4	29.4	16.1	22.9	0.8	35.0	19	6.7	5	7	0	17.2	73	78	12	34	10	8	0	0	2.8	24	12.5	SE	6	10	13	8	5.2	61
MARQUETTE U	206	988.8		25.0	15.0	19.8	0.5	34.4	16	10.6	5	3	0			75	- 6	49	6	4	0	0	3.1	W#	11.2	NW	25	11	12	8	5.1	72
MUSKEGON	191	993.1	1015.8	28.3	16.7	22.4	0.6	33.9	24+	9.4	5	5	0	15.6	68	28	- 33	17	8	11	0	0	3.6	22	9.4*	35	29+	10	11	10	5.2	
SAULT STE MARIE	220	992.9	1015.5	25.6	12.8	19.2	1.1	30.6	24+	7.2	30+	0	0	13.3	73	49	- 14	16	11	5	0	0	4.1	30	12.5*	33	29	11	8	12	5.5	68
MINNESOTA																																
DULUTH	435	974.4	1015.8	26.1	12.2	19.1	0.4	34.4	17	6.1	30	2	0	11.7	66	37	- 53	18	7	8	0	0	3.9	12	13.9	E	19	7	17	7	5.4	81
INTERNATIONAL FALLS	359	973.1	1013.8	27.2	12.8	20.1	1.4	35.6	16	6.1	30	3	0	15.0	74	50	- 39	25	12	12	0	0	3.7	14	12.5*	14	23	9	15	7	5.4	
MINNEAPOLIS	251	981.3	1014.1	31.1	18.3	24.4	2.1	36.1	23+	11.7	13	12	0	16.1	63	51	- 32	22	9	5	0	0	3.5	13	14.8	WSW	22	11	15	5	4.5	73
ROCHESTER	395	978.3	1015.2	30.0	16.1	23.2	0.8	36.1	19+	8.3	13	12	0	15.0	63	30	- 64	17	6	5	0	0	5.0	18	13.4*	20	16	12	13	6	4.8	
ST CLOUD	315	976.5		30.6	16.7	23.4	1.8	36.7	23+	11.1	12	11	0			43	- 39	22	7	6	0	0						13	11	7	4.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
JACKSON	93	1004.1	1016.1	32.8	22.2	27.4		35.0	22+	17.2	14	23	0	21.7	75	131		42	10	9	0	0	3.1	21	14.3*	SE	15+	8	11	12	5.8	
MERIDIAN	89	1002.8	1016.4	32.2	20.6	26.4	-1.1	35.0	8	15.6	14	19	0	21.7	80	119	- 39	28	12	12	0	0	2.6	18	17.9*	3	6	2	16	13	6.4	
VICKSBURG U	71	1006.5		31.7	22.2	26.9	0.7	35.0	7	19.4	14+	16	0			160	60	69	8	7	0	0	3.1		13.4	NE	9	5	13	13	6.1	66
MISSOURI																																
COLUMBIA	235	986.1	1014.0	32.2	20.6	26.5	0.6	36.7	21	11.7	13	18	0	18.9	67	84	- 3	42	8	12	0	0	3.7	16	10.7	NE	12	10	14	7	5.2	73
KANSAS CITY	226	979.5	1013.4	33.3	22.8	28.1	0.6	40.0	22	15.6	13	18	0	19.4	61	75	- 6	23	8	10	0	0	3.9	19	21.0	N	1	8	14	9	5.4	76
ST JOSEPH	247	980.2		32.2	20.6	26.3	0.0	37.8	22	12.2	13	18	0			48	- 34	23	10	9	0	0	3.2		15.6*	35	1	11	17	3	4.3	
ST LOUIS	163	994.6	1015.2	31.1	20.6	25.8	0.2	35.0	27	12.2	13	14	0	20.6	75	108	24	71	9	7	0	0	4.1	18	17.0	SE	6	11	10	10	5.3	70
ST LOUIS RFC	142			32.2	21.7	26.8	0.2	36.1	26	14.4	13	18	0			79	- 5	42	8		0	0										
SPRINGFIELD	386	968.4	1014.9	32.8	19.4	26.1	0.1	37.8	22	10.0	13	20	0	20.0	73	25	- 74	9	9	6	0	0	3.5	16	9.8	NE	8	13	14	4	4.5	72
MONTANA																																
BILLINGS	1087	890.5	1011.6	32.2	16.1	24.2	0.5	37.8	21	11.1	28	16	0	10.6	45	3	- 20	2	3	6	0	0	4.2	22	26.4	NW	14	24	5	2	2.3	84
GLASGOW	694	938.7		31.7	15.6	23.5	2.0	38.9	21+	9.4	28	12	0			30	- 3	13	11	12	0	0						21	9	1	3.0	
GREAT FALLS	1116	888.0	1012.1	31.1	13.9	22.4	1.7	37.2	12	10.0	25	15	0	8.3	44	38	6	10	10	10	0	0	4.6	23	17.0	NW	12	21	9	1	2.5	88
HAVRE	787	924.9		31.1	13.3	22.1	0.9	36.1	12	7.2	28	14	0			30	- 2	8	9	13	0	0	4.2		21.9	W	2	23	7	1	2.8	87
HELENA	1187	873.7	1013.1	30.6	12.2	21.2	1.0	35.0	22	8.9	31+	10	0	7.8	45	21	- 5	8	5	9	0	0	3.3	24	17.0	SW	8	18	13	0	2.7	84
KALISPELL	904	911.4		27.2	8.3	17.8	0.9	34.4	8	3.3	24	5	0			43	17	19	9	7	0	0	2.8		14.3	3	27	16	9	6	3.7	
MILES CITY	799	376.9	1011.4	33.9	17.8	25.7	1.6	40.6	21	11.7	28+	23	0	11.1	43	14	- 20	7	5	12	0	0	3.5	13	15.6*	32	23+					
MISSOULA	972	902.0	1014.6	28.9	9.4	19.0	0.4	35.6	12+	4.4	24	6	0	10.0	62	24	2	12	7	8	0	0	3.4	32	14.8	NW	15	18	8	5	3.3	80
NEBRASKA																																
GRAND ISLAND	561	947.9	1012.7	33.9	18.9	26.3	1.2	40.6	23+	12.2	29	22	0	16.7	60	76	12	47	9	8	0	0	4.8	17	20.6*	27	7	14	13	4	3.9	
LINCOLN U	351			33.9	21.7	27.8	1.1	40.6	6	15.6	13	22	0			81	- 2	32	11	9	0	0	4.8	SE#	21.0	NW	7	10	16	5	5.0	78
NORFOLK	471	958.3		32.8	19.4	26.1	1.1	40.0	22	13.9	26+	20	0			64	- 13	18	9	8	0	0						17	11	3	3.8	
NORTH PLATTE	847	924.5	1011.5	33.3	17.2	25.3	0.8	38.9	30	13.3	29+	20	0	15.0	57	115	51	80	9	12	0	0	4.8	17	23.2	NW	7	16	11	4	3.7	91
OMAHA	298	974.4	1013.3	32.8	20.6	26.7	0.9	38.3	31	13.9	13	20	0	18.3	63	117	31	31	11	10	0	0	3.6	16	17.9	NW	2	13	13	5	4.2	74
OMAHA N OMAHA AP	403	966.4		31.1	20.0	25.4	0.6	36.1	31	14.4	13	14	0			99	8	27	10	10	0	0						10	15	6	4.9	
SCOTTSBLUFF	1204	878.9	1011.4	34.4	16.7	25.5	1.8	39.4	22	11.7	13	24	0	12.8	51	18	- 19	11	6	10	0	0	4.3	12	11.6*	8	7	17	12	2	3.3	
VALENTINE	789	922.9		33.9	17.2	25.6	1.4	42.8	23+	12.8	12	19	0			86	27	50	8	10	0	0	4.6	S#	17.9	E	29	23	6	2	3.0	81
NEVADA																																
ELKO	1547	845.1	1012.2	32.8	9.4	21.1	0.2	35.6	20	3.9	5+	21	0	1.1	28	5	- 6	4	4	1	0	0	2.8	23	10.3*	32	28+	23	5	3	2.2	
ELY	1907	811.0	1011.3	31.1	9.4	20.2	0.5	33.3	24+	1.7	5	12	0	0.6	29	1	- 16	1	1	2	0	0	4.2	19	13.4	SE	4	21	7	3	2.5	87
LAS VEGAS	659	937.7	1009.1	40.6	25.0	32.6	0.6	43.3	29+	18.3	1	31	0	3.9	20	6	- 7	6	2	4	0	0	4.9	18	17.9*	22	25	17	12	2	3.4	87
RENO	1342	862.9	1013.4	34.4	8.9	21.5	1.7	38.3	11	2.8	31	26	0	4.4	35	3	- 4	3	1	2	0	0	3.2	29	16.5	SW	12	26	4	1	1.1	99
WINNEMUCCA	1310	867.4		33.3	10.6	21.8	0.2	36.7	25	2.2	3	24	0			10	3	10	2	5	0	0	4.0	27	17.9	W	28	26	3	2	1.5	88
NEW HAMPSHIRE																																
CONCORD	103	1004.8	1015.6	27.8	15.0	21.6	0.7	35.0	28	8.3	31	5	0	15.6	75	86	- 1	32	12	9	0	0	2.4	20	11.2*	36	1	5	12	14	6.6	49
MT WASHINGTON OBS	1909	810.1		13.9	7.2	10.5	1.0	19.4	18	- 1.7	31	0	2			141	- 29	22	19	9	0	0	9.8	W#	32.6Y	W	30	0	6	25	8.6	26
NEW JERSEY																																
ATLANTIC CITY	18	1014.2	1016.4	29.4	20.0	24.6	0.7	36.1	1	14.4	6+	8	0	18.3	73	71	- 24	52	7	6	0	0	3.8	20	10.3*	20	3	5	10	16	6.7	67
ATLANTIC CITY U	3			26.7	20.0	23.1	0.3	33.3	1	15.0	6+	2	0			35	- 63	24	9				5.7		13.4*	NW	29					
NEWARK	3	1014.7	1016.0	28.9	20.0	24.4	-0.7	37.2	1	16.1	31+	9	0	17.2	69	120	27	52	14	5	0	0	4.6	23	10.3*	10	9+	6	13	12	6.2	
TRENTON U	17	1007.8		29.4	19.4	24.3	0.2	36.1	1	15.0	5	6	0			185	79	123	14	6	0	0	3.6	SW#	13.0	SW	3	8	11	12	6.2	54
NEW MEXICO																																
ALBUQUERQUE	1618	849.8	1011.9	33.3	18.3	25.7	-0.2	37.2	4+	12.2	13	26	0	10.0	44	47	17	22	14	15	0	0	3.0	18	17.4	SE	7	11	15	5	4.7	79
CLAYTON	1515	847.6		33.9	17.2	25.3	1.7	38.9	3	11.7	13	26	0			34	- 25	14	10	16	0	0						15	8	8	4.6	
RATON	1944	809.8		31.7	13.3	22.4	1.4	35.6	6+	6.7	13	16	0			22	- 39	17	9	16	0	0						7	20	4	5.2	
ROSWELL	1103	893.5		36.7	18.9	27.6	1.7	40.6	2	15.0	14	30	0			4	- 41	4	2	2	0	0	4.2		13.9	SW	9	21	7	3	3.2	79
SILVER CITY	1638	837.3		32.8	17.2	25.1	0.0	37.8	4	14.4	31+	24	0			48	- 5	19	10	17	0	0						7	19	5	5.2	
NEW YORK																																
ALBANY	84	1011.7	1015.6	30.0	17.2	23.6	1.3	36.1	18+	10.0	31	11	0	15.6	67	33	- 56	10	8	8	0	0	3.4	17	15.6	W	29	6	9	16	6.6	49
BINGHAMTON	485	958.1	1016.2	26.7	16.1	21.3	1.1	32.2	20	10.6	31	1	0	15.0	71	122	28	44	10	10	0	0	3.9	34	17.0	NW	29	8	11	12	6.5	68
BUFFALO	215	987.3	1015.1	27.8	17.8	22.8	1.8	33.9	28	10.0	31	4	0	16.1	70	65	0	46	9	6	0	0	4.2	23	13.4	SW	14	6	18	7	5.7	71
NEW YORK U	40	1005.3		28.9	19.4	24.1	0.8	37.2	1	16.1	26+	7	0			106	12	54	10	1	0	0	3.6	SW#	10.3	NE	9	13	7	11	5.5	48
NEW YORK LA GUARDIA	6	1013.5	1015.7	28.3	20.6	24.5	0.4	36.1	1	16.1	9	6	0	17.8	70	116	22	45	8	5	0	0	5.0	18	13.4	NE	9	2	17	12	6.4	
ROCHESTER	166	996.5	1015.5	29.4	17.2	23.2	1.2	36.7	28	9.4	31	9	0	15.0	63	39	- 34	18	10	7	0	0	3.4	22	10.7	NW	29+	10	15	6	5.1	74

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s							%
NEW YORK																																
SCHENECTADY	66			29.4	17.2	23.2	0.3	34.4	28+	10.6	31	10	0			79	- 9	28	11	4	0	0			15.6*	SW	29	13	13	5	4.5	
SYRACUSE	127	993.2	1014.7	28.9	16.7	22.9	0.6	35.6	28	10.0	31	8	0	16.1	70	55	- 24	25	9	7	0	0	3.4	27	12.5	NW	29	10	16	5	4.9	63
NORTH CAROLINA																																
ASHEVILLE U	671	938.3		28.3	17.2	22.7	0.8	32.2	28	11.1	6	1	0			84	- 26	30	14	11	0	0	2.3	S#	8.5	SE	17+	1	16	14	7.1	53
CAPE HATTERAS R	2	1016.0	1016.7	28.9	21.1	25.2	0.4	31.1	20	13.9	7+	0	0	21.1	79	160	4	36	20	6	0	0	4.4	23	14.3	SW	29	4	4	23	7.8	71
CHARLOTTE	224	988.7	1016.3	30.0	20.0	24.9	1.3	32.8	3	13.9	6	3	0	20.0	79	137	13				0	0	3.2	18	11.6	W	15					
GREENSBORO	272	985.2	1016.6	29.4	20.0	24.7	0.5	32.2	29+	15.0	6	3	0	19.4	78	168	46	35	15	12	0	0	2.9	18	11.2	NW	29	2	11	18	7.4	44
RALEIGH	132	1002.4	1016.0	30.0	19.4	24.7	0.8	32.8	3	13.3	6	3	0	20.0	79	103	- 36	25	17	12	0	0	3.4	18	14.3*	27	13	3	7	21	7.6	51
WILMINGTON	9	1014.4	1017.2	30.0	21.7	25.7	0.9	33.3	30	16.7	7+	3	0	21.7	81	189	- 6	49	17	12	0	0	3.5	22	11.2	N	9	3	5	23	8.0	49
WINSTON SALEM	295	981.7	1016.2	30.0	20.6	25.3	0.3	33.9	7	15.0	5	5	0	20.0	76	208	90	62	14	10	0	0	2.9	23	10.3*	28	13	3	12	16	7.0	
NORTH DAKOTA																																
BISMARCK	502	953.6	1013.0	29.4	14.4	22.1	0.0	35.0	22+	9.4	29+	8	0	14.4	65	55	0	28	9	13	0	0	4.1	7	17.0	SE	1	12	12	7	4.4	79
FARGO	274	979.3	1013.1	30.6	16.1	23.3	1.4	35.6	15	7.2	29	7	0	16.7	68	20	- 54	9	8	13	0	0	3.8	16	17.0	S	31	12	15	4	4.5	81
WILLISTON	579	945.8		30.6	15.0	22.6	0.8	36.7	21	8.3	2	9	0			57	9	39	8	8	0	0	4.1	SE#	17.9	NW	5	17	9	5	4.1	81
OHIO																																
AKRON	369	978.4	1016.2	29.4	16.1	22.7	0.2	33.9	27	10.0	31+	12	0	15.6	68	90	- 6	28	13	7	0	0	3.0	24	10.3*	33	21+	5	17	9	6.0	
CINCINNATI OBS	232			30.6	18.9	24.6	-0.3	35.0	26+	13.3	5	15	0			42	- 49	17	10	9	0	0	1.7	N#	8.0	SW	3					51
CINCINNATI U	169	992.8		31.1	20.0	25.5	0.5	35.6	23	15.6	13+	15	0			63	- 27	19	10	8	0	0										
CLEVELAND	237	988.0	1015.5	27.8	16.7	22.3	0.4	33.9	28	10.0	5	5	0	16.7	71	86	2	38	6	3	0	0	3.7	22	13.4	SW	14	7	15	9	5.4	68
COLUMBUS	247	986.6	1016.2	29.4	17.8	23.6	-0.2	33.9	27	11.1	5	11	0	17.2	71	75	24	36	9	8	0	0	2.9	36	20.1	NW	15	6	16	9	5.8	72
COLUMBUS U	221			30.0	19.4	24.9	0.2	35.6	27	14.4	14	14	0			81	13	24	9	7	0	0										
DAYTON	304	983.7	1015.9	30.0	17.8	23.9	-0.1	35.0	27	12.8	5	12	0	17.2	72	55	- 35	22	12	6	0	0	3.3	21	11.2	W	28+	10	15	6	4.9	74
MANSFIELD	395			28.3	16.7	22.4	0.4	33.9	27	11.1	5	7	0			55	- 34	18	9	8	0	0						8	16	7	5.6	
TOLEDO	206	990.6	1015.5	30.0	16.7	23.2	0.6	35.0	27+	8.9	6	12	0	15.0	65	40	- 26	14	10	7	0	0	3.3	23	13.0	NW	3	7	15	9	5.6	70
YOUNGSTOWN	359	974.1	1016.2	27.8	15.6	21.7	0.3	32.8	27	8.9	6	2	0	15.6	70	106	- 4	47	10	8	0	0	3.7	24	11.2*	6	28	8	12	11	5.9	
OKLAHOMA																																
OKLAHOMA CITY	390	970.9	1013.2	37.2	22.2	29.6	1.6	41.1	9	16.1	13	28	0	17.2	50	51	- 9	28	5	5	0	0	5.6	16	21.5	W	28	18	7	6	3.9	79
TULSA	206	989.9	1013.9	36.1	22.8	29.4	1.5	40.6	26+	15.0	14+	28	0	19.4	59	46	- 29	26	6	6	0	0	4.4	18	17.4	S	26	13	11	7	4.1	76
OREGON																																
ASTORIA	2	1016.5	1017.1	18.9	11.1	15.1	-0.8	24.4	11	6.7	23	0	0	12.2	83	66	34	21	14	0	0	0	3.8	33	11.6*	32	11	5	6	20	7.4	
BURNS U	1265	872.8		28.9	10.0	19.5	-1.3	35.0	27+	2.8	5	7	0			13	5	6	6	6	0	0						19	8	4	3.1	
EUGENE	110	1002.8	1016.1	27.2	11.1	19.1	-0.1	35.0	27	4.4	9	7	0	11.1	65	14	7	5	5	0	0	0	3.2	36	8.9*	36	25+	12	8	11	5.1	
MEACHAM	1234			23.9	9.4	16.7	0.8	32.2	12	3.9	16	1	0			36	24	16	8	5	0	0						14	6	11	4.7	
MEDFORD	396	967.6	1014.6	31.1	12.2	21.6	0.6	39.4	25	5.6	9	13	0	10.6	55	25	19	15	4	5	0	0	2.7	30	10.3*	12	1	15	11	5	3.5	
PENDLETON	452	960.8	1013.7	31.1	13.9	22.3	0.8	38.9	12	8.9	3	14	0	6.1	40	16	11	9	7	4	0	0	4.6	29	20.6*	20	7	16	8	7	3.8	
PORTLAND	6	1010.5	1016.0	24.4	11.7	18.1	-1.5	31.7	11	8.3	9	0	0	11.1	67	17	7	12	10	0	0	0	3.5	32	11.6	SW	15	11	6	14	5.6	64
PORTLAND U	9			25.0	13.9	19.6	-0.8	32.8	11	11.7	19+	2	0			19	9	14	8	0	0	0										
ROSEBURG	154	997.7		27.8	11.7	19.7	0.2	36.1	27	6.1	9	8	0			8	3	3	5	0	0	0	2.3	N#	7.6	N	23+	15	5	11	4.6	67
SALEM	59	1009.4	1016.7	27.2	11.1	19.1	0.2	36.1	11	5.0	9	6	0	11.7	66	11	3	9	5	0	0	0	3.3	18	9.8*	34	24	11	7	13	5.3	
SEXTON SUMMIT R	1169	885.1		22.8	10.0	16.3	1.3	32.2	27	3.9	9	1	0			16	8	9	6	0	0	0	4.8								3.1	
PACIFIC AREA																																
CANTON ISLAND	3	1009.4	1009.6	30.6	25.0	27.8	-0.9	31.1	27+	23.3	25+	0	0	21.1	70	6	- 60	4	4	0	0	0	6.1	8	11.6*	8	25	11	13	7	4.9	
ENIWETOK	5	1009.9		30.6	25.0	27.9	-0.3	32.2	12	22.2	19	1	0			161	- 3	41	25	2	0	0	4.5									
TAGUAC GUAM R	110	997.1		30.0	22.2	26.1	0.3	31.7	26+	20.6	23+	0	0			195	- 33	41	26	4	0	0	2.1		12.1	SE	11					50
JOHNSTON	2	1013.5	1014.1	28.9	24.4	26.7	0.6	29.4	31+	22.8	16	0	0	21.1	73	22	- 11	8	10	0	0	0	6.9	8	13.9	E	6+	6	21	4	4.9	73
KOROR R	29	1006.7	1009.6	31.1	24.4	27.8	0.6	32.2	29+	22.8	26	6	0	24.4	86	105	-280	21	18	3	0	0	2.0	18	10.3	NE	25	0	0	31	9.9	74
KWAJALEIN	2	1009.6	1009.7	30.0	24.4	27.3	0.3	31.1	20+	22.8	16+	0	0	23.9	84	271	45	94	21	1	0	0	4.4	8	13.4*	8	8	2	9	20	8.0	
PONAPE R	37	1004.8	1009.4	30.6	22.2	26.4	0.1	32.2	25+	20.6	21	3	0	23.3	88	364	- 48	60	28	3	0	0	2.0	14	7.2	NE	3	0	9	22	8.7	52
TRUK MOEN ISLAND	2	1008.5	1008.8	30.6	23.3	26.9	0.0	32.2	23	22.2	29+	1	0	23.3	82	344	31	93	20	1	0	0	3.4	5	11.6	N	4	1	9	21	8.5	59
WAKE	3	1012.7	1013.1	30.6	25.0	27.7	-0.1	31.1	29+	22.8	22+	0	0	22.2	73	113	- 4	23	21	4	0	0	5.2	8	10.3*	7	21	8	10	13	6.2	
YAP R	16	1007.5	1008.7	30.6	23.9	27.4	0.0	32.2	30+	21.7	21	2	0	25.0	84	240	-110	96	17	4	0	0	2.1	4	10.3	N	4	1	7	23	8.8	45
PENNSYLVANIA																																
ALLENTOWN	115	1002.0	1016.2	28.9	17.8	23.3	0.1	35.0	1	12.2	10+	4	0	17.2	73	58	- 64	23	11	8	0	0	3.6	22	14.3*	33	29	9	11	11	5.8	
ERIE	223	989.9	1015.7	27.2	17.8	22.5	0.8	33.9	28+	12.2	6	3	0	16.7	71	87	- 6	47	10	5	0	0	3.1	18	11.6*	18	14	11	12	8	5.1	
HARRISBURG	102	1002.3	1016.0	30.0	18.9	24.5	0.1	35.6	1	12.8	31	11	0	17.8	70	57	- 32	39	5	3	0	0	3.1	26	9.8	NW	29	9	7	15	6.1	60
PHILADELPHIA	2	1011.5	1015.9	30.0	19.4	24.8	0.6	37.2	1	12.8	6+	9	0	18.3	71	97	- 8	58	6	5	0	0	3.6	23	10.3	N	4	7	11	13	6.4	59

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
PENNSYLVANIA	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PITTSBURGH	347	985.5	1016.0	28.3	16.7	22.4	0.1	32.2	27	10.6	6	1	0	14.4	66	114	15	49	10	8	0	0	3.0	24	11.2*	31	26+	6	15	10	6.0	75
PITTSBURGH U	228			29.4	18.9	24.3	0.0	34.4	27	12.8	31	11	0			100	9	57	10													55
READING U	81	1003.5		29.4	19.4	24.7	0.3	35.6	1	14.4	10	10	0			77	- 31	50	9	5	0	0			17.0	E	13	7	12	12	6.0	60
SCRANTON	287	982.4	1016.1	29.4	17.2	23.4	0.9	35.0	19	11.1	31+	10	0	16.1	69	31	- 90	12	10	7	0	0	3.2	20	13.9	SE	12	5	15	11	6.0	53
WILLIAMSPORT	161	997.5	1016.2	29.4	17.8	23.7	0.6	34.4	1	11.1	7	8	0	17.8	74	86	- 21	38	10	10	0	0	2.6	18	10.3*	32	18+	3	18	10	6.2	
RHODE ISLAND																																
BLOCK ISLAND	34	1011.4		23.3	17.2	20.2	0.7	29.4	1	14.4	11+	0	0			48	- 20	21	7	4	0	0						4	11	16	7.2	
PROVIDENCE	17	1009.6	1015.5	26.7	17.2	22.1	0.2	36.1	1	12.8	31	3	0	17.2	77	67	- 7	29	12	5	0	0	4.2	22	15.6*	34	1	8	8	15	6.6	52
SOUTH CAROLINA																																
CHARLESTON	12	1014.9	1016.8	30.0	21.1	25.6	1.4	33.9	30	15.6	7	6	0	21.7	84	469	273	142	21	17	0	0	3.6	20	20.6Y	Sw	13	2	5	24	8.2	33
CHARLESTON U	3			28.9	22.8	25.9	1.6	32.8	30+	21.1	14+	2	0			603	406	102	23		0	0			15.2	W	14					
COLUMBIA	66	1003.6	1016.2	31.1	21.1	26.0	1.6	34.4	10	15.0	6	11	0	20.6	79	262	107	61	19	12	0	0	3.1	23	10.3*	6	16	3	4	24	8.0	39
FLORENCE	45	1010.6	1016.3	30.0	20.6	25.3	1.7	33.3	30+	16.7	6+	6	0	21.1	83	256	97	47	19	16	0	0	3.2	18	10.3*	24	15	3	5	23	8.1	
GNVLE SPARTANBURG	292	979.8	1016.2	30.0	20.6	25.3	1.3	33.3	29	15.6	6	3	0	20.0	76	189	71	99	12	12	0	0	3.1	24	14.8	W	15	4	10	17	7.1	54
SOUTH DAKOTA																																
HURON	391	965.9	1012.0	34.4	17.2	25.9	2.0	42.2	23	10.0	29+	24	0	15.6	58	18	- 28	6	7	10	0	0	5.2	12	22.4	Nw	22	16	10	5	4.1	80
RAPID CITY	965	901.1	1012.5	32.8	17.2	24.8	1.6	40.0	21	12.2	13	18	0	13.3	54	20	- 26	11	7	11	0	0	4.4	34	18.8	Nw	23+	16	14	1	3.6	73
SIOUX FALLS	433	962.9	1013.3	31.7	18.3	25.2	1.7	38.3	31	11.1	29	15	0	17.8	66	102	30	43	8	10	0	0	4.9	18	12.5*	4	11	16	11	4	3.6	
TENNESSEE																																
BRISTOL	459	962.7	1016.2	30.0	17.8	24.0	0.4	33.3	27+	11.1	6	7	0	17.8	74	95	- 46	29	11	13	0	0	1.3	27	8.5*	34	29	4	16	11	6.5	
CHATTANOOGA	204	989.1	1016.3	30.0	20.0	24.9	2.2	33.3	24+	14.4	6	8	0	20.6	82	127	- 3				0	0	1.5	15	11.6	Nw	21+					
KNOXVILLE	290	981.4	1016.5	29.4	18.9	24.3	1.5	33.3	7	13.9	6	4	0	17.8	74	94	- 28	35	10	10	0	0	2.7	24	16.1	Sw	12	3	15	13	6.9	68
MEMPHIS	80	1000.7	1015.1	32.2	21.7	27.0	0.4	36.1	7	15.6	14	20	0	22.2	76	156	66	74	9	9	0	0	2.6	9	25.0	Nw	11	13	12	6	4.7	74
MEMPHIS U	83			32.2	22.8	27.4	0.2	36.1	7	16.7	13	22	0			136	49	84	10		0	0										
NASHVILLE	176	995.6	1015.3	32.2	20.0	25.9	0.8	35.0	28+	13.9	14	21	0	20.0	75	55	- 40	18	13	12	0	0	2.7	18	17.0	Nw	4	6	14	11	5.8	63
OAK RIDGE	276	984.4		30.0	17.8	23.8	1.3	33.3	27+	12.2	15	6	0			87	- 65	30	11	11	0	0	2.0		16.1Y		23	7	9	15	6.3	
TEXAS																																
ABILENE	536	953.1	1012.7	37.2	23.9	30.6	2.1	40.0	26+	16.7	13	31	0	14.4	40	66	8	65	3	2	0	0	4.7	18	15.2	NE	29+	16	12	3	3.7	87
AMARILLO	1099	889.7	1011.7	35.0	20.0	27.7	0.7	38.9	10+	12.8	13	29	0	11.7	41	24	- 36	18	6	7	0	0	5.8	21	18.8	SE	21+	17	10	4	3.6	77
AUSTIN	182	993.0	1014.5	35.6	23.3	29.6	0.4	39.4	25	21.7	14	30	0	20.6	63	17	- 39	7	4	3	0	0	3.7	18	11.6	Sw	20	14	13	4	3.8	78
BROWNSVILLE	5	1011.3	1013.8	33.9	24.4	29.4	0.5	36.1	25	22.8	17+	29	0	22.8	72	6	- 37	6	1	1	0	0	5.8	13	11.6	E	18+	12	14	5	4.3	82
CORPUS CHRISTI	13	1013.3	1014.5	35.0	23.3	29.0	0.1	38.3	12	21.7	20+	28	0	23.9	77	57	- 2	39	8	4	0	0	5.0	14	12.5	S	11	10	16	5	4.9	76
DALLAS	147	995.8	1014.0	37.2	25.0	31.3	1.9	40.6	24	18.9	13	31	0	18.3	50	5	- 44	3	3	1	0	0	4.8	18	11.6	N	12	16	15	0	3.0	87
DEL RIO	313	978.7	1012.2	37.8	24.4	31.2		41.1	2	22.2	30	30	0	17.2	48	9		7	3	5	0	0	5.1	12	15.6	4	2	16	13	2	3.4	
EL PASO	1194	885.9	1010.0	36.1	22.2	29.2	1.4	40.6	3	18.3	14+	29	0	12.2	38	5	- 28	2	3	7	0	0	3.7	16	17.0	N	17	13	13	5	4.7	79
FORT WORTH	166	993.7	1014.1	37.8	23.9	30.6	0.9	40.6	26+	17.8	14	31	0	17.8	49	6	- 38	6	2	3	0	0	4.0	18	10.3*	18	20	18	13	0	2.7	
GALVESTON U	2			30.6	25.6	27.9	-0.4	32.8	25	21.7	25	2	0			147	25	49	10	1	0	0	3.8		12.5	NE	25					71
HOUSTON U	12			33.9	25.6	29.8	0.9	38.9	25	22.8	17+	24	0			19	-112	9	7		0	0										
HOUSTON	15	1012.2	1014.9	34.4	23.3	28.7	0.4	38.3	25	21.1	25+	28	0	22.2	73	43	- 66	22	8	6	0	0	3.9	16	17.9*	36	25	9	15	7	5.4	84
LAREDO	152	997.4	1012.6	37.2	25.0	30.9	0.1	40.0	2	23.3	17	31	0	19.4	56	21	- 14	20	4	4	0	0	5.5	14	13.0*	13	28	20	8	3	3.5	
LUBBOCK	988	904.0	1012.8	35.0	20.6	27.8	1.4	38.3	10	13.3	13	29	0	14.4	46	21	- 30	21	1	3	0	0	5.6	18	13.0*	2	12	19	10	2	3.2	
MIDLAND	870	915.2	1011.2	37.8	22.8	30.5	2.2	41.1	11	19.4	13	31	0	13.9	39	6	- 42	5	2	4	0	0	4.8	16	13.0*	7	1	14	11	6	3.9	
PORT ARTHUR	5	1013.5	1015.0	32.2	23.3	27.8	0.1	35.6	24	21.7	17+	20	0	23.9	84	156	4	124	10	11	0	0	3.3	20	14.8	SE	1	4	19	8	5.8	54
SAN ANGELO	580	946.7	1012.0	37.8	23.3	30.5	1.2	40.6	10+	18.9	13	31	0	15.0	43	12	- 24	9	5	6	0	0	4.1	16	10.3*	12	22+	18	11	2	3.2	
SAN ANTONIO	241	989.9	1014.4	36.7	23.9	30.2	1.3	39.4	25	20.0	14	30	0	20.0	60	1	- 53	1	1	2	0	0	4.2	16	13.0	SE	29	17	11	3	3.7	84
VICTORIA	32	1010.0		35.0	24.4	29.7	1.3	40.0	12	22.8	22+	28	0			46	- 46	17	9	6	0	0	3.9		17.0Y		28	10	14	7	5.2	
WACO	152	994.5	1013.8	37.8	24.4	31.1	1.4	41.1	25	20.6	14+	31	0	18.9	51	6	- 45	6	2	3	0	0	4.6	18	12.1*	36	25+	16	14	1	3.0	
WICHITA FALLS	303	976.9	1012.8	39.4	23.3	31.5	1.7	43.9	25	17.8	13	31	0	16.1	43	10	- 40	8	3	4	0	0	4.9	12	15.6*	3	25	18	11	2	3.1	
UTAH																																
MILFORD	1533	844.9		35.0	12.8	23.9	0.7	38.9	29	3.3	6	29	0			3	- 14	2	3	3	0	0						17	10	4	3.3	
SALT LAKE CITY	1286	867.3	1011.5	35.0	15.6	25.3	0.3	38.3	18	10.0	6+	29	0	5.0	30	7	- 8	5	2	3	0	0	4.6	16	17.0	Sw	14	22	8	1	2.2	91
WENDOVER	1291	869.4		33.9	21.1	27.4	1.1	38.3	21	16.7	5	25	0			1	- 7	1	2	4	0	0						27	3	1	1.4	
VERMONT																																
BURLINGTON	101	999.9	1014.4	27.2	14.4	20.9	0.3	35.6	28	5.6	31	3	0	16.1	76	73	- 25	24	13	13	0	0	3.3	18	11.2	Nw	30	4	15	12	6.7	57

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	C.	C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VIRGINIA																																
LYNCHBURG	289	991.4		28.9	18.3	23.8	0.8	32.8	7	14.4	5	5	0			154	47	61	12	8	0	0	2.1		15.2	N	10	5	7	19	7.1	56
NORFOLK	8	1015.4	1016.7	29.4	21.1	25.2	0.8	34.4	1	17.2	6	6	0	19.4	74	186	36	44	13	9	0	0	4.6	18	14.3	NW	14	3	11	17	7.3	50
RICHMOND	49	1010.0	1016.1	29.4	18.9	24.3	1.3	33.3	29+	13.3	5	6	0	18.9	78	164	22	51	16	6	0	0	3.3	18	15.2	NW	4	4	10	17	7.0	51
ROANOKE	358	975.0	1016.4	30.6	18.3	24.4	0.4	35.0	7	12.2	6	13	0	17.2	70	86	- 22	24	13	8	0	0	2.5	16	15.6*	18	17	6	12	13	6.4	
WASHINGTON																																
OLYMPIA	58	1009.3	1016.3	23.3	8.9	16.2	1.6	30.0	28+	4.4	23+	0	0	11.7	76	27	8	13	9	0	0	0	3.2	20	11.6*	20	15	11	2	18	6.3	
SEATTLE TACOMA	122	1002.6	1016.5	22.2	12.8	17.5	0.8	29.4	28+	10.6	9+	0	0	11.7	72	25	5	14	9	2	0	0	3.8	22	8.0*	24	30+	8	5	18	6.3	
SEATTLE U	4			22.8	13.9	18.5	-0.2	29.4	12	12.2	9	0	0			21	5	7	9	0	0	0			14.3	SW	30					61
SPOKANE	718	945.1	1013.2	27.8	12.2	20.2	-1.2	37.2	12	7.2	23	8	0	6.1	45	10	0	3	7	3	0	0	4.2	20	14.8	SW	14	14	7	10	4.4	75
STAMPEDE PASS R	1206	880.5		17.2	7.8	12.6	0.9	27.8	11	3.3	9	0	0			55	18	20	15	0	0	737						11	4	16	6.1	
TATOOSH ISLAND R	31	1013.3	1016.5	15.0	10.6	12.7	-0.3	17.8	27	7.8	16	0	0	11.1	92	95	35	37	21	0	0	0	4.7	17	14.8	S	8	2	7	22	8.3	36
WALLA WALLA U	289			30.6	16.1	23.1	1.3	39.4	12	11.7	23	12	0			37	32		4	5	0	0										
YAKIMA	323	974.7	1012.9	29.4	10.6	20.0	1.7	38.3	12	5.6	31+	11	0	7.8	48	2	- 1	1	3	2	0	0	3.5	27	11.2*	32	8	14	9	8	4.2	
WEST INDIES																																
SAN JUAN P.R.	2	1013.7	1016.6	30.6	24.4	27.7	0.8	32.8	4	22.8	26+	2	0	23.3	79	179	20	44	20	3	0	0	4.6	7	11.6	E	18+	2	18	11	6.5	68
SWAN ISLAND	9	1012.0		30.0	25.0	27.5	0.6	30.6	29+	22.2	21	0	0			161	54	41	16	11	0	0						2	17	12	6.8	
WEST VIRGINIA																																
BECKLEY	763	930.4	1016.8	26.7	14.4	20.5		31.1	28	7.8	6+	0	0	15.6	76	76		27	13	12	0	0	2.7	14	12.5*	28	8	1	13	17	7.6	
CHARLESTON	286	980.9	1015.9	30.0	17.8	23.9	0.1	35.0	28	10.6	6	11	0	17.2	73	70	- 74	30	12	8	0	0	1.9	23	10.3*	6	24	1	20	10	6.4	
ELKINS	600	948.7	1017.3	27.2	13.3	20.3	0.8	31.7	28+	5.6	7	0	0	15.6	83	132	8	35	14	11	0	0	1.8	27	11.6*	2	8	3	11	17	6.9	
HUNTINGTON	252	986.5	1016.2	30.6	18.3	24.4	0.4	35.0	23	10.6	6+	13	0	17.8	72	55	- 59	26	8	12	0	0	2.0	21	8.0*	23	28	6	16	9	5.7	
PARKERSBURG U	187			30.0	18.3	24.1	0.2	35.0	27	11.7	5	13	0			91	- 13	45	7	10	0	0	2.3		9.4	S	1					60
WISCONSIN																																
GREEN BAY	208	992.8	1015.4	28.3	16.1	22.0	0.6	33.9	17+	10.0	13	4	0	16.7	75	116	47	40	12	10	0	0	3.4	6	15.2	SW	27	9	15	7	5.5	56
LA CROSSE	199	989.1	1014.9	30.6	18.3	24.6	1.4	37.2	17	12.2	13	14	0	17.2	69	86	- 9	50	7	6	0	0	4.1	18	13.0*	10	18					
MADISON	262	989.3	1015.2	29.4	16.1	22.8	1.1	36.1	24+	7.8	13	11	0	16.7	69	109	18	39	11	13	0	0	3.2	18	25.5	NW	27	5	11	15	6.5	62
MILWAUKEE	205	991.2	1015.8	27.2	17.8	22.4	2.0	34.4	17	12.2	5	7	0	17.2	74	195	120	103	11	12	0	0	3.8	3	20.1	SW	17	9	15	7	5.2	72
WYOMING																																
CASPER	1621	838.7	1011.8	32.2	14.4	23.4	1.3	35.0	30+	10.6	12+	17	0	6.1	38	19	- 7	13	7	9	0	0	4.2	25	17.9*	27	13	20	10	1	2.9	
CHEYENNE	1867	816.6	1013.6	30.0	13.3	21.6	0.5	32.8	21+	7.2	13	8	0	7.2	45	25	- 21	17	9	11	0	0	5.2	30	18.8	SE	20	14	16	1	4.0	71
LANDER	1696	836.7	1012.0	32.2	14.4	23.4	2.0	36.7	21	11.7	15+	17	0	7.8	39	9	- 10	7	3	8	0	0	3.5	24	21.9	SW	4	21	9	1	2.8	91
SHERIDAN	1202	884.3	1012.8	31.7	14.4	23.0	1.2	38.3	21	10.0	6	11	0	10.6	48	3	- 27	1	3	7	0	0	3.4	12	17.0	SW	15	21	10	0	2.7	87

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65° F.)

JULY 1964

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
Birmingham	0	0	0
Huntsville	0	0	0
Mobile	0	0	0
Montgomery	0	0	0
ALASKA			
Anchorage	240	240	245
Annette	285	285	242
Barrow	831	831	803
Barter Island	814	814	735
Bethel	254	254	319
Cold Bay	522	522	474
Cordova	353	353	366
Fairbanks	165	165	171
Juneau	324	324	301
King Salmon	329	329	313
Kotzebue	451	451	381
McGrath	152	152	208
Nome	384	384	481
St. Paul Is.	615	615	605
Shemya	638	638	577
Yakutat	364	364	338
ARIZONA			
Flagstaff	9	9	46
Phoenix (U)	0	0	
Phoenix	0	0	0
Prescott	0	0	0
Tucson	0	0	0
Winslow	0	0	0
Yuma	0	0	0
ARKANSAS			
Ft. Smith	0	0	0
Little Rock	0	0	0
Texarkana	0	0	0
CALIFORNIA			
Bakersfield	0	0	0
Bishop	0	0	0
Blue Canyon	47	47	34
Burbank	0	0	0
Eureka (U)	256	256	270
Fresno	0	0	0
Long Beach	1	1	0
Los Angeles (U)	0	0	0
Los Angeles	9	9	19
Mt. Shasta (R)	36	36	25
Oakland	96	96	53
Red Bluff	0	0	0
Sacramento (U)	0	0	0
Sacramento	0	0	0
Sandberg (R)	1	1	0
San Diego	0	0	6
San Francisco (U)	186	186	192
San Francisco	76	76	81
San Jose (U)	18	18	
Santa Catalina	4	4	16
Santa Maria	127	127	99
Stockton	0	0	
COLORADO			
Alamosa	8	8	65
Colorado Springs	0	0	16
Denver	0	0	0
Grand Junction	0	0	0
Pueblo	0	0	0
CONNECTICUT			
Bridgeport	6	6	0
Hartford	2	2	0
Middletown	18	18	
New Haven	5	5	0
DELAWARE			
Wilmington	0	0	0
DIST.OF COLUMBIA			
Washington (U)	0	0	
Washington	0	0	0
FLORIDA			
Apalachicola (U)	0	0	0
Daytona Beach	0	0	0
Fort Myers	0	0	0
Jacksonville	0	0	0
Key West	0	0	0
Lakeland (U)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	0	0	0
Pensacola	0	0	0
Tallahassee	0	0	0
Tampa	0	0	0
West Palm Beach	0	0	0
GEORGIA			
Athens	0	0	0
Atlanta	0	0	0
Augusta	0	0	0
Columbus	0	0	0
Macon	0	0	0
Rome	0	0	0
Savannah	0	0	0
IDAHO			
Boise	0	0	0
Idaho Falls 46W (R)	4	4	16
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	3	3	16
Lewiston	3	3	0
Pocatello	0	0	0
ILLINOIS			
Cairo (U)	0	0	0
Chicago (Midway)	1	1	0
Chicago (O'Hare)	10	10	0
Moline	3	3	0
Peoria	2	2	0
Rockford	9	9	6
Springfield	0	0	0
INDIANA			
Evansville	0	0	0
Ft. Wayne	3	3	0
Indianapolis	2	2	0
South Bend	5	5	0
IOWA			
Burlington	1	1	0
Des Moines	0	0	0
Dubuque	7	7	12
Sioux City	0	0	0
Waterloo	0	0	12
KANSAS			
Concordia	0	0	0
Dodge City	0	0	0
Goodland	0	0	0
Topeka	0	0	0
Wichita	0	0	0
KENTUCKY			
Lexington	0	0	0
Louisville	0	0	0
LOUISIANA			
Alexandria	0	0	0
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans(Aud Pk)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	0
MAINE			
Caribou	46	46	78
Greenville (U)	45	45	
Portland	28	28	12
MARYLAND			
Baltimore (U)	0	0	0
Baltimore	0	0	0
MASSACHUSETTS			
Blue Hill Obs. (R)	28	28	0
Boston	14	14	0
Nantucket	20	20	16
Pittsfield	22	22	25
Worcester	36	36	6
MICHIGAN			
Alpena	40	40	68
Detroit (City AP)	0	0	0
Detroit (M. Wayne Co.)	4	4	0
Detroit (Willow Run)	1	1	0
Escanaba (U)	25	25	59
Flint	11	11	16
Grand Rapids	12	12	9
Lansing	10	10	6
Marquette (U)	43	43	59
Muskegon	11	11	12
S. Ste. Marie	51	51	96
MINNESOTA			
Duluth	50	50	71
Internat. Falls	18	18	71
Minneapolis	0	0	22
Rochester	5	5	25
St. Cloud	0	0	28
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (U)	0	0	0
MISSOURI			
Columbia	0	0	0
Kansas City	0	0	0
St. Joseph	0	0	0
St. Louis (RFC)	0	0	0
St. Louis	0	0	0
Springfield	1	1	0
MONTANA			
Billings	0	0	6
Butte	41	41	
Glasgow	0	0	31
Great Falls	0	0	28
Havre	4	4	28
Helena	1	1	31
Kalispell	69	69	50
Miles City	0	0	6
Missoula	30	30	34
NEBRASKA			
Grand Island	0	0	0
Lincoln (U)	0	0	0
NEBRASKA (Cont'd.)			
Norfolk	0	0	9
North Platte	0	0	0
Omaha	0	0	0
Omaha N. Omaha AP	0	0	0
Scottsbluff	0	0	0
Valentine	0	0	9
NEVADA			
Elko	7	7	9
Ely	17	17	28
Las Vegas	0	0	0
Reno	6	6	43
Tonopah	0	0	
Winnemucca	7	7	0
NEW HAMPSHIRE			
Concord	8	8	6
Mt. Washington Obs. (R)	431	431	493
NEW JERSEY			
Atlantic City	0	0	0
Atlantic City (U)	0	0	
Newark	1	1	0
Trenton (U)	1	1	0
NEW MEXICO			
Albuquerque	2	2	0
Clayton	0	0	0
Raton	3	3	9
Roswell	0	0	0
Silver City	0	0	0
NEW YORK			
Albany	1	1	0
Binghamton	9	9	22
Buffalo	5	5	19
New York (U)	3	3	0
New York (LaGuardia)	2	2	0
Rochester	3	3	9
Schenectady	1	1	0
Syracuse	2	2	6
NORTH CAROLINA			
Asheville (U)	0	0	0
Cape Hatteras (R)	0	0	0
Charlotte	0	0	0
Greensboro	0	0	0
Raleigh	0	0	0
Wilmington	0	0	0
Winston-Salem	0	0	0
NORTH DAKOTA			
Bismarck	5	5	34
Devils Lake (U)	7	7	40
Fargo	5	5	28
Grand Forks FAA	2	2	
Pembina	5	5	
Williston	0	0	31
OHIO			
Akron	2	2	0
Cincinnati (U)	0	0	0
Cincinnati	0	0	0
Cincinnati Obs.	0	0	0
Cleveland	3	3	9
Columbus	0	0	0
Columbus (U)	0	0	0
Dayton	0	0	0
Mansfield	2	2	9
Toledo	1	1	0
Youngstown	8	8	6
OKLAHOMA			
Oklahoma City	0	0	0
Tulsa	0	0	0
OREGON			
Astoria	174	174	146
Burns (U)	40	40	12
Eugene	40	40	34
Meacham	149	149	84
Medford	8	8	0
Pendleton	6	6	0
Portland (U)	27	27	12
Portland	67	67	25
Roseburg	28	28	22
Salem	41	41	37
Sexton Summit (R)	162	162	81
PENNSYLVANIA			
Allentown	1	1	0
Erie	3	3	0
Harrisburg	0	0	0
Philadelphia (U)	0	0	0
Philadelphia	0	0	0
Pittsburg (U)	0	0	0
Pittsburg	1	1	0
Reading (U)	0	0	0
Scranton	0	0	0
Williamsport	0	0	0
RHODE ISLAND			
Block Island	9	9	0
Providence	9	9	0
SOUTH CAROLINA			
Charleston (U)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville-Spartanburg	0	0	0
SOUTH DAKOTA			
Huron	1	1	9
Pierre	0	0	
Rapid City	0	0	22
Sioux Falls	0	0	19
TENNESSEE			
Bristol	0	0	0
Chattanooga	0	0	0
Knoxville	0	0	0
Memphis (U)	0	0	0
Memphis	0	0	0
Nashville	0	0	0
Oak Ridge	0	0	0
TEXAS			
Abilene	0	0	0
Amarillo	0	0	0
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio (U)	0	0	
El Paso	0	0	0
Fort Worth	0	0	0
Galveston (U)	0	0	0
Houston (U)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	0	0	0
Midland	0	0	0
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Whichita Falls	0	0	0
UTAH			
Milford	0	0	0
Salt Lake City	0	0	0
Wendover	0	0	0
VERMONT			
Burlington	12	12	16
VIRGINIA			
Lynchburg	0	0	0
Norfolk	0	0	0
Richmond	0	0	0
Roanoke	0	0	0
WASHINGTON			
Olympia	130	130	68
Seattle (U)	39	39	50
Seattle	28	28	34
Seattle-Tacoma	76	76	56
Spokane	31	31	9
Stampede Pass (R)	322	322	273
Tatoosh Island (R)	305	305	295
Walla Walla	6	6	
Walla Walla (U)	3	3	0
Yakima	32	32	0
WEST VIRGINIA			
Beckley	8	8	
Charleston	0	0	0
Elkins	23	23	9
Huntington	0	0	0
Parkersburg (U)	0	0	0
WISCONSIN			
Green Bay	15	15	28
LaCrosse	0	0	12
Madison	13	13	25
Milwaukee	7	7	43
WYOMING			
Casper	0	0	6
Cheyenne	2	2	19
Lander	0	0	6
Sheridan	0	0	25

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

JULY 1954

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS
Alabama	1	1	0	0	4									1	2	2	0												
Alaska N																													
Arizona						0	0	0	3	0	0	5	0	1	0	4	0									0	0	6	5
Arkansas	5	1	0	0	4					1	3	6	4	0	1	0	0												
California *																													
Colorado	1	1	0	0	3	0	0	3	4					1	3	4	0									0	0	F 4	0
Connecticut *																													
Delaware						0	0	0	4					0	0	?	0												
Florida	2	2	0	6	4									2	2	5	0												
Georgia	1	1	0	0	4					0	5	4	0	0	3	4	0									R 1	0	6	0
Hawaii *																													
Idaho *																													
Illinois						0	0	°5	C	5	0	°5	C	2	0	4	0									0	0	L°4	C
Indiana	1	1	0	2	4	0	0	3	0	0	1	4	0	2	0	4	0												
Iowa	1	1	0	0	4	0	0	6	6	0	1	6	6	0	1	5	0												
Kansas	1	1					2	6	6		2	4	3		1	5											6	4	4
Kentucky										0	1	°4	C	0	1	4	0												
Louisiana										0	2	4	0	1	0	0	0												
Maine						0	0	0	3	0	0	4	0	0	2	4	0									0	0	R 3	0
Maryland														0	0	5	0									0	0	3	3
Massachusetts	3	2	0	0	5	0	0	4	4	1	0	5	2	1	11	5	0									0	0	R 4	3
Michigan	2	2	0	1	4	0	0	5	5	0	1	6	5	1	3	5													
Minnesota	1	1	0	0	0	0	0	0	5					0	1	4	4												
Mississippi	1	1	0	0	4					1	40	5	C																
Missouri	3	3	0	1	4	0	0	5	0	0	0	4	0	1	0	4	0												
Montana	3	3	0	0	3	0	0	4	6	0	0	4	0	0	3	2	0												
Nebraska	5	4	0	0	4	0	0	5	6	0	0	6	6	1	1	0	0												
Nevada N																													
New Hampshire						0	0	0	3	0	0	4	0	1	0	4	0									0	0	R 4	0
New Jersey *																													
New Mexico														1	0	0	0												
New York								3	5			6		2	6	5													
North Carolina	1	1	0	1	5	0	0	4	5	0	1	5	3	1	12	5	0									0	1	5	4
North Dakota	3	2	0	0	0	0	0	4	6	0	0	6	3																
Ohio									3					2												3	6	°6	C
Oklahoma	4	3	0	0	5	0	0	4	0	0	1	6	4	0	1	4	0									1	0	0	0
Oregon						0	Few	6	6	0	0	4	4	0	0	4	3									0	0	R 4	4
Pacific Area *																													
Pennsylvania	1	1	0	0	5	0	0	0	3	0	0	4	3	5	9	5	0												
Puerto Rico *																													
Rhode Island														0	0	4	0												
South Carolina	3	3	0	4	0									1	29	4	0									1	0	4	4
South Dakota	5	3	0	0	5	0	0	5	6	0	0	6	4	0	0	3	3												
Tennessee	1	1	0	0	4	0	0	0	4	0	0	5	4	1	4	5	0												
Texas	9	8	0	1	4	0	0	3	5	0	0	3	0	0	1	0	0												
Utah N																													
Vermont						0	0	3	4	0	0	4	2	0	0	4	0									0	0	R 3	0
U. S. Virgin Is.*																													
Virginia	2	1	0	3	5																								
Washington *																													
West Virginia														0	0	3	0												
Wisconsin	3	2	0	3	4	0	0	5	0	0	0	5	0	0	1	4	0									1	0	0	0
Wyoming	1	1	0	0	1	0	0	4	5																				

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other stroms, see the U. S. Weather Bureau monthly publication STORM DATA.
° Includes crop damage
C Crop damage
F Flooding
R Rains
L Local flooding
N No report received by printing deadline.

† Storm damages are placed in categories varying from 1 to 9 as follows:

1	Less than $50
2	$50 to $500
3	$500 to $5,000
4	$5,000 to $50,000
5	$50,000 to $500,000
6	$500,000 to $5,000,000
7	$5,000,000 to $50,000,000
8	$50,000,000 to $500,000,000
9	$500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JULY 1964

The most severe flooding since the hurricane rains of September 1945 occurred in the Edisto Basin of South Carolina during July. The crest of the North Fork of the Edisto at Orangeburg, S. C., was the fourth highest of record. Flooding reported elsewhere was mostly minor.

ATLANTIC SLOPE DRAINAGE

Minor flooding occurred on Assunpink Creek, at Trenton, N. J., on the 8th and 9th. Light damage occurred to ground level shops of DeLaval Steam Turbine Company.

Heavy rainfall (4 to 5 inches) over the upper reaches of the Santee River System in South Carolina from the 18th to the 22d caused lowland flooding along the Saluda in the Chappells, S. C., area. There was some flooding of swamplands along the Congaree below Columbia, S. C. Minor flooding occurred on the Broad River at Blair, S. C. Damage along the Saluda River in the Chappells area consisted mostly of flooded pastureland with a small amount of cropland flooding. Along the Congaree River below Columbia, S. C., there was some pasture and cropland flooded. Logging operations were interrupted for a short time.

Almost continuous rains from the 11th caused the most severe flooding in the Edisto Basin in South Carolina since the hurricane rains of September 1945. The heaviest rain was concentrated over Charleston and vicinity where the City Station recorded 23.75 inches. This is a record total for any month with records going back through 1738. The North Fork of the Edisto at Orangeburg, S. C., rose out of its banks on the 21st and returned on the 28th. A crest of 10.9 feet occurred on the 23d, which was almost 3 feet above bankfull. This was the fourth highest crest of record. Overflow on the main stem began downstream at Givhans Ferry State Park on the 22d and continued well into August. The crest of 15.1 feet (flood stage 10 feet) was the highest since September 21, 1945 and the sixth highest of record. Heavy localized flooding of poorly drained areas over Charleston County was almost continuous after mid-month. There was local flooding in the Combahee and the Pocataligo Rivers. Highway US-17 was flooded to a depth of several inches, stopping traffic for a short time. On the Dupont Plantation, it became necessary to dynamite some earthen plugs to save a system of dykes.

Minor flooding occurred on the Savannah, Altamaha, and Satilla Rivers in Georgia towards the end of the month. The Altamaha crested at Charlotte, Ga., on the 29th and 30th, 0.6 foot above flood stage. The Satilla and Savannah were rising at the end of the month, cresting during the first part of August.

EAST GULF OF MEXICO DRAINAGE

The only flooding in the East Gulf of Mexico Drainage during July occurred on the Apalachicola River at Blountstown, Fla., from the 23d to the end of the month. This flooding extended only over wooded and unpopulated areas with no damages occurring. Logging interests, the chief industry in the area, either shifted operations to higher ground or ceased operations during the period of high water.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Precipitation during July in the Upper Mississippi Basin above Guttenberg, Iowa varied from 0.5 to 3 inch below the long-term mean. Only in parts of southwest and south-central Minnesota and central and east-central Wisconsin was the precipitation above the mean. Isolated counties in both states have been declared drought disaster areas. Comparing July's mean river stages with previous years finds most rivers and streams 1.5 to 3.0 feet below their mean except at and upstream from Fort Ripley, Minn., on the Mississippi River where it is near the mean. The Minnesota, the Chippewa, and the Wisconsin Rivers are the lowest. At Mankato, Minn., the July mean stage of 2.4 feet was 3.3 feet below its long-term mean. This is the lowest July mean on the Minnesota River at that point since 1911 when it was 0.8 foot.

Very heavy rains fell across the upper reaches of the Des Moines and Iowa Rivers in Iowa late on July 30 and early July 31. The area of heavy rains was 20 to 30 miles wide and extended from Palo Alto to Grundy County. The heaviest fall of 8 to 9 inches occurred from Mallard through Humbolt to Eagle Grove. Flash flooding occurred in small streams in the heavy rain area. However, flood stage was not reached at any reporting point along the main streams in Iowa.

Missouri Basin.--Minor flooding occurred on the North Fork Solomon River at Lenora, Kan., on the 11th due to heavy local thundershowers. Damages from the flooding were negligible. Rock Creek at Louisville, Kan. was in flood from the 21st to the 23d, cresting nearly 5 feet above flood stage.

Local flooding occurred on the Nishnabotna River at Hamburg, Iowa, on the 11th and 12th, cresting 4 feet above flood stage during the night. A thunderstorm during the night of the 10th and 11th brought as much as 3.28 inches over the Nishnabotna Basin.

Ohio Basin.--Flash flooding occurred in the Johnstown, Pa., area on July 21 and 22 due to heavy thunderstorm activity during the evening of the 21st. The Greater Johnstown Water Authority in the Millcreek area reported a total of 4.09 inches of rain in a 90-minute period. Elk, Strayer, and St. Clair Runs exceeded bankfull stages, undermining roadbeds, flooding cellars, and disrupting telephone and electrical service. Heavy local thunderstorm activity on the 28th in the lower Allegheny River Basin resulted in flash flooding in the Blawnox and Harmarville areas, north of Pittsburgh, Pa. Total storm rainfall amounts in excess of 4.5 inches were reported.

Minor flooding occurred in the Wabash Basin at Wabash and Lafayette, Ind., between the 8th and 10th. This flooding was due to rainfall amounts of up to 5.5 inches on the 7th-8th. No significant flood damage resulted during the month, as crest stages were not high enough to seriously threaten crops.

Arkansas Basin.--Widely scattered showers occurred on all but 8 days during the month of July. The monthly rainfall totals ranged from a trace at Jefferson, Okla., to 4.59 inches at Checotah, Okla. Low flow was noted on all streams. The Cimarron River at Perkins, Okla., had a monthly mean stage of 2.1 feet which is the lowest July mean stage on record. The previous record was 2.5 feet in 1954. The normal is 4.8 feet. The Arkansas River at Tulsa, Okla., had a mean stage of 2.6 feet, tying the July record of 1954 and 1956. This was 3 feet below normal. Downstream at Van Buren, Ark., the monthly mean of 6.2 feet was 3.3 feet below normal.

WEST GULF OF MEXICO DRAINAGE

Heavy showers occurred in the West Gulf of Mexico Drainage area between the Rio Grande and the Guadalupe Basins in Texas on the morning of the 19th. The heaviest rain, up to 10 inches, occurred in the Woodsboro-Skidmore-Refugio-Tynan area. Extensive flooding resulted with many farm fields and most roads inundated. All appreciable runoff was into Gulf drainage streams with considerable flooding along the Gulf creeks and the Arkansas River in Texas through the 20th. Heavy showers of up to 6 inches occurred in the Sinton-Alice-Corpus Christi area on the afternoon of the 19th. Highways were flooded between Taft and Sinton and between Sinton and Mathis. Some flooding occurred in the streets in Corpus Christi.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--The Columbia River and its tributaries were in recession during the month of July. The stages at all flood-prone points dropped below flood stage by the 6th.

FLOOD STAGE DATA

(All dates in July unless otherwise specified)

July 1954

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Assunpink Creek: Trenton, N. J.	5	8	9	5.7	9
Saluda: Chappells, S. C.	13	20	21	17.2	21
Broad: Blair, S. C.	14	22	22	14.2	22
North Fork Edisto: Orangeburg, S. C.	8	21	28	10.9	23
Edisto: Givhans Ferry State Park S. C.	10	22	1/	15.1	29
Savannah: Millhaven, Ga.	15	30	1/	15.3	31
Clyo, Ga.	11	25	1/	12.7	31
Altamaha: Charlotte, Ga.	15	29	31	15.6	29,30
Satilla: Atkinson, Ga.	13	24	1/	16.5	Aug. 1
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	23	31	16.5	30
MISSISSIPPI SYSTEM					
Missouri Basin					
North Fork Solomon: Lenora, Kan.	10	11	11	11.0	11
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Missouri Basin (Cont'd)					
Rock Creek: Louisville, Kan.	20	21	23	24.7	22
Nishnabotna: Hamburg, Iowa	18	11	12	22.0	11-12
Ohio Basin					
Wabash: Wabash, Ind.	12	8	8	12.0	8
Lafayette, Ind.	11	9	10	12.3	9
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Willamette: Portland, Ore.	18	June 6	2	22.5	June 19,20
Columbia: Vancouver, Wash.	16	June 2	5	23.7	June 19
Longview, Wash.	12	June 7	3	15.4	June 20

* Provisional
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	18.8	85	177	2.1
1000	31	135	18.8	83	203	2.3
950	31	577	18.1	73	271	6.4
900	31	1,038	16.3	68	290	8.9
850	31	1,523	13.3	68	290	9.9
800	31	2,032	10.3	65	287	10.5
750	31	2,563	7.3	60	278	11.1
700	31	3,132	4.1	54	274	12.4
650	31	3,728	1.1	47	273	15.0
600	31	4,372	- 2.5	42	274	17.7
550	31	5,049	- 6.5	37	272	19.0
500	31	5,798	-10.8		272	21.4
450	31	6,594	-16.3		273	24.1
400	31	7,478	-22.4		270	26.2
350	31	8,446	-29.2		271	28.6
300	31	9,530	-37.0		267	32.4
250	31	10,767	-46.0		268	33.4
200	31	12,222	-54.4		270	36.3
175	31	13,070	-57.6		275	35.4
150	31	14,039	-58.6		271	28.0
125	31	15,180	-59.8		275	21.4
100	30	16,574	-58.6		279	13.8
80	30	17,980	-57.2		307	3.5
70	30	18,830	-55.8		67	2.5
60	30	19,812	-54.2		78	5.8
50	30	20,985	-52.4		91	10.3
40	30	22,434	-50.4		87	13.8
30	29	24,323	-47.8		91	17.9
25	28	25,531	-45.9		86	20.6
20	25	27,019	-43.6		89	23.3
15	10	28,943	-40.5			
10						
7						
5						
4						

ALBUQUERQUE, N. MEX.
841 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,619	19.2	61	123	2.7
1000	31	91				
950	31	541				
900	31	1,017				
850	31	1,520				
800	31	2,044	19.5	49	172	4.7
750	31	2,596	16.5	48	203	4.1
700	31	3,182	12.6	52	237	4.7
650	31	3,796	7.9	59	253	4.3
600	31	4,456	2.9	63	221	2.1
550	31	5,149	- 2.2	64	182	1.6
500	31	5,907	- 7.1	60	179	1.2
450	31	6,717	-12.0	49	29	.8
400	31	7,614	-17.8	43	19	1.7
350	31	8,599	-24.7	37	348	2.1
300	31	9,702	-33.1		324	4.1
250	31	10,957	-43.3		324	6.8
200	31	12,421	-55.1		319	9.3
175	31	13,262	-61.2		310	9.1
150	31	14,205	-67.3		317	8.4
125	31	15,292	-71.8		338	3.9
100	31	16,609	-70.3		78	4.3
80	31	17,952	-65.3		85	10.1
70	30	18,774	-62.5		90	14.8
60	29	19,729	-59.5		89	17.9
50	29	20,878	-56.6		91	20.2
40	28	22,302	-53.9		88	22.3
30	28	24,164	-50.7		88	26.0
25	28	25,357	-49.0		87	27.2
20	28	26,830	-46.5		89	29.3
15	27	28,752	-43.4		87	33.6
10	7	31,499	-40.4			
7						
5						
4						

AMARILLO, TEXAS
893 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	21.0	58	201	6.8
1000	31	99				
950	31	555				
900	31	1,034				
850	31	1,524	23.1	46	219	21.4
800	31	2,050	20.4	43	224	15.7
750	31	2,598	16.3	47	241	8.0
700	31	3,187	11.9	52	274	4.3
650	31	3,797	7.1	55	270	2.1
600	31	4,455	2.3	54	35	.6
550	31	5,146	- 2.2	48	6	1.4
500	31	5,903	- 6.8	43	1	3.9
450	31	6,711	-11.8	37	351	4.7
400	31	7,610	-17.8		357	6.2
350	31	8,596	-24.5		6	9.9
300	31	9,699	-33.0		360	12.4
250	31	10,955	-43.0		359	14.0
200	31	12,421	-54.5		351	15.2
175	31	13,265	-60.1		348	14.2
150	31	14,215	-65.7		350	12.6
125	31	15,309	-70.5		354	9.7
100	31	16,635	-69.6		38	7.2
80	31	17,984	-64.8		79	10.9
70	31	18,802	-62.3		91	13.4
60	31	19,760	-59.3		92	16.7
50	31	20,910	-56.5		95	19.0
40	31	22,335	-53.6		95	21.2
30	31	24,198	-50.4		91	25.6
25	31	25,393	-48.3		93	27.6
20	29	26,871	-46.0		93	28.2
15	13	28,795	-43.6		88	31.9
10	5	31,510	-43.0			
7						
5						
4						

ANCHORAGE, ALASKA
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	29	11.3	85	179	4.7
1000	31	94	11.4	82	181	5.4
950	31	522	10.3	72	208	5.4
900	31	971	7.7	73	171	2.3
850	31	1,440	4.9	76	89	3.9
800	31	1,933	1.8	79	100	5.8
750	31	2,449	- 1.1	72	102	5.2
700	31	2,999	- 4.3	71	84	5.1
650	31	3,575	- 7.7	68	77	4.5
600	31	4,199	-11.3	60	67	5.1
550	31	4,858	-15.5	56	59	4.9
500	31	5,576	-20.1	53	52	6.2
450	31	6,344	-25.5	51	66	6.8
400	31	7,194	-31.7	48	65	6.2
350	31	8,124	-38.8		62	5.8
300	31	9,164	-46.5		64	6.8
250	31	10,357	-51.6		45	6.8
200	31	11,811	-48.6		289	4.5
175	31	12,691	-47.4		277	6.2
150	31	13,711	-47.3		276	6.8
125	31	14,915	-47.9		267	5.2
100	31	16,387	-47.8		264	4.3
80	31	17,859	-47.7		267	1.9
70	31	18,745	-47.6		215	.4
60	31	19,760	-47.3		126	1.9
50	30	20,963	-46.9		88	5.1
40	30	22,444	-46.1		96	6.6
30	30	24,362	-44.6		81	10.3
25	28	25,588	-43.2		85	13.0
20	28	27,097	-41.3		88	14.0
15	27	29,066	-38.2		86	16.5
10	17	31,896	-33.5			
7	7	34,441	-29.3			
5						
4						

*** ANNETTE, ALASKA**
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	11.2	85	170	2.9
1000	31	124	10.8	84	163	4.9
950	31	547	8.8	83	166	8.2
900	31	997	6.2	85	167	10.1
850	30	1,466	3.6	85	169	10.7
800	30	1,957	1.3	81	176	11.7
750	30	2,472	- 1.3	82	188	10.7
700	30	3,022	- 4.0	80	192	11.5
650	30	3,596	- 7.3	71	194	11.3
600	30	4,224	-10.7	67	198	13.0
550	30	4,883	-14.3	62	204	11.8
500	30	5,607	-18.7	55	212	13.6
450	30	6,378	-23.9	54	210	15.0
400	30	7,235	-29.8	49	207	17.1
350	30	8,173	-37.1	51	214	19.0
300	30	9,220	-45.1		219	22.1
250	30	10,417	-51.7		224	21.4
200	30	11,867	-50.2		232	15.7
175	30	12,741	-49.3		238	15.2
150	30	13,751	-49.4		236	13.0
125	30	14,944	-50.0		230	11.5
100	30	16,401	-50.3		225	7.4
80	30	17,857	-50.3		203	6.0
70	30	18,728	-50.3		194	4.9
60	30	19,735	-49.9		167	2.3
50	30	20,928	-49.7		115	2.5
40	30	22,390	-48.9		99	7.6
30	30	24,286	-47.2		89	9.1
25	29	25,495	-45.7		97	12.8
20	29	26,987	-43.8		95	15.0
15	28	28,934	-40.6		91	15.9
10	26	31,737	-35.3		94	21.6
7	21	34,233	-31.6		89	24.1
5	15	36,614	-26.9		84	28.0
4	5	38,256	-24.5			

ATHENS, GA.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	20.8	93	290	1.4
1000	31	145				
950	31	591	21.3	78	287	4.3
900	31	1,058	19.1	73	288	4.9
850	31	1,549	16.0	76	285	5.4
800	31	2,062	13.1	75	277	6.0
750	31	2,602	10.2	70	282	8.0
700	31	3,175	7.1	62	288	8.5
650	31	3,778	3.5	63	283	9.7
600	31	4,427	- .3	62	279	10.9
550	31	5,115	- 4.0	54	277	10.3
500	31	5,866	- 8.1	44	273	12.8
450	31	6,673	-13.0	43	271	13.4
400	31	7,568	-18.4	41	274	14.0
350	31	8,550	-25.2	36	272	16.5
300	31	9,651	-33.5		274	19.0
250	31	10,904	-43.4		284	21.8
200	31	12,367	-55.0		284	25.3
175	31	13,208	-60.7		287	21.2
150	31	14,156	-65.6		291	13.4
125	31	15,255	-68.1		309	7.8
100	31	16,597	-67.1		11	5.8
80	31	17,953	-63.8		70	11.7
70	31	18,778	-61.1		80	15.0
60	30	19,737	-58.5		85	16.9
50	30	20,890	-55.7		87	21.4
40	30	22,320	-52.8		92	23.9
30	29	24,187	-50.0		89	24.5
25	26	25,373	-48.6		87	25.6
20	22	26,845	-46.9		86	31.1
15	16	28,775	-43.8		87	36.1
10						
7						
5						

*** BARROW, ALASKA**
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	1.7	91	86	1.0
1000	31	100	2.1	87	200	1.9
950	31	516	4.1	72	244	5.8
900	31	956	3.6	61	251	7.8
850	31	1,419	1.9	67	255	8.4
800	31	1,906	- .6	65	256	9.9
750	31	2,417	- 3.3	67	260	9.7
700	31	2,964	- 6.1	67	254	11.7
650	31	3,537	- 8.8	61	259	13.0
600	31	4,159	-12.4	58	259	14.2
550	31	4,815	-16.3	53	265	15.3
500	31	5,530	-21.2	51	262	16.5
450	31	6,291	-26.7	51	260	17.7
400	31	7,139	-32.9	48	261	18.1
350	31	8,066	-39.8		267	20.0
300	31	9,102	-47.1		268	22.3
250	31	10,292	-52.7		270	22.7
200	31	11,741	-48.6		265	16.5
175	31	12,624	-46.9		266	12.6
150	31	13,646	-46.4		270	10.7
125	31	14,859	-45.9		265	8.7
100	31	16,345	-45.5		258	6.2
80	31	17,835	-44.7		254	3.1
70	31	18,729	-44.2		244	1.9
60	31	19,762	-43.9		163	.8
50	31	20,988	-43.3		89	2.3
40	31	22,492	-42.6		93	2.7
30	31	24,437	-41.9		91	5.6
25	31	25,675	-41.0		81	7.0
20	30	27,192	-39.5		83	9.1
15	29	29,168	-36.6		85	12.4
10	29	32,007	-31.6		85	13.8
7	24	34,565	-25.7		82	15.0
5	17	37,030	-21.8		83	17.9

BARTER IS., ALASKA
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	2.0	89	86	2.7
1000	31	100	2.9	83	94	1.9
950	31	524	7.0	68	232	.8
900	31	964	6.1	57	272	3.1
850	31	1,431	4.0	58	274	6.6
800	31	1,922	1.3	62	274	9.3
750	31	2,439	- 1.8	65	269	11.5
700	31	2,985	- 4.8	60	263	13.4
650	31	3,563	- 7.9	50	266	13.2
600	31	4,184	-11.4	46	267	13.8
550	31	4,844	-15.7	42	272	13.8
500	31	5,558	-20.5	35	273	14.6
450	31	6,323	-25.9	36	269	14.8
400	31	7,171	-32.2	34	271	16.3
350	31	8,099	-39.3		271	18.3
300	31	9,137	-46.7		274	18.6
250	31	10,330	-51.8		277	16.5
200	30	11,780	-48.8		277	13.8
175	30	12,661	-46.9		269	12.8
150	30	13,683	-46.4		270	10.7
125	30	14,895	-45.9		270	8.7
100	30	16,381	-45.4		267	5.8
80	30	17,872	-44.6		267	3.1
70	30	18,768	-44.2		270	1.6
60	30	19,801	-43.8		77	1.0
50	30	21,027	-43.3		85	2.7
40	29	22,532	-42.8		80	4.7
30	28	24,476	-41.5		81	7.6
25	23	25,708	-40.6		84	8.7
20	18	27,229	-39.0		93	9.3
15	8	29,188	-37.2			
10						
7						
5						

BETHEL, ALASKA
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	10.4	92	275	4.3
1000	30	94			292	5.2
950	30	521	10.0	77	306	1.4
900	30	970	7.6	74	158	1.2
850	30	1,439	4.7	74	166	2.5
800	30	1,931	1.7	76	163	4.5
750	30	2,449	- 1.4	73	144	6.0
700	30	2,996	- 4.3	69	141	5.6
650	30	3,574	- 7.7	61	136	4.7
600	30	4,196	-11.2	53	135	4.9
550	30	4,858	-15.2	45	140	4.7
500	30	5,573	-19.9	44	152	5.1
450	30	6,345	-25.4	45	151	3.5
400	30	7,190	-31.5	43	210	2.5
350	30	8,122	-38.4		236	2.3
300	30	9,165	-45.9		284	6.2
250	30	10,361	-51.3		281	8.9
200	30	11,816	-48.5		277	10.7
175	30	12,696	-47.6		279	11.3
150	30	13,714	-47.7		278	10.7
125	30	14,917	-48.0		277	9.5
100	30	16,388	-48.1		263	6.4
80	30	17,860	-47.7		264	2.9
70	29	18,740	-47.5		243	1.0
60	29	19,760	-47.2		162	1.0
50	29	20,967	-46.8		95	4.3
40	29	22,449	-46.2		91	6.6
30	29	24,367	-44.7		85	10.1
25	28	25,592	-43.5		79	12.0
20	27	27,098	-41.6		85	15.0
15	23	29,059	-38.7		86	16.7
10	15	31,866	-34.5		84	21.2
7	6	34,391	-30.6			
5						

BISMARCK, N. DAK.
955 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	505	15.3	85	87	1.6
1000	31	108				
950	31	551			85	2.1
900	31	1,012	19.9	56	181	5.1
850	31	1,504	17.8	53	234	5.6
800	31	2,020	14.7	54	278	7.2
750	31	2,564	11.4	52	283	11.8
700	31	3,136	8.1	43	285	15.9
650	31	3,739	3.9	42	284	19.4
600	31	4,390	- .3	35	285	23.5
550	31	5,073	- 5.1	36	282	26.6
500	31	5,823	-10.3	32	283	28.2
450	31	6,618	-15.8		283	28.7
400	31	7,506	-22.0		284	33.6
350	31	8,474	-29.1		284	37.5
300	31	9,557	-37.2		283	41.6
250	31	10,793	-46.1		282	46.6
200	31	12,248	-54.4		279	49.0
175	31	13,096	-57.6		280	47.6
150	30	14,062	-59.5		282	42.3
125	30	15,201	-60.3		284	24.5
100	30	16,593	-59.8		289	14.0
80	30	17,993	-58.0		322	5.4
70	30	18,837	-56.5		17	3.7
60	30	19,820	-54.9		63	6.2
50	30	20,992	-52.8		79	9.1
40	30	22,437	-51.2		77	11.5
30	30	24,321	-48.0		80	14.8
25	29	25,529	-45.8		85	16.3
20	27	27,022	-43.4		86	18.6
15	19	28,981	-40.2		86	20.2
10	5	31,748	-35.3			
7						
5						

BOISE, IDAHO
914 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	16.6	58	164	2.9
1000	31	92				
950	31	535				
900	31	1,002	19.0	48	213	1.0
850	31	1,495	20.5	35	313	5.1
800	31	2,016	17.4	33	296	4.5
750	31	2,559	13.6	35	260	6.0
700	31	3,140	9.4	38	242	11.1
650	31	3,747	4.8	39	232	15.7
600	31	4,398	.2	36	229	19.8
550	31	5,085	- 4.6	36	227	25.3
500	31	5,834	-10.1	36	229	25.4
450	31	6,635	-15.6		233	26.4
400	31	7,518	-22.0		234	28.4
350	31	8,487	-29.3		236	31.5
300	31	9,569	-37.6		235	35.5
250	31	10,805	-46.1		235	41.8
200	31	12,261	-54.5		236	49.1
175	31	13,110	-57.9		237	47.8
150	31	14,076	-60.3		240	41.6
125	31	15,207	-62.3		243	30.5
100	30	16,583	-61.8		234	14.6
80	30	17,972	-59.4		196	5.2
70	30	18,811	-57.4		135	4.1
60	30	19,787	-55.8		100	6.0
50	30	20,953	-53.7		88	8.9
40	29	22,392	-51.6		91	13.6
30	28	24,272	-48.5		89	16.7
25	28	25,476	-46.6		90	18.1
20	21	26,972	-43.9		92	20.4
15	6	28,922	-40.6			
10						
7						

*** BROWNSVILLE, TEXAS**
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	25.0	91	156	4.3
1000	31	122	25.6	88	162	10.9
950	31	572	23.3	84	176	20.6
900	31	1,045	21.1	67	174	19.6
850	31	1,539	18.9	55	167	14.8
800	31	2,058	16.1	47	149	10.1
750	31	2,597	13.0	43	132	7.2
700	31	3,180	9.4	42	117	6.0
650	31	3,784	5.7	40	107	6.8
600	31	4,442	1.9	35	103	6.6
550	31	5,131	- 2.1	31	94	5.6
500	31	5,891	- 6.6	28	79	4.5
450	31	6,695	-11.9	25	71	5.6
400	31	7,599	-18.0	29	68	6.0
350	31	8,583	-25.0	26	75	7.6
300	31	9,685	-33.1	23	68	5.8
250	31	10,942	-42.9		96	5.4
200	31	12,409	-54.5		89	8.2
175	31	13,252	-60.6		76	10.5
150	31	14,197	-67.1		74	13.4
125	31	15,281	-72.0		67	14.8
100	31	16,597	-70.6		75	19.2
80	30	17,932	-67.0		82	22.3
70	30	18,743	-63.9		89	24.3
60	28	19,697	-60.5		87	26.0
50	28	20,840	-57.5		85	28.6
40	26	22,258	-54.9		85	34.2
30	25	24,106	-51.6		86	39.2
25	23	25,286	-48.9		87	37.9
20	21	26,757	-46.9		89	34.6
15	19	28,676	-43.6		86	35.4
10	12	31,423	-39.7		86	36.3
7						

BUFFALO, N. Y.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	218	18.8	85	202	3.5
1000	31	131				
950	31	575	19.6	71	244	6.4
900	31	1,037	17.3	66	271	8.7
850	31	1,523	14.1	66	265	9.9
800	31	2,033	10.7	61	266	11.1
750	31	2,564	7.3	59	265	12.4
700	31	3,134	4.6	46	272	14.8
650	31	3,733	1.1	41	280	15.2
600	31	4,374	- 2.5	32	280	16.3
550	31	5,055	- 6.3		276	18.3
500	31	5,799	-10.8		275	19.2
450	31	6,595	-16.2		276	19.6
400	31	7,478	-22.5		278	20.4
350	31	8,444	-29.4		279	24.3
300	31	9,526	-37.3		280	28.4
250	31	10,761	-46.3		280	28.9
200	31	12,214	-54.2		280	32.4
175	31	13,065	-56.4		281	32.2
150	31	14,039	-58.2		278	27.4
125	31	15,181	-59.5		281	20.8
100	31	16,578	-58.8		286	12.8
80	31	17,985	-57.1		323	4.7
70	31	18,839	-55.7		341	2.9
60	31	19,818	-54.2		57	4.7
50	31	20,991	-52.7		81	8.0
40	31	22,439	-50.5		83	12.2
30	30	24,326	-47.7		83	16.7
25	29	25,532	-46.1		84	17.5
20	25	27,026	-43.8		90	20.6
15	15	28,968	-40.9		90	21.2
10						
7						

*** BURRWOOD, LA.**
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	26.7	83	229	2.9
1000	31	140	26.0	83	218	4.5
950	31	590	22.8	83	213	5.4
900	31	1,063	20.0	78	210	5.8
850	31	1,555	17.3	68	204	5.1
800	31	2,071	14.6	64	194	4.5
750	31	2,611	11.5	65	190	2.5
700	31	3,190	8.3	60	249	1.4
650	31	3,795	4.7	60	256	1.4
600	31	4,448	.9	63	322	.6
550	31	5,136	- 2.8	59	284	2.7
500	31	5,894	- 6.9	49	291	3.9
450	31	6,706	-11.7	45	295	3.1
400	31	7,602	-17.3	37	303	1.9
350	31	8,589	-24.2	37	319	3.5
300	31	9,695	-32.5	38	322	2.9
250	31	10,953	-42.5		360	3.5
200	31	12,419	-54.6		11	3.9
175	31	13,261	-61.1		22	6.4
150	31	14,203	-67.7		33	8.5
125	31	15,288	-70.6		42	10.7
100	31	16,617	-68.4		60	13.6
80	31	17,964	-65.7		79	19.0
70	31	18,785	-62.6		81	20.4
60	30	19,743	-59.1		80	24.5
50	30	20,895	-56.3		89	28.9
40	30	22,323	-53.5		91	28.2
30	28	24,189	-50.7		89	29.7
25	27	25,381	-49.3		86	32.2
20	27	26,854	-46.7		82	35.7
15	27	28,776	-43.8		88	34.8
10	20	31,534	-38.2		93	41.6
7	6	34,021	-33.5			

***CANTON IS., PACIFIC AREA**
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	26.2	75	85	10.9
1000	31	93	25.5	77	84	13.2
950	31	541	21.6	85	91	16.7
900	31	1,011	18.6	74	90	18.1
850	31	1,500	16.0	66	91	18.6
800	31	2,015	14.8	46	92	18.5
750	31	2,554	12.3	36	90	17.9
700	30	3,133	9.0	35	94	17.7
650	30	3,738	6.0	32	89	18.5
600	30	4,394	2.5	29	94	17.5
550	30	5,082	- 1.6	29	91	14.6
500	30	5,845	- 6.0	28	94	13.2
450	30	6,654	-10.8	26	104	13.0
400	30	7,557	-16.9	27	119	11.3
350	29	8,548	-23.6	27	126	8.5
300	29	9,657	-32.1	28	88	4.1
250	29	10,917	-42.4		358	5.6
200	29	12,386	-54.7		329	6.4
175	29	13,227	-61.7		305	7.6
150	29	14,166	-69.0		281	7.8
125	29	15,237	-76.0		267	4.1
100	29	16,517	-76.2		98	6.2
80	29	17,826	-69.1		278	10.1
70	29	18,630	-65.6		269	22.0
60	29	19,572	-63.2		270	31.9
50	29	20,699	-60.8		273	33.2
40	29	22,094	-58.7		277	30.9
30	29	23,911	-55.9		355	2.7
25	28	25,077	-54.1		92	32.4
20	24	26,523	-49.8		91	51.7
15	22	28,418	-47.6		91	53.0
10	16	31,124	-43.5		91	60.6
7	7	33,489	-39.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1964

Standard pressure surface (mb)	CAPE HATTERAS, N. C. 1016 MB						CARIBOU, ME. 992 MB						CHARLESTON, S. C. 1015 MB						* COLD BAY, ALASKA 1009 MB						COLUMBIA, MO. 987 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed
SURFACE	31	4	23.6	86	247	3.3	31	191	15.1	93	206	1.7	31	13	22.6	92	223	1.7	31	30	7.3	93	207	3.5	31	238	20.8	83	157	3.1
1000	31	141	23.5	81	234	5.8	31	125					31	146	23.2	86	218	4.1	31	105	7.1	91	230	4.9	31	120				
950	31	585	20.7	78	235	8.4	31	561	14.4	77	250	5.4	31	595	21.2	78	227	10.5	31	526	5.7	87	234	3.3	31	572	23.7	65	227	8.2
900	31	1,055	18.3	74	239	8.4	31	1,017	12.8	69	275	7.0	31	1,062	18.8	74	226	11.5	31	968	4.2	84	257	2.1	31	1,041	21.6	61	262	8.2
850	31	1,543	15.5	71	236	8.5	31	1,495	10.6	65	276	8.7	31	1,552	16.0	67	226	10.9	31	1,432	2.9	77	278	3.9	31	1,535	18.7	57	284	7.2
800	31	2,056	12.5	67	234	8.5	31	1,999	8.0	60	275	12.2	31	2,066	13.3	63	240	12.2	31	1,922	1.3	74	286	6.0	31	2,053	15.4	56	302	8.4
750	31	2,593	9.8	63	243	10.3	31	2,527	4.8	58	273	13.2	31	2,606	10.5	60	238	12.4	31	2,439	- .5	71	266	8.0	31	2,592	12.1	50	320	8.5
700	31	3,166	6.7	58	250	12.6	31	3,089	1.6	57	274	15.2	31	3,179	7.4	60	237	12.6	31	2,991	- 2.8	64	273	10.5	31	3,172	8.1	50	324	10.3
650	31	3,764	3.2	55	252	13.8	31	3,683	- 1.3	51	272	16.9	31	3,787	4.1	58	246	12.2	31	3,571	- 5.5	60	274	11.8	31	3,773	3.8	51	327	10.3
600	31	4,416	- .3	53	253	15.5	31	4,318	- 4.5	42	271	19.2	31	4,434	.5	57	254	13.0	31	4,200	- 8.9	51	272	14.0	31	4,426	- .3	49	322	11.1
550	31	5,097	- 3.9	51	251	15.3	31	4,995	- 8.2		270	20.6	31	5,126	- 3.3	54	250	14.0	31	4,865	-12.8	48	270	16.9	31	5,112	- 4.2	40	312	11.8
500	31	5,855	- 8.1	47	258	16.1	31	5,733	-12.9		270	25.1	31	5,878	- 7.4	48	256	14.8	31	5,590	-17.5	49	273	20.8	31	5,863	- 8.6		308	13.2
450	31	6,661	-12.9	45	257	17.7	31	6,525	-18.0		266	25.6	31	6,687	-12.1	45	253	16.3	31	6,366	-22.6	49	269	25.6	31	6,664	-13.7		313	14.2
400	31	7,556	-18.3	40	256	18.1	31	7,400	-24.4		264	29.3	31	7,584	-17.9	39	254	15.9	31	7,226	-28.5	42	270	31.3	31	7,560	-19.5		308	16.3
350	31	8,539	-25.1	41	253	21.4	31	8,359	-31.2		259	32.8	31	8,569	-24.6	33	250	17.7	31	8,170	-35.0	46	268	36.5	31	8,539	-26.3		311	19.6
300	31	9,641	-33.3	35	253	22.7	31	9,434	-39.2		254	37.9	31	9,673	-33.0		248	17.7	31	9,229	-42.3		271	41.0	31	9,635	-34.5		313	22.9
250	31	10,895	-43.2		261	25.6	31	10,659	-47.9		254	42.3	31	10,929	-43.1		258	16.5	31	10,442	-49.1		271	48.8	31	10,883	-44.2		313	27.6
200	31	12,359	-54.9		273	27.0	31	12,109	-53.4		259	40.8	31	12,391	-55.5		268	16.5	31	11,901	-48.8		273	40.0	31	12,344	-54.4		321	30.3
175	31	13,201	-60.4		282	24.1	31	12,966	-54.3		256	36.9	31	13,230	-61.4		286	17.1	31	12,774	-49.9		277	34.0	31	13,190	-58.9		321	28.2
150	31	14,152	-64.5		288	17.7	31	13,950	-55.4		262	31.9	31	14,175	-66.2		303	12.8	31	13,781	-50.2		277	28.7	31	14,147	-63.1		320	23.3
125	31	15,260	-66.1		286	12.2	31	15,112	-55.8		266	22.7	31	15,273	-68.1		304	6.6	31	14,969	-51.2		277	20.8	31	15,260	-65.9		318	15.5
100	31	16,619	-64.5		328	4.5	31	16,534	-55.0		258	12.8	31	16,616	-66.4		37	5.4	31	16,419	-51.3		276	12.8	31	16,613	-65.2		339	10.3
80	31	17,992	-61.4		60	8.4	31	17,964	-53.7		266	5.6	30	17,978	-63.5		69	12.4	31	17,869	-50.8		275	7.0	31	17,982	-62.3		28	8.0
70	31	18,826	-59.4		81	12.6	31	18,826	-53.1		224	.6	30	18,813	-61.0		81	15.3	31	18,738	-50.5		279	5.4	31	18,814	-60.1		57	9.7
60	31	19,793	-57.3		84	16.7	31	19,820	-51.7		85	3.3	30	19,767	-57.8		87	18.8	31	19,745	-49.9		355	1.4	31	19,778	-57.7		70	11.5
50	31	20,954	-54.1		90	21.2	31	21,007	-50.2		84	7.4	29	20,924	-55.2		88	21.8	31	20,938	-49.2		68	2.9	31	20,936	-55.0		81	14.8
40	31	22,396	-51.0		92	21.2	30	22,470	-48.6		90	10.7	29	22,359	-52.2		94	23.7	31	22,403	-48.5		82	6.0	31	22,370	-52.6		90	17.9
30	31	24,280	-48.2		89	24.1	29	24,372	-46.1		86	15.2	26	24,229	-49.2		91	24.1	31	24,300	-47.5		91	10.1	29	24,240	-49.9		84	20.2
25	31	25,486	-46.5		88	24.7	28	25,591	-43.8		85	17.9	23	25,432	-47.2		88	27.2	31	25,508	-46.2		85	9.5	28	25,436	-48.1		83	22.3
20	30	26,976	-44.4		88	29.7	27	27,104	-41.0		90	22.5	20	26,912	-45.3		86	30.9	30	26,996	-44.6		86	12.2	24	26,915	-46.1		83	25.8
15	30	28,917	-41.1		91	32.2	24	29,089	-36.7		87	25.[illegible]	9	28,842	-42.0				30	28,934	-41.6		83	13.8	15	28,832	-43.7		86	26.6
10	22	31,704	-36.0				21	31,922	-31.3		90	28.0							25	31,698	-37.8		79	20.8	5	31,573	-39.7			
7							16	34,487	-26.4		90	37.1							15	34,202	-33.6		80	28.0						
5							8	36,948	-21.4																					

Standard pressure surface (mb)	CORPUS CHRISTI, TEXAS 1012 MB						DAYTON, OHIO 981 MB						DEL RIO, TEXAS 978 MB						DENVER, COLO. 840 MB						DODGE CITY, KANS. 924 MB					
SURFACE	31	6	26.2	87	172	4.1	31	297	18.3	89	11	1.0	31	314	25.7	65	112	8.7	31	1,611	16.5	59	219	3.1	30	792	21.4	71	195	6.2
1000	31	116	25.8	87	172	7.6	31	134					31	112					31	94					30	101				
950	31	564	22.7	82	180	13.0	31	580	20.6	72	239	2.7	31	570	24.3	68	134	14.4	31	542					30	554				
900	31	1,038	21.1	68	177	12.0	31	1,045	18.4	66	281	4.1	31	1,038	21.6	69	159	19.0	31	1,017					30	1,024	23.3	56	205	19.8
850	31	1,531	18.4	63	159	8.5	31	1,533	15.1	67	289	6.0	31	1,533	19.3	66	158	15.9	31	1,510					30	1,523	22.8	46	221	22.1
800	31	2,049	15.5	62	145	8.0	31	2,045	12.0	60	291	6.6	31	2,053	16.1	65	147	12.0	31	2,031	20.2	44	271	5.6	30	2,048	19.6	44	227	15.3
750	31	2,589	12.6	56	135	5.8	31	2,579	8.9	54	297	8.2	31	2,597	12.8	60	130	8.9	31	2,585	17.9	38	284	4.9	30	2,594	15.7	45	233	10.7
700	31	3,171	9.1	56	126	4.5	31	3,152	5.5	52	301	10.3	31	3,177	9.8	49	108	7.8	31	3,172	13.9	37	281	5.2	30	3,182	11.4	46	236	6.0
650	31	3,778	5.5	50	115	5.8	31	3,753	2.1	47	298	12.0	31	3,786	6.0	45	91	7.2	31	3,791	9.2	40	276	5.2	30	3,789	6.9	46	279	1.9
600	31	4,432	2.0	44	89	5.1	31	4,398	- 1.2	40	297	11.8	31	4,441	1.9	39	75	6.6	31	4,449	3.5	45	292	5.1	30	4,449	2.3	41	298	1.6
550	31	5,121	- 2.0	44	85	6.0	31	5,082	- 4.9		302	11.5	31	5,128	- 2.3	36	64	6.0	31	5,137	- 2.4	49	297	5.8	30	5,139	- 2.5	39	308	3.3
500	31	5,882	- 6.4	43	72	5.1	31	5,832	- 9.5		303	11.8	31	5,889	- 7.1	32	81	5.4	31	5,898	- 7.8	48	290	8.4	30	5,897	- 7.3	38	308	6.8
450	31	6,694	-11.5	39	70	5.4	31	6,634	-14.6		298	14.8	31	6,695	-12.4		77	7.4	31	6,705	-13.0	40	282	8.7	30	6,705	-12.2	34	309	9.9
400	31	7,591	-18.0	42	63	5.8	31	7,523	-20.3		301	15.[illegible]	31	7,594	-18.5		73	7.8	31	7,599	-18.7	34	281	12.4	30	7,602	-18.1		317	13.8
350	31	8,575	-25.1	36	71	7.2	31	8,498	-27.5		301	18.6	31	8,577	-25.4		61	9.3	31	8,580	-25.7		286	16.5	30	8,586	-25.0		324	16.9
300	31	9,676	-33.4	34	71	6.4	31	9,589	-35.7		301	22.1	31	9,678	-33.8		53	12.8	31	9,679	-33.9		284	23.9	30	9,688	-33.4		321	20.8
250	31	10,929	-43.0		89	4.1	31	10,832	-45.0		305	26.0	31	10,931	-43.5		49	12.6	31	10,931	-43.6		281	28.9	30	10,943	-43.3		318	22.7
200	31	12,395	-54.4		97	5.1	31	12,290	-54.5		301	28.[illegible]	31	12,398	-54.6		54	12.6	31	12,394	-54.5		283	31.1	29	12,407	-54.5		317	23.1
175	30	13,239	-60.6		84	6.4	31	13,138	-58.2		306	28.7	31	13,241	-60.6		59	11.3	31	13,239	-60.0		282	31.1	29	13,251	-60.1		318	24.1
150	30	14,184	-66.9		82	8.9	31	14,102	-61.1		304	23.9	31	14,187	-66.5		62	11.1	31	14,188	-65.4		285	23.9	29	14,200	-65.3		321	21.8
125	28	15,270	-71.2		72	12.6	31	15,229	-62.9		301	18.1	31	15,277	-71.7		62	12.2	31	15,286	-69.1		286	14.8	28	15,298	-68.9		327	14.2
100	28	16,588	-70.4		79	14.6	31	16,602	-62.4		318	10.5	31	16,591	-71.0		72	14.6	31	16,624	-67.1		290	4.9	28	16,632	-67.5		4	7.0
80	28	17,925	-66.6		83	18.6	31	17,986	-60.2		359	6.4	31	17,927	-66.3		76	18.3	31	17,986	-62.5		62	5.2	28	17,991	-63.0		53	8.0
70	28	18,737	-64.0		87	20.2	31	18,822	-58.4		52	6.8	31	18,743	-63.2		80	20.2	31	18,821	-60.1		79	9.1	28	18,824	-60.7		77	11.8
60	28	19,690	-60.9		86	21.8	30	19,796	-56.2		70	9.7	31	19,595	-60.7		85	22.1	31	19,781	-57.8		88	11.7	28	19,781	-58.3		82	13.2
50	28	20,830	-58.9		86	23.9	30	20,961	-54.0		83	12.6	31	20,837	-57.7		89	26.2	31	20,940	-54.7		86	13.8	28	20,937	-55.2		90	17.5
40	27	22,244	-55.9		88	26.4	30	22,401	-51.5		85	14.6	30	22,254	-54.5		88	28.7	31	22,376	-52.1		87	16.7	27	22,369	-52.5		92	19.6
30	24	24,094	-52.1		89	28.7	29	24,276	-48.9		85	17.3	29	24,112	-50.3		86	30.7	31	24,250	-49.6		87	19.8	26	24,238	-50.0		84	23.5
25	23	25,283	-49.8		89	28.7	29	25,479	-47.0		83	20.2	29	25,307	-48.4		88	31.5	29	25,440	-47.7		84	22.9	26	25,435	-47.8		86	26.0
20	20	26,748	-48.0		87	28.4	27	26,962	-44.9		84	23.5	28	26,782	-46.1		89	30.5	28	26,920	-45.3		82	25.6	25	26,914	-45.4		87	28.2
15	20	28,662	-44.1		87	31.5	14	28,911	-41.8		89	27.8	28	28,707	-43.1		84	30.3	21	28,862	-42.3		85	29.3	16	28,851	-42.4		83	30.1
10	16	31,384	-40.7		86	32.6							12	31,457	-39.2				9	31,644	-37.1									
7	12	33,830	-36.7																											
5	7	36,132	-33.1																											

Standard pressure surface (mb)	EL PASO, TEXAS 883 MB						ELY, NEV. 811 MB						* FAIRBANKS, ALASKA 993 MB						FLINT, MICH. 989 MB						FORT WORTH, TEXAS 994 MB					
SURFACE	31	1,193	23.0	51	166	1.2	31	1,908	11.8	44	189	7.0	31	135	11.6	83	342	2.3	31	234	17.6	84	207	1.7	31	180	24.8	72	190	4.1
1000	31	88					31	112					31	75					31	140					31	127				
950	31	536					31	558					31	505	13.0	64	268	3.1	31	583	19.1	67	272	4.3	31	585	25.3	63	208	15.5
900	31	1,022					31	1,025					31	959	10.3	63	247	4.3	31	1,044	17.0	61	286	6.4	31	1,053	23.3	56	202	11.5
850	31	1,524	23.0	44	155	4.3	31	1,512					31	1,432	6.7	70	251	4.1	31	1,530	14.1	61	295	8.5	31	1,550	20.1	55	187	7.0
800	31	2,051	20.0	45	175	5.2	31	2,026	17.8	31	184	7.2	31	1,927	3.0	78	242	2.3	31	2,040	11.0	53	288	10.9	31	2,071	16.6	55	144	3.7
750	31	2,600	16.1	50	178	7.2	31	2,579	16.8	27	186	8.4	31	2,446	- .5	79	217	2.5	31	2,571	7.8	53	288	13.4	31	2,614	13.0	53	104	3.3
700	31	3,187	11.6	55	161	4.7	31	3,162	12.7	29	215	12.4	31	2,996	- 4.0	76	216	2.3	31	3,142	4.3	52	289	14.2	31	3,195	9.6	46	90	4.3
650	31	3,798	7.0	58	120	4.1	31	3,777	7.8	31	211	14.0	31	3,574	- 7.4	69	193	1.9	31	3,738	1.0	39	290	14.0	31	3,801	5.6	46	68	5.1
600	31	4,457	2.2	62	93	5.4	31	4,432	2.7	34	199	15.9	31	4,198	-10.9	59	165	1.0	31	4,381	- 2.3		287	14.4	31	4,457	1.3	47	56	6.0
550	31	5,144	- 2.7	58	82	7.0	31	5,125	- 2.6	37	202	17.7	31	4,860	-15.2	56	185	.8	31	5,059	- 6.4		291	15.3	31	5,147	- 2.9	44	41	6.0
500	31	5,904	- 7.3	51	93	7.8	31	5,878	- 7.9		211	17.7	31	5,569	-20.0	52	200	.8	31	5,806	-10.9		291	17.5	31	5,903	- 7.1	32	25	6.0
450	31	6,712	-12.2	38	90	8.2	31	6,686	-13.4		219	19.2	31	6,344	-25.5	51	49	1.0	31	6,602	-16.3		295	18.5	31	6,716	-12.3		33	6.0
400	31	7,611	-17.7		87	6.6	31	7,575	-19.4		225	23.5	31	7,195	-31.8	49	65	1.9	31	7,484	-22.5		296	21.4	31	7,608	-18.3		28	6.6
350	31	8,597	-24.6		79	8.2	31	8,555	-26.3		232	28.6	31	8,125	-38.9	46	86	2.3	31	8,451	-29.6		296	24.7	31	8,591	-25.3		28	8.4
300	31	9,702	-32.9		55	10.7	31	9,651	-34.7		232	35.4	31	9,166	-46.5		47	3.3	31	9,533	-37.4		295	29.3	31	9,692	-33.7		25	11.3
250	31	10,960	-42.9		51	13.8	31	10,899	-44.1		232	41.6	31	10,357	-52.8		143	1.2	31	10,769	-45.9		300	36.1	31	10,945	-43.2		20	12.4
200	31	12,427	-54.9		41	16.3	31	12,362	-54.3		232	42.5	31	11,802	-49.5		263	1.9	31	12,226	-53.8		306	39.0	31	12,412	-54.3		17	13.0
175	31	13,269	-61.0		49	14.2	31	13,208	-59.7		232	42.2	30	12,679	-47.8		254	3.1	31	13,078	-56.6		302	34.4	31	13,255	-60.3		14	9.9
150	31	14,213	-66.6		54	11.8	31	14,160	-64.5		235	33.6	30	13,698	-47.2		243	4.3	31	14,050	-58.9		303	29.1	31	14,203	-66.3		16	8.4
125	30	15,303	-71.1		66	9.3	31	15,265	-67.4		236	20.2	30	14,904	-47.2		238	3.7	31	15,188	-60.4		298	20.6	31	15,294	-69.9		38	9.1
100	30	16,620	-71.0		69	10.1	31	16,611	-66.6		211	8.2	30	16,380	-47.2		226	3.3	31	16,579	-59.5		305	14.8	31	16,621	-69.0		52	10.9
80	29	17,958	-66.2		83	14.8	31	17,976	-62.3		134	5.2	30	17,858	-46.6		244	1.6	30	17,980	-57.7		337	7.4	31	17,967	-64.9		78	14.2
70	29	18,777	-63.4		89	18.6	31	18,813	-59.7		108	7.6	30	18,744	-46.3		178	1.7	30	18,830	-56.1		10	6.0	31	18,788	-62.3		82	17.1
60	29	19,728	-59.8		87	20.0	31	19,773	-57.6		90	11.8	29	19,770	-45.8		104	2.3	30	19,809	-54.3		59	6.0	31	19,744	-59.8		87	19.0
50	29	20,876	-56.6		91	22.1	31	20,931	-54.9		89	15.2	29	20,985	-45.5		98	3.9	30	20,982	-52.5		70	8.4	31	20,893	-56.5		89	21.8
40	29	22,302	-53.6		89	23.3	31	22,366	-52.4		86	17.3	29	22,475	-44.6		98	6.4	29	22,431	-50.3		75	12.0	30	22,315	-53.9		90	23.5
30	29	24,164	-50.6		88	27.6	30	24,238	-49.4		86	20.6	29	24,405	-43.4		91	10.9	29	24,318	-47.9		80	14.8	30	24,174	-51.0		86	27.4
25	29	25,359	-48.3		89	27.2	29	25,438	-47.1		87	22.1	28	25,633	-42.4		92	11.5	27	25,523	-46.3		84	17.9	27	25,366	-48.8		87	30.3
20	27	26,840	-45.7		88	29.3	28	26,925	-44.1		88	25.3	28	27,146	-40.6		93	13.6	24	27,008	-43.6		85	20.4	26	26,841	-46.4		90	32.2
15	24	28,768	-42.9		84	31.1	26	28,868	-40.8		91	27.4	27	29,119	-37.6		90	14.6	13	28,977	-39.8		86	24.5	19	28,765	-43.6		87	33.2
10							7	31,663	-35.4				25	31,945	-32.6		86	18.6							7	31,512	-38.6			
7													19	34,496	-27.5		86	21.4												
5													13	36,931	-22.1		80	25.1												
1													7	38,539	-19.6															

See reference note at end of table

RAWINSONDE DATA

Average monthly values

GLASGOW, MONT.
933 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	696	16.7	68	76	3.9
1000	31	95				
950	31	535				
900	31	1,002	20.0	50	195	1.0
850	31	1,494	18.0	45	269	6.6
800	31	2,010	14.6	47	262	8.9
750	31	2,545	10.7	52	267	10.7
700	31	3,125	7.0	52	267	15.0
650	31	3,721	2.9	53	267	19.6
600	31	4,373	- 1.5	48	266	25.1
550	31	5,053	- 6.1	45	266	28.9
500	31	5,800	-10.9	38	265	29.7
450	31	6,594	-16.2		268	32.4
400	31	7,478	-22.6		268	36.3
350	31	8,444	-29.9		269	38.3
300	31	9,523	-38.4		272	41.6
250	31	10,752	-47.4		269	47.8
200	31	12,199	-55.1		267	56.1
175	31	13,049	-56.7		268	50.9
150	29	14,028	-57.9		270	40.8
125	29	15,173	-59.2		269	27.6
100	29	16,571	-59.0		261	14.6
80	29	17,978	-57.1		270	4.5
70	29	18,823	-56.0		62	1.2
60	29	19,807	-54.3		88	5.2
50	29	20,980	-52.8		89	7.2
40	29	22,424	-51.2		90	11.5
30	28	24,307	-48.5		87	13.4
25	27	25,512	-46.4		84	16.5
20	27	27,002	-43.8		89	15.9
15	23	28,956	-40.0		90	19.4
10						
7						

GRAND JUNCTION, COLO.
853 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,474	20.7	43	133	7.4
1000	30	71				
950	30	523				
900	30	1,005				
850	30	1,506	21.1	41	133	7.4
800	30	2,033	21.7	34	143	8.9
750	30	2,588	18.4	35	209	3.9
700	30	3,177	14.1	38	258	5.6
650	30	3,793	9.3	43	259	5.8
600	30	4,455	3.9	49	245	6.0
550	30	5,147	- 1.8	56	248	7.4
500	30	5,906	- 7.3	56	254	9.5
450	30	6,714	-12.4	45	256	11.8
400	30	7,611	-18.2	38	263	14.8
350	30	8,594	-25.1		263	19.4
300	30	9,695	-33.5		263	26.8
250	30	10,948	-43.3		264	30.5
200	30	12,412	-54.6		262	32.6
175	30	13,255	-60.5		263	30.7
150	30	14,202	-66.1		269	24.7
125	30	15,296	-70.0		256	12.6
100	30	16,625	-68.5		246	4.3
80	30	17,980	-62.9		76	3.9
70	30	18,809	-60.8		88	8.9
60	30	19,770	-58.3		95	12.0
50	29	20,924	-55.8		91	14.4
40	29	22,353	-53.0		89	17.1
30	29	24,219	-50.4		89	21.6
25	29	25,414	-48.0		90	23.5
20	29	26,892	-45.9		91	25.3
15	27	28,821	-42.9		89	28.7
10	20	31,570	-38.5		91	32.1
7	7	34,036	-35.9			

GREAT FALLS, MONT.
887 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,123	14.8	64	232	5.2
1000	31	96				
950	31	540				
900	31	1,007				
850	31	1,492	17.8	43	234	8.5
800	31	2,008	14.5	43	258	8.9
750	31	2,547	10.8	48	252	10.7
700	31	3,122	7.1	48	245	16.3
650	31	3,724	3.2	46	247	22.0
600	31	4,372	- 1.0	41	249	26.2
550	31	5,053	- 5.8	41	247	28.0
500	31	5,802	-10.8	38	249	30.7
450	31	6,600	-16.1		252	33.8
400	31	7,483	-22.5		254	35.4
350	31	[illegible],449	-29.8		252	39.0
300	31	9,529	-38.1		254	42.9
250	31	10,760	-47.0		251	46.0
200	30	12,212	-54.4		253	52.4
175	29	13,066	-56.0		252	50.1
150	29	14,041	-57.8		255	40.4
125	29	15,188	-59.1		253	27.6
100	29	16,587	-58.7		248	14.8
80	29	17,993	-56.9		226	6.8
70	29	18,845	-55.3		163	2.7
60	28	19,827	-53.9		104	4.5
50	28	21,002	-52.3		87	8.0
40	27	22,453	-50.5		87	12.2
30	27	24,339	-47.9		86	14.4
25	27	25,547	-45.9		84	16.7
20	26	27,043	-42.9		87	18.3
15	24	28,994	-39.5		86	20.8
10	17	31,800	-35.0		96	22.9
7	8	34,305	-32.6			

GREEN BAY, WIS.
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	210	17.2	89	313	1.2
1000	31	128				
950	31	571	19.3	63	289	3.9
900	31	1,033	17.2	60	287	6.2
850	31	1,519	14.1	60	289	7.6
800	31	2,029	11.0	58	291	9.3
750	31	2,561	7.9	50	299	11.5
700	31	3,131	4.7	45	297	12.8
650	31	3,727	1.2	43	301	14.8
600	31	4,372	- 2.5	38	304	17.7
550	31	5,047	- 6.5		306	19.0
500	31	5,796	-11.1		305	21.0
450	31	6,590	-16.3		304	21.4
400	31	7,473	-22.5		307	22.5
350	31	8,441	-29.1		309	26.8
300	31	9,525	-37.2		306	30.9
250	31	10,762	-45.7		305	40.4
200	31	12,220	-54.0		302	47.2
175	31	13,071	-56.9		305	42.2
150	31	14,044	-58.7		302	33.8
125	31	15,184	-60.1		302	23.9
100	31	16,578	-59.4		310	16.7
80	31	17,980	-57.5		340	6.8
70	31	18,825	-56.0		18	7.4
60	31	19,811	-54.1		59	9.7
50	31	20,986	-52.1		74	12.4
40	30	22,437	-49.9		82	14.6
30	30	24,331	-47.2		84	17.9
25	28	25,546	-45.0		86	20.4
20	28	27,046	-42.2		89	23.5
15	24	29,002	-38.6		90	25.8
10	5	31,763	-35.5			
7						

GREENSBORO, N. C.
985 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	273	20.3	92	203	.8
1000	31	146				
950	31	591	20.5	80	245	2.5
900	31	1,057	18.3	75	249	2.3
850	31	1,546	15.5	73	247	3.3
800	31	2,059	12.6	68	259	6.2
750	31	2,597	9.6	62	261	7.8
700	31	3,170	6.5	60	262	9.1
650	31	3,772	3.1	59	260	10.1
600	31	4,420	- .5	52	256	11.1
550	31	5,108	- 4.3	49	259	12.2
500	31	5,859	- 8.6	44	258	14.0
450	31	6,665	-13.5	40	261	15.0
400	31	7,557	-19.1	40	263	17.3
350	31	8,538	-26.0	36	262	19.2
300	31	9,636	-34.3		259	20.8
250	31	10,886	-44.0		267	26.0
200	31	12,348	-54.6		274	28.0
175	31	13,193	-59.6		278	26.0
150	31	14,147	-63.6		285	18.3
125	31	15,257	-66.3		286	11.8
100	31	16,611	-65.0		324	5.1
80	31	17,980	-62.3		59	7.2
70	31	18,816	-60.3		77	10.1
60	31	19,775	-57.9		80	13.0
50	31	20,931	-55.7		83	17.1
40	31	22,361	-52.8		90	21.4
30	29	24,232	-49.8		88	22.5
25	29	25,428	-48.2		87	24.1
20	26	26,909	-45.9		86	25.3
15	19	28,826	-43.9		83	29.3
10	7	31,552	-41.8			
7						

GUAM, MARIANA IS.
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	111	24.9	93	102	2.5
1000	31	93				
950	31	546	23.9	84	106	7.2
900	31	1,018	21.3	81	110	6.8
850	31	1,513	18.6	79	103	6.8
800	31	2,032	15.6	77	95	7.4
750	31	2,576	12.7	75	92	9.1
700	31	3,156	9.7	69	93	9.3
650	31	3,765	6.1	63	84	8.7
600	31	4,420	2.1	63	88	9.3
550	31	5,116	- 1.9	63	84	8.0
500	31	5,871	- 6.2	63	82	8.2
450	31	6,687	-10.9	54	78	8.2
400	31	7,585	-16.5	51	84	8.5
350	31	8,575	-23.4	46	94	7.6
300	31	9,684	-31.8	39	100	8.2
250	31	10,945	-42.0		95	8.7
200	31	12,414	-54.4		93	6.6
175	31	13,256	-61.3		86	7.2
150	31	14,195	-68.7		77	6.6
125	31	15,266	-75.6		74	13.0
100	31	16,554	-74.9		76	20.2
80	31	17,863	-70.8		83	26.2
70	31	18,659	-67.8		86	27.4
60	31	19,596	-64.4		92	26.8
50	31	20,720	-61.0		87	26.0
40	30	22,122	-57.3		84	29.1
30	28	23,954	-54.1		87	35.5
25	28	25,131	-51.8		88	41.0
20	27	26,588	-49.8		89	47.8
15	27	28,482	-47.0		88	59.1
10	22	31,182	-43.4		92	71.1
7	17	33,579	-41.8		88	91.7
5	7	35,835	-40.8			

HILO, HAWAII
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	11	21.4	88	248	5.2
1000	31	147	22.2	81	267	2.9
950	31	594	19.4	83	64	6.2
900	31	1,057	16.3	86	63	7.6
850	31	1,542	13.3	88	63	6.8
800	31	2,051	11.0	77	79	8.0
750	30	2,589	8.8	50	86	10.9
700	30	3,157	6.4	38	98	9.3
650	30	3,762	4.2	27	90	8.0
600	30	4,410	1.4		87	6.6
550	30	5,102	- 2.4		77	5.1
500	29	5,858	- 6.4		84	1.4
450	29	6,668	-11.8		198	1.9
400	29	7,565	-18.3		233	6.6
350	29	8,547	-25.8		231	10.9
300	29	9,645	-34.4		239	17.7
250	29	10,892	-44.5		244	23.9
200	29	12,349	-55.8		245	31.5
175	29	13,188	-61.1		236	30.7
150	29	14,133	-66.4		235	25.3
125	29	15,227	-70.2		218	12.4
100	29	16,547	-70.9		124	7.8
80	29	17,878	-67.8		97	18.3
70	29	18,684	-65.7		92	22.5
60	29	19,626	-63.0		91	26.4
50	29	20,757	-59.8		89	30.7
40	29	22,163	-56.4		88	34.2
30	29	24,008	-52.0		88	39.2
25	29	25,197	-49.4		92	40.8
20	29	26,666	-47.7		93	42.2
15	27	28,574	-45.3		92	44.7
10	19	31,282	-41.7		90	45.5
7						
5						

HUNTINGTON, W. VA.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	18.7	90	175	1.7
1000	30	142				
950	30	588	21.0	73	217	3.5
900	30	1,054	18.5	69	286	3.5
850	30	1,543	15.4	68	305	4.5
800	30	2,056	12.3	66	300	5.2
750	30	2,594	9.1	63	291	7.6
700	30	3,165	5.6	58	297	8.9
650	30	3,764	2.5	48	292	9.5
600	30	4,412	- .9	41	290	11.7
550	30	5,095	- 4.6	38	290	12.2
500	30	5,848	- 8.9	34	292	13.0
450	30	6,651	-14.1		289	15.2
400	30	7,541	-20.2		283	17.5
350	30	8,517	-27.1		284	19.4
300	30	9,610	-35.3		281	22.3
250	30	10,855	-44.6		280	28.2
200	30	12,316	-54.5		285	30.7
175	30	13,162	-58.7		292	29.3
150	30	14,122	-61.8		292	25.8
125	30	15,244	-64.2		297	16.1
100	30	16,610	-63.4		316	8.4
80	30	17,989	-61.1		26	6.0
70	30	18,828	-58.8		61	8.7
60	30	19,796	-56.8		78	11.5
50	30	20,957	-54.5		84	14.6
40	29	22,393	-51.8		89	17.9
30	28	24,271	-49.1		89	19.4
25	24	25,469	-48.0		88	20.8
20	21	26,950	-45.4		85	25.3
15	13	28,901	-41.7			
10						
7						
5						

*** INTERNAT. FALLS, MINN.**
972 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	360	14.3	81	194	2.1
1000	31	113				
950	31	548	17.4	64	204	4.9
900	31	1,013	16.5	56	234	6.8
850	31	1,497	13.7	56	262	7.4
800	31	2,005	10.3	59	267	8.2
750	31	2,536	7.3	55	267	10.7
700	31	3,105	4.3	49	280	14.0
650	31	3,699	.8	49	284	17.1
600	31	4,344	- 3.1	48	285	19.0
550	31	5,024	- 7.1	42	288	21.2
500	31	5,765	-11.7	33	288	22.7
450	31	6,558	-17.0	31	291	25.4
400	31	7,439	-23.2	30	290	30.1
350	31	8,403	-30.1	28	289	32.6
300	31	9,482	-38.3	30	289	37.3
250	31	10,712	-47.3		286	41.2
200	31	12,161	-54.4		285	44.7
175	31	13,012	-56.1		288	42.0
150	30	13,985	-57.3		296	37.1
125	30	15,136	-58.0		295	27.8
100	30	16,543	-57.2		304	18.1
80	29	17,956	-56.4		322	8.2
70	29	18,808	-55.2		340	4.9
60	29	19,793	-53.7		28	5.1
50	28	20,964	-52.2		57	8.0
40	28	22,413	-50.6		69	9.9
30	26	24,298	-48.3		81	12.4
25	26	25,503	-46.5		81	16.7
20	26	26,992	-44.1		87	17.9
15	25	28,936	-40.8		87	21.4
10	13	31,693	-37.4		86	19.8
7						
5						

JACKSON, MISS.
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	94	22.7	93	184	1.9
1000	31	139	23.0	90	176	2.5
950	31	588	22.8	77	220	5.4
900	31	1,060	20.3	73	222	4.3
850	31	1,552	17.2	74	258	2.5
800	31	2,068	14.3	68	286	1.7
750	31	2,606	11.1	64	288	1.9
700	31	3,185	7.6	62	298	1.9
650	31	3,789	4.0	60	315	3.1
600	31	4,441	.4	57	323	4.5
550	31	5,129	- 3.4	51	326	6.2
500	31	5,884	- 7.8	42	322	6.0
450	31	6,692	-12.5	39	324	7.4
400	31	7,587	-18.3	38	313	7.8
350	31	8,570	-25.3	32	326	8.9
300	31	9,671	-33.3		312	8.9
250	31	10,924	-43.2		301	12.8
200	31	12,388	-54.7		307	12.8
175	31	13,231	-60.5		322	11.8
150	31	14,176	-66.5		342	10.7
125	31	15,270	-69.3		9	8.7
100	31	16,601	-68.1		45	10.1
80	31	17,951	-64.7		75	15.7
70	31	18,770	-62.0		85	16.5
60	31	19,731	-59.1		86	19.8
50	31	20,884	-55.7		88	22.9
40	31	22,313	-53.3		91	23.1
30	31	24,176	-50.9		89	26.4
25	29	25,365	-49.1		86	30.3
20	24	26,836	-46.6		87	33.4
15	15	28,778	-42.3		88	35.7
10						
7						
5						

JACKSONVILLE, FLA.
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	23.9	93	218	2.9
1000	31	153	24.0	86	215	5.8
950	31	601	22.5	77	224	11.1
900	31	1,072	19.6	73	228	10.7
850	31	1,563	16.7	68	229	10.1
800	31	2,078	13.9	64	240	9.9
750	31	2,616	10.9	56	245	9.5
700	31	3,193	7.7	57	245	9.5
650	31	3,798	4.2	57	247	9.1
600	31	4,448	.5	58	251	9.3
550	31	5,135	- 3.2	51	256	9.1
500	31	5,892	- 7.5	48	261	8.7
450	31	6,699	-12.1	42	267	9.1
400	31	7,598	-17.5	37	269	9.3
350	30	8,584	-24.5	34	275	9.1
300	30	9,688	-32.8		277	8.2
250	30	10,945	-43.1		300	10.5
200	29	12,409	-55.2		321	12.2
175	29	13,249	-61.6		332	12.2
150	28	14,188	-67.4		348	8.7
125	28	15,278	-69.6		20	8.2
100	28	16,608	-68.0		53	9.7
80	28	17,959	-64.4		72	17.5
70	28	18,780	-62.0		79	21.8
60	27	19,735	-59.3		86	25.4
50	27	20,887	-55.6		92	29.1
40	27	22,319	-52.8		98	29.1
30	26	24,189	-49.8		92	28.4
25	26	25,387	-47.8		86	29.7
20	24	26,867	-46.1		85	32.8
15	18	28,796	-41.9		92	38.1
10	10	31,555	-39.1			
7						
5						
4						

JOHN F. KENNEDY INT. ARPT.NY
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	21.3	81	318	2.5
1000	31	141	20.5	78	326	4.3
950	31	582	18.7	72	342	4.5
900	31	1,048	16.8	70	286	4.5
850	31	1,533	14.1	66	266	8.0
800	31	2,043	11.2	64	263	10.1
750	31	2,580	8.0	57	267	11.5
700	31	3,147	5.1	49	270	13.2
650	31	3,749	1.9	44	268	15.5
600	31	4,390	- 1.5	36	268	16.9
550	31	5,075	- 5.5	32	269	17.1
500	31	5,820	- 9.9		268	18.8
450	31	6,624	-15.2		268	21.8
400	31	7,506	-21.3		264	23.5
350	31	8,477	-28.4		264	26.6
300	31	9,564	-36.4		268	30.1
250	31	10,804	-45.5		263	36.9
200	31	12,258	-55.1		266	35.5
175	31	13,104	-58.4		267	32.8
150	31	14,067	-61.0		268	28.4
125	31	15,197	-61.9		274	19.0
100	31	16,579	-60.5		282	10.7
80	31	17,974	-59.1		338	.8
70	31	18,814	-57.6		86	3.9
60	31	19,793	-55.5		86	8.2
50	31	20,961	-53.4		86	10.7
40	31	22,404	-51.2		87	14.0
30	31	24,286	-48.5		87	17.5
25	29	25,494	-46.7		88	20.0
20	23	26,979	-44.6		89	23.9
15	11	28,914	-42.1			
10	5	31,695	-37.9			
7						
5						
4						

JOHNSTON IS., PACIFIC AREA
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	25.8	74	88	13.2
1000	31	132	24.8	77	84	16.7
950	31	578	21.2	79	87	19.2
900	31	1,048	18.0	77	87	21.2
850	31	1,536	15.1	73	85	20.2
800	31	2,048	12.6	63	86	16.1
750	31	2,585	10.4	46	90	13.8
700	31	3,160	7.8	33	90	11.1
650	31	3,765	5.3		81	11.8
600	31	4,418	2.5		84	10.9
550	31	5,107	- 1.4		88	10.3
500	31	5,868	- 6.2		83	8.7
450	31	6,678	-12.0		77	6.6
400	31	7,574	-18.5		12	3.5
350	31	8,556	-25.7		302	5.6
300	31	9,654	-34.3		289	12.6
250	31	10,901	-44.6		287	20.2
200	31	12,355	-56.6		286	28.0
175	31	13,190	-63.0		283	31.9
150	31	14,124	-69.2		277	30.9
125	31	15,202	-72.1		263	18.3
100	31	16,517	-71.9		169	4.1
80	31	17,844	-68.3		90	16.1
70	31	18,650	-65.6		87	22.5
60	31	19,592	-63.1		88	25.4
50	31	20,723	-59.9		89	28.2
40	31	22,128	-56.5		90	32.2
30	31	23,970	-52.9		91	37.5
25	31	25,153	-50.3		89	41.8
20	30	26,622	-47.4		91	47.4
15	28	28,532	-45.1		90	52.3
10	16	31,261	-41.6		95	55.6
7						
5						
4						

KEY WEST, FLORIDA
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	3	27.8	78	117	5.2
1000	30	146	26.7	79	121	7.8
950	30	597	23.2	81	125	10.7
900	30	1,069	20.6	69	129	9.9
850	30	1,562	17.9	62	137	8.2
800	30	2,079	14.9	57	134	7.8
750	30	2,615	11.9	47	134	7.8
700	30	3,198	8.5	46	126	6.8
650	30	3,802	4.7	48	126	5.8
600	30	4,455	1.2	35	108	6.0
550	30	5,147	- 2.6	35	91	5.1
500	30	5,902	- 7.0	32	79	4.9
450	30	6,711	-12.2	40	69	6.0
400	30	7,608	-17.8	28	69	7.6
350	30	8,592	-25.1	24	70	8.7
300	30	9,693	-33.7	29	72	11.1
250	30	10,946	-43.7		58	13.2
200	30	12,407	-55.7		48	14.6
175	30	13,245	-62.1		52	16.1
150	30	14,184	-67.8		54	14.4
125	30	15,272	-70.5		55	14.0
100	30	16,600	-69.2		74	14.8
80	30	17,940	-66.6		77	19.2
70	30	18,752	-64.1		81	23.9
60	29	19,699	-61.2		86	28.2
50	29	20,840	-57.8		90	29.1
40	29	22,259	-54.2		89	28.9
30	27	24,114	-50.9		86	32.1
25	25	25,311	-48.2		85	31.3
20	24	26,787	-46.2		84	31.3
15	23	28,711	-43.2		80	32.8
10	21	31,468	-38.9		85	34.8
7	16	33,944	-32.7		92	39.8
5	7	36,332	-30.2			
4	5	37,938	-28.6			

KING SALMON, ALASKA
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	15	8.9	86	177	4.9
1000	31	91	9.3	82	196	6.8
950	31	517	8.4	76	210	6.4
900	31	962	6.3	75	188	2.3
850	31	1,429	3.6	75	109	3.5
800	31	1,919	.8	76	114	4.1
750	31	2,435	- 1.4	70	98	1.9
700	31	2,984	- 4.0	58	65	2.1
650	31	3,561	- 7.2	54	86	3.5
600	31	4,185	-10.9	52	88	4.1
550	31	4,846	-15.2	43	92	3.5
500	31	5,563	-19.7	36	104	2.3
450	31	6,396	-24.9	38	294	1.7
400	31	7,186	-31.0	39	300	2.7
350	31	8,119	-38.2		286	3.1
300	31	9,162	-45.7		291	7.0
250	31	10,362	-50.1		289	13.8
200	31	11,823	-48.0		286	17.3
175	31	12,705	-47.5		285	16.7
150	31	13,722	-47.9		284	14.0
125	31	14,922	-48.6		281	11.3
100	31	16,388	-48.9		280	7.2
80	31	17,854	-48.6		274	4.1
70	31	18,732	-48.4		277	2.3
60	31	19,748	-48.2		64	1.2
50	31	20,950	-47.8		90	3.7
40	31	22,424	-47.3		91	5.6
30	29	24,332	-46.1		90	8.7
25	29	25,548	-44.4		86	11.3
20	28	27,051	-42.2		86	13.6
15	18	29,012	-39.7		83	13.6
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	KOROR, CAROLINE IS. + 1007 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	28.8	80	126	1.7
1000	31	91	28.0	80	116	1.9
950	31	540	23.4	79	97	2.7
900	31	1,015	20.4	75	115	4.1
850	31	1,509	17.6	72	113	4.7
800	31	2,025	14.8	68	106	6.0
750	31	2,566	12.1	64	102	8.0
700	31	3,146	9.1	60	98	9.7
650	31	3,754	5.7	59	95	10.7
600	31	4,409	2.1	57	93	11.7
550	31	5,102	- 1.7	50	89	12.6
500	31	5,860	- 5.9	44	90	13.8
450	31	6,675	-10.6	37	83	12.0
400	31	7,577	-16.2	33	89	10.5
350	30	8,568	-23.2		92	9.9
300	30	9,678	-31.6		85	11.3
250	30	10,940	-41.9		86	13.4
200	30	12,411	-54.3		72	17.3
175	30	13,253	-61.3		70	15.3
150	30	14,193	-68.6		73	14.2
125	30	15,266	-75.2		81	14.2
100	30	16,552	-75.7		78	16.1
80	29	17,867	-69.4		81	19.8
70	29	18,670	-65.6		92	14.4
60	29	19,612	-62.8		85	7.8
50	29	20,742	-60.0		54	3.1
40	29	22,146	-57.1		91	5.1
30	27	23,973	-54.8		90	19.8
25	27	25,146	-52.1		89	37.1
20	20	26,596	-48.5		93	59.4
15	12	28,512	-44.6		91	63.9
10	5	31,227	-41.7			
7						
5						

Standard pressure surface (mb.)	KOTZEBUE, ALASKA 1010 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	9.4	85	311	7.2
1000	31	85	9.4	79	307	7.2
950	31	510	10.1	61	292	5.2
900	31	960	8.0	57	271	6.2
850	31	1,430	5.2	60	256	6.0
800	31	1,923	2.0	61	250	5.1
750	31	2,439	- .9	59	247	5.2
700	31	2,990	- 3.9	55	242	5.2
650	30	3,567	- 7.2	52	237	5.2
600	30	4,190	-11.0	46	235	4.7
550	30	4,849	-15.4	40	248	4.7
500	30	5,566	-20.1	40	249	6.0
450	30	6,332	-25.7	42	243	6.2
400	30	7,180	-31.9	44	252	6.2
350	30	8,110	-38.7		250	6.8
300	30	9,153	-45.9		270	7.0
250	30	10,346	-52.5		274	8.4
200	30	11,785	-50.8		267	6.6
175	30	12,660	-48.6		262	6.0
150	30	13,676	-47.8		260	6.0
125	30	14,880	-47.2		257	4.7
100	30	16,358	-46.8		235	3.7
80	30	17,839	-46.2		228	1.6
70	30	18,727	-45.8		143	.8
60	30	19,754	-45.4		113	2.5
50	30	20,972	-45.0		95	4.7
40	30	22,465	-44.3		82	6.2
30	30	24,397	-43.2		80	8.2
25	29	25,629	-42.0		78	10.5
20	28	27,143	-40.3		81	13.2
15	27	29,110	-37.8		86	14.2
10	19	31,913	-33.7		81	14.8
7	7	34,441	-30.7			
5						

Standard pressure surface (mb.)	KWAJALEIN, MARSHALL IS. 1010 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	26.4	81	86	7.8
1000	31	95	26.1	79	91	8.5
950	31	547	23.3	82	91	11.5
900	31	1,018	20.5	78	93	13.4
850	31	1,512	17.9	76	92	12.8
800	31	2,030	15.4	71	91	13.8
750	31	2,576	12.7	65	90	13.4
700	31	3,153	9.5	62	91	14.6
650	31	3,765	6.0	66	94	14.4
600	31	4,417	2.1	58	92	13.8
550	31	5,115	- 1.8	60	91	13.4
500	31	5,867	- 6.3	61	95	13.4
450	31	6,684	-11.3	54	93	12.0
400	31	7,578	-16.9	51	105	10.5
350	31	8,571	-22.5	50	110	11.8
300	31	9,683	-31.3	44	108	10.7
250	31	10,946	-41.8	37	112	7.6
200	31	12,416	-54.5	32	93	3.7
175	31	13,256	-62.0	31	47	.8
150	31	14,192	-69.7	28	276	4.3
125	31	15,259	-75.9		258	7.0
100	27	16,547	-75.5		144	4.5
80	25	17,847	-70.7		92	11.3
70	24	18,649	-67.1		81	10.1
60	24	19,585	-64.2		83	7.6
50	21	20,710	-60.7		88	8.2
40	19	22,106	-58.4		86	11.1
30	19	23,931	-54.8		83	25.8
25	19	25,104	-51.7		87	41.4
20	18	26,561	-48.9		89	56.5
15	18	28,465	-46.0		89	65.1
10	14	31,181	-42.1		90	79.4
7	12	33,593	-39.0			
5	7	35,929	-34.4			

Standard pressure surface (mb.)	LAKE CHARLES, LA. 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	23.2	95	90	1.6
1000	31	137	25.0	82	207	2.3
950	31	590	22.8	76	209	7.2
900	31	1,058	20.3	67	196	7.6
850	31	1,551	17.6	62	188	5.2
800	31	2,068	14.8	59	168	2.9
750	31	2,609	11.8	58	121	2.9
700	31	3,187	8.8	52	94	2.7
650	31	3,796	5.3	51	79	2.9
600	31	4,448	1.4	50	73	2.7
550	31	5,143	- 2.6	45	44	2.7
500	31	5,895	- 7.0	37	14	3.3
450	31	6,709	-12.0	32	3	3.7
400	31	7,603	-17.5	28	1	5.8
350	31	8,589	-24.4		353	3.9
300	31	9,693	-32.6		292	2.1
250	31	10,951	-42.4		248	4.9
200	31	12,420	-54.1		264	3.7
175	31	13,264	-60.3		336	3.1
150	31	14,211	-66.1		29	5.8
125	31	15,303	-70.2		41	9.9
100	31	16,630	-69.0		62	13.4
80	31	17,980	-64.6		77	18.5
70	31	18,799	-62.3		83	20.0
60	31	19,758	-59.4		83	22.7
50	31	20,910	-55.5		88	24.9
40	31	22,341	-53.5		88	26.0
30	30	24,203	-50.5		85	30.1
25	28	25,398	-48.4		86	33.6
20	28	26,878	-45.3		90	32.4
15	25	28,813	-42.5		85	34.2
10	12	31,579	-37.7			
7						
5						

Standard pressure surface (mb.)	LANDER, WYO. 831 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,696	16.7	48	254	5.6
1000	31	86				
950	31	531				
900	31	1,006				
850	31	1,504				
800	31	2,024	19.3	31	264	2.7
750	31	2,572	16.0	31	260	3.3
700	31	3,158	11.9	32	255	6.0
650	31	3,767	7.4	33	259	11.5
600	31	4,426	2.3	33	253	17.5
550	31	5,112	- 3.3	33	251	18.8
500	31	5,869	- 8.8	30	253	19.8
450	31	6,671	-14.4		252	21.0
400	31	7,561	-20.7		253	21.6
350	31	8,534	-27.9		256	27.6
300	31	9,624	-35.6		256	35.7
250	31	10,869	-44.7		257	43.1
200	30	12,327	-54.5		257	50.3
175	30	13,174	-59.0		259	47.8
150	30	14,131	-63.2		259	38.3
125	30	15,245	-65.6		260	22.3
100	30	16,599	-64.0		258	11.1
80	30	17,980	-60.3		143	2.3
70	30	18,818	-57.8		87	3.5
60	30	19,795	-55.6		90	6.8
50	30	20,962	-53.4		90	9.5
40	30	22,405	-50.9		91	12.8
30	30	24,288	-48.2		93	16.3
25	30	25,494	-46.1		88	18.6
20	30	26,986	-43.6		85	22.3
15	23	28,942	-39.6		92	26.6
10						
7						
5						

Standard pressure surface (mb.)	LAS VEGAS, NEV. 936 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	660	27.2	27	203	8.5
1000	30	61				
950	30	515				
900	30	1,003	29.3	25	217	9.3
850	30	1,508	25.9	27	225	9.3
800	30	2,038	21.8	30	214	11.3
750	30	2,591	17.3	35	199	12.8
700	30	3,178	12.6	39	192	15.3
650	30	3,790	8.0	42	187	15.5
600	30	4,450	3.4	40	187	15.0
550	30	5,135	- 1.6	42	193	14.4
500	30	5,902	- 6.7	42	199	14.6
450	30	6,707	-12.2		207	14.0
400	30	7,608	-18.2		217	15.5
350	30	8,593	-25.1		223	17.3
300	30	9,695	-33.2		225	22.1
250	30	10,952	-42.8		220	27.4
200	30	12,420	-54.1		220	30.7
175	30	13,266	-60.1		221	31.1
150	30	14,214	-66.3		228	25.8
125	30	15,307	-70.0		224	14.4
100	30	16,636	-68.5		179	7.0
80	30	17,989	-64.0		110	7.6
70	30	18,812	-61.0		102	10.7
60	30	19,776	-58.4		91	13.6
50	29	20,929	-55.6		89	17.9
40	28	22,358	-52.8		89	21.6
30	28	24,229	-49.8		90	23.7
25	25	25,423	-47.5		91	25.8
20	22	26,906	-45.1		87	26.4
15	15	28,855	-41.2		83	34.2
10						
7						

Standard pressure surface (mb.)	* LIHUE, HAWAII 1014 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	36	24.0	76	50	12.4
1000	27	159	23.0	79	57	15.3
950	27	604	19.4	89	65	18.5
900	27	1,070	16.2	91	71	18.8
850	27	1,555	13.3	90	72	18.1
800	27	2,064	11.1	71	75	18.1
750	27	2,600	9.0	40	82	17.5
700	27	3,172	7.7	33	83	15.0
650	27	3,774	4.7	27	74	12.6
600	27	4,428	1.0	27	68	10.3
550	27	5,116	- 2.7	26	71	7.8
500	27	5,873	- 7.3	25	82	3.9
450	27	6,677	-13.1	26	138	1.9
400	27	7,572	-20.0	29	235	2.7
350	27	8,547	-27.6	30	259	6.4
300	27	9,636	-36.3	33	254	13.2
250	27	10,874	-46.2		257	19.8
200	27	12,320	-57.2		253	26.8
175	27	13,155	-61.7		249	27.0
150	27	14,102	-64.7		243	22.3
125	27	15,209	-67.3		226	14.8
100	27	16,545	-69.5		145	6.2
80	27	17,883	-67.1		93	16.5
70	26	18,689	-65.0		89	21.8
60	25	19,632	-62.3		89	27.2
50	25	20,764	-59.8		90	29.7
40	24	22,170	-55.9		87	35.2
30	24	24,017	-51.9		88	38.1
25	24	25,202	-50.1		91	40.8
20	22	26,663	-48.1		91	41.4
15	21	28,563	-46.5		93	42.0
10	19	31,280	-41.9		90	38.5
7	7	33,737	-38.6			

Standard pressure surface (mb.)	LITTLE ROCK, ARK. 1006 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	79	22.7	91	254	2.3
1000	30	134	23.2	86	230	3.3
950	30	587	24.3	67	267	7.6
900	30	1,057	21.6	64	271	7.2
850	30	1,552	18.3	67	278	5.6
800	30	2,070	14.9	66	289	4.5
750	30	2,608	11.5	61	320	3.7
700	30	3,189	7.9	55	340	5.2
650	30	3,794	4.4	47	1	6.2
600	30	4,444	.5	40	348	7.6
550	30	5,130	- 3.4	34	348	7.6
500	30	5,887	- 7.5		345	8.0
450	30	6,695	-12.6		340	9.3
400	30	7,591	-18.6		337	11.5
350	30	8,573	-25.6		342	14.0
300	30	9,673	-33.8		342	16.1
250	30	10,925	-43.6		339	17.1
200	30	12,391	-54.4		332	18.6
175	30	13,236	-59.8		335	19.6
150	30	14,188	-64.8		336	13.2
125	30	15,290	-68.2		343	11.3
100	30	16,630	-66.9		20	8.5
80	29	17,991	-63.1		63	11.3
70	29	18,822	-60.9		76	13.8
60	28	19,776	-58.6		82	15.5
50	28	20,931	-55.4		84	17.5
40	28	22,362	-52.7		90	20.4
30	27	24,233	-50.1		89	24.3
25	27	25,429	-48.2		91	26.6
20	25	26,906	-45.5		89	28.0
15	21	28,828	-42.8		87	29.5
10	14	31,595	-38.2			
7						

Standard pressure surface (mb.)	MCGRATH, ALASKA 997 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	103	12.1	86	295	2.3
1000	31	79			302	3.3
950	31	507	12.6	68	306	4.5
900	31	962	10.0	67	313	2.5
850	31	1,435	6.7	70	310	.8
800	31	1,930	3.2	73	128	1.2
750	31	2,445	- .4	77	115	1.7
700	31	2,999	- 3.7	76	110	1.6
650	31	3,574	- 7.2	68	93	2.9
600	31	4,201	-10.9	64	113	3.3
550	31	4,857	-15.1	58	109	4.5
500	31	5,579	-19.9	53	111	4.3
450	31	6,342	-25.3	52	99	2.7
400	31	7,198	-31.6	49	83	3.3
350	31	8,129	-38.7		86	3.7
300	31	9,170	-46.4		62	4.3
250	31	10,362	-52.7		52	4.1
200	31	11,808	-49.4		287	3.1
175	31	12,687	-47.6		271	4.7
150	31	13,706	-47.4		263	5.2
125	31	14,910	-47.8		260	4.7
100	31	16,383	-47.7		251	2.9
80	30	17,858	-47.2		216	.8
70	30	18,741	-46.9		173	.8
60	30	19,764	-46.5		127	1.9
50	30	20,975	-46.1		102	3.5
40	29	22,464	-45.4		94	6.4
30	29	24,388	-43.9		86	9.1
25	28	25,618	-42.6		85	12.4
20	27	27,124	-40.9		91	15.0
15	20	29,088	-38.7		89	16.1
10	12	31,903	-33.9			
7						

Standard pressure surface (mb.)	MAJURO, MARSHALL IS. + 1010 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	28.3	79	93	6.8
1000	31	92	27.0	77	94	7.4
950	31	537	23.1	78	101	9.5
900	31	1,015	20.3	76	107	11.5
850	31	1,507	17.7	73	103	12.6
800	31	2,025	15.2	69	97	13.2
750	31	2,566	12.4	67	94	14.2
700	31	3,147	9.3	62	97	15.0
650	31	3,755	5.9	60	98	15.5
600	31	4,411	2.1	61	94	15.5
550	31	5,103	- 1.5	56	94	15.3
500	31	5,863	- 5.8	50	92	14.6
450	31	6,679	-10.6	41	91	14.2
400	31	7,580	-16.0	38	95	12.8
350	31	8,572	-23.0	35	97	12.4
300	31	9,684	-31.3	34	102	13.2
250	31	10,948	-41.6		103	12.0
200	31	12,420	-54.4		101	6.2
175	31	13,262	-61.5		76	2.9
150	31	14,201	-69.0		323	2.3
125	30	15,270	-75.6		228	5.1
100	30	16,559	-75.3		131	4.1
80	30	17,870	-69.5		94	9.1
70	30	18,673	-65.6		111	5.6
60	30	19,615	-62.6		178	.8
50	29	20,748	-59.8		250	3.1
40	29	22,151	-57.0		107	2.5
30	29	23,989	-53.3		95	19.2
25	27	25,167	-51.3		93	35.7
20	25	26,625	-48.9		91	53.0
15	18	28,517	-46.0		93	59.4
10	7	31,241	-41.8			
7						

Standard pressure surface (mb.)	* MARCUS IS., N. PACIFIC 1013 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	9	27.4	78	114	7.8
1000	30	120	26.4	80	113	9.5
950	30	567	22.6	84	110	10.7
900	30	1,042	19.8	75	111	10.9
850	30	1,533	16.9	73	107	11.1
800	30	2,048	14.2	64	103	9.7
750	30	2,586	11.6	54	105	8.5
700	30	3,166	8.7	46	104	8.7
650	30	3,770	5.1	45	96	7.2
600	30	4,425	1.2	44	88	8.7
550	30	5,113	- 2.8	42	80	8.0
500	30	5,870	- 7.0	42	79	7.0
450	30	6,681	-11.8	34	74	7.6
400	30	7,578	-17.3	29	63	8.7
350	30	8,566	-24.1	31	58	11.1
300	30	9,672	-32.4	30	51	13.4
250	30	10,931	-42.5		49	17.5
200	30	12,401	-54.3		45	23.5
175	30	13,245	-60.9		43	28.9
150	29	14,189	-67.3		44	29.9
125	28	15,274	-72.2		53	30.3
100	25	16,588	-72.3		65	27.4
80	22	17,915	-68.7		76	26.6
70	21	18,719	-65.7		80	28.4
60	20	19,663	-62.7		83	30.9
50	20	20,795	-59.6		86	33.0
40	20	22,202	-56.3		87	36.5
30	20	24,044	-52.7		84	40.8
25	19	25,227	-50.3		88	42.0
20	18	26,692	-48.1		89	39.8
15	18	28,598	-45.6		87	37.7
10	16	31,309	-42.5		90	39.0
7	11	33,732	-39.1		86	57.3
5	9	36,068	-36.3			

Standard pressure surface (mb.)	MEDFORD, OREG. 969 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	401	14.1	77	299	1.2
1000	31	130				
950	31	573	16.3	64	302	2.7
900	31	1,027	15.1	62	296	2.1
850	31	1,510	13.6	61	171	1.2
800	31	2,019	12.4	45	214	6.2
750	31	2,555	9.7	41	222	12.0
700	31	3,128	6.3	38	226	14.2
650	31	3,728	2.6	38	224	16.9
600	31	4,375	- 1.5	35	227	18.8
550	31	5,055	- 5.7	32	231	21.6
500	31	5,804	-10.3	32	231	25.1
450	31	6,600	-15.7		234	25.6
400	31	7,485	-22.5		234	28.0
350	31	8,451	-29.8		236	32.2
300	31	9,530	-38.2		235	34.2
250	31	10,761	-46.8		233	36.3
200	31	12,215	-54.0		231	42.3
175	31	13,067	-56.5		231	42.3
150	31	14,039	-58.9		233	39.0
125	31	15,178	-60.6		235	28.7
100	30	16,569	-60.6		231	16.5
80	30	17,965	-58.8		218	6.0
70	30	18,805	-57.5		145	4.9
60	29	19,779	-56.2		112	7.4
50	29	20,942	-54.3		88	10.3
40	29	22,379	-52.2		86	12.4
30	29	24,252	-49.4		85	17.9
25	29	25,452	-47.2		88	20.4
20	27	26,936	-44.7		90	22.5
15	26	28,880	-40.7		86	25.8
10	23	31,671	-35.8		91	31.9
7	12	34,165	-31.8		100	30.5
5	5	36,536	-26.6			

Standard pressure surface (mb.)	MERIDA, MEXICO 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	11	22.8	97	101	5.1
1000	31	139	23.7	91	109	9.9
950	31	587	22.4	82	128	16.3
900	31	1,060	20.1	73	128	16.9
850	31	1,552	17.6	66	124	15.3
800	31	2,069	14.8	60	120	14.8
750	31	2,603	12.1	52	120	14.2
700	31	3,190	8.9	48	117	12.6
650	31	3,791	5.1	50	111	12.6
600	31	4,450	1.3	51	108	12.0
550	31	5,135	- 2.8	44	97	13.2
500	31	5,896	- 7.3	43	88	12.0
450	31	6,702	-12.3	40	82	12.4
400	31	7,603	-18.2	40	85	11.5
350	31	8,587	-25.0	33	74	8.5
300	31	9,689	-33.2		58	6.2
250	31	10,943	-43.2		34	4.7
200	31	12,406	-55.1		10	4.7
175	31	13,246	-61.5		351	6.2
150	31	14,187	-67.8		28	8.5
125	31	15,272	-71.5		56	11.8
100	31	16,591	-70.5		73	18.8
80	31	17,927	-66.6		93	24.1
70	31	18,740	-64.2		92	25.1
60	31	19,688	-61.7		89	28.0
50	30	20,827	-58.1		93	32.4
40	30	22,243	-54.5		95	35.4
30	29	24,104	-50.0		94	36.1
25	29	25,300	-48.4		94	37.9
20	29	26,777	-45.8		90	41.0
15	28	28,708	-42.3		92	45.1
10	10	31,453	-39.9			
7						
5						

Standard pressure surface (mb.)	* MIAMI, FLA. 1017 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	25.9	86	109	1.9
1000	31	150	25.9	80	124	5.2
950	31	597	22.6	81	133	10.5
900	31	1,072	19.8	72	138	9.3
850	31	1,563	17.2	62	140	8.4
800	31	2,079	14.3	56	141	6.8
750	31	2,614	11.4	46	144	7.2
700	31	3,196	7.9	44	149	6.4
650	31	3,797	4.3	44	144	5.6
600	31	4,452	.8	39	151	4.1
550	31	5,137	- 3.2	37	125	2.7
500	31	5,895	- 7.5	37	97	2.7
450	31	6,699	-12.5	35	82	4.3
400	31	7,599	-18.2	32	75	6.0
350	31	8,582	-25.1	31	63	8.5
300	31	9,683	-33.6	30	60	11.1
250	31	10,935	-43.8		44	14.4
200	31	12,395	-55.7		36	19.2
175	30	13,233	-62.1		42	20.4
150	30	14,171	-68.0		45	18.6
125	30	15,257	-70.4		49	14.0
100	30	16,582	-69.5		64	15.0
80	30	17,922	-66.5		76	20.2
70	30	18,735	-63.8		82	23.5
60	30	19,686	-60.9		88	29.5
50	29	20,826	-57.7		93	33.2
40	29	22,246	-54.5		94	34.4
30	26	24,100	-51.2		94	35.5
25	25	25,291	-48.7		92	35.5
20	25	26,766	-46.3		86	34.0
15	22	28,687	-43.7		87	33.0
10	12	31,432	-40.2			
7						
5						

Standard pressure surface (mb.)	* MIDLAND, TEXAS 916 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	874	22.6	59	153	6.0
1000	31	101				
950	31	555				
900	31	1,029	23.6	52	164	12.8
850	31	1,528	21.3	51	175	17.5
800	31	2,051	18.3	48	166	10.9
750	31	2,597	14.6	47	134	5.8
700	31	3,180	10.6	47	92	6.4
650	31	3,792	6.4	46	96	5.4
600	31	4,446	2.2	43	82	6.6
550	31	5,138	- 2.3	45	78	5.8
500	31	5,894	- 7.1	41	72	5.2
450	31	6,701	-12.2	35	62	5.4
400	31	7,599	-18.1	33	56	6.8
350	31	8,583	-25.1	32	49	9.1
300	31	9,684	-33.7	34	38	12.4
250	31	10,936	-43.6		34	15.3
200	31	12,398	-55.0		28	15.3
175	31	13,239	-60.8		33	15.0
150	31	14,185	-66.6		37	12.8
125	31	15,273	-71.6		43	11.7
100	31	16,589	-70.8		59	10.9
80	31	17,926	-66.3		79	14.2
70	31	18,748	-63.8		86	15.9
60	31	19,690	-61.3		87	19.4
50	31	20,830	-57.9		89	23.7
40	29	22,244	-55.2		88	24.7
30	29	24,095	-51.9		89	27.0
25	28	25,283	-50.0		89	29.1
20	28	26,749	-47.6		90	29.1
15	27	28,662	-44.4		86	29.1
10	16	31,393	-40.5			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MONTGOMERY, ALA.
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	22.8	89	269	.8
1000	31	143	23.0	86	243	1.7
950	31	591	22.5	77	256	4.7
900	31	1,062	20.2	75	259	5.1
850	31	1,554	17.3	73	265	5.2
800	31	2,070	14.4	70	274	6.4
750	31	2,610	11.1	68	282	6.6
700	31	3,186	7.9	63	282	6.2
650	31	3,794	4.3	61	284	7.0
600	31	4,443	.6	61	300	8.0
550	31	5,135	- 3.2	58	305	8.2
500	31	5,887	- 7.1	52	294	9.3
450	31	6,699	-12.1	46	290	10.3
400	31	7,594	-17.6	41	291	11.8
350	31	8,580	-24.5	38	290	12.4
300	31	9,685	-32.7		279	14.2
250	31	10,942	-42.8		279	15.2
200	31	12,409	-54.7		285	15.9
175	31	13,252	-60.8		292	14.8
150	31	14,198	-66.3		305	10.7
125	30	15,294	-69.1		330	6.0
100	30	16,629	-67.9		35	7.6
80	30	17,982	-64.1		71	14.4
70	30	18,811	-61.6		80	15.7
60	30	19,765	-58.8		81	18.5
50	30	20,919	-55.3		85	22.1
40	30	22,351	-52.7		92	24.3
30	29	24,216	-50.2		92	25.4
25	29	25,410	-48.7		89	28.6
20	28	26,883	-46.8		87	29.1
15	22	28,802	-43.4		87	34.6
10	9	31,572	-37.6			
7						

NANTUCKET, MASS.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	23	14	18.4	92	252	2.1
1000	23	153	19.0	85		
950	23	594	18.6	73		
900	23	1,060	16.8	64		
850	23	1,545	14.1	60		
800	23	2,055	10.9	61		
750	23	2,587	7.8	59		
700	23	3,158	5.0	50		
650	23	3,757	2.4	37		
600	23	4,404	- 1.0			
550	23	5,086	- 4.7			
500	23	5,839	- 9.3			
450	23	6,637	-14.7			
400	23	7,529	-20.9			
350	23	8,502	-27.7			
300	23	9,592	-36.0			
250	23	10,832	-46.0			
200	23	12,284	-55.6			
175	23	13,127	-59.2			
150	23	14,087	-61.3			
125	23	15,217	-61.6			
100	23	16,599	-60.5			
80	23	17,995	-58.6			
70	22	18,837	-56.8			
60	22	19,819	-54.9			
50	22	20,990	-52.7			
40	20	22,434	-50.3			
30	20	24,323	-47.3			
25	19	25,530	-45.7			
20	19	27,024	-43.2			
15	13	28,982	-39.0			
10	10	31,789	-33.7			
7	8	34,341	-27.0			

NASHVILLE, TENN.
995 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	177	20.7	94	150	2.3
1000	31	137				
950	31	584	21.8	75	222	3.3
900	31	1,052	19.1	74	281	4.1
850	31	1,543	16.3	71	294	5.1
800	31	2,057	13.4	68	305	7.8
750	31	2,596	10.1	65	307	8.4
700	31	3,169	6.7	61	315	8.4
650	31	3,769	3.3	52	323	7.6
600	31	4,419	- .4	48	318	9.1
550	31	5,106	- 4.3	41	316	8.4
500	31	5,856	- 8.5	32	315	10.9
450	31	6,662	-13.5	30	316	12.0
400	31	7,552	-19.4		311	15.3
350	31	8,531	-26.3		315	18.1
300	31	9,627	-34.3		312	19.0
250	31	10,877	-43.8		309	20.8
200	31	12,339	-54.6		302	21.4
175	31	13,182	-59.8		305	21.2
150	31	14,135	-63.8		308	20.2
125	31	15,246	-66.1		302	13.0
100	30	16,597	-65.9		346	6.0
80	30	17,961	-62.7		49	8.7
70	30	18,794	-60.4		71	10.5
60	30	19,754	-57.8		80	12.4
50	30	20,911	-55.2		85	17.1
40	30	22,344	-52.3		86	18.6
30	30	24,212	-50.5		85	21.8
25	30	25,406	-48.5		85	25.3
20	30	26,883	-45.7		86	30.1
15	30	28,814	-42.6		85	33.2
10	27	31,585	-37.5		86	37.3
7	11	34,082	-33.5			

NOME, ALASKA
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	7	9.4	80	330	2.5
1000	30	91	10.1	74	330	2.7
950	30	516	9.5	68	82	2.7
900	30	965	7.4	66	133	2.7
850	30	1,434	5.0	62	163	3.3
800	30	1,926	2.3	60	168	3.5
750	29	2,442	- .4	60	177	4.3
700	29	2,996	- 3.5	53	159	4.3
650	29	3,576	- 6.6	47	165	5.1
600	29	4,200	-10.3	47	170	5.4
550	28	4,863	-14.6	48	162	5.2
500	28	5,583	-19.2	47	163	5.6
450	28	6,349	-24.5	47	153	4.3
400	28	7,207	-30.8	47	158	4.1
350	28	8,141	-37.7		169	4.9
300	28	9,186	-45.4		156	7.2
250	28	10,382	-52.6		166	8.0
200	28	11,822	-50.7		220	4.3
175	28	12,696	-48.6		247	6.2
150	28	13,712	-47.8		242	5.4
125	27	14,916	-47.6		247	6.8
100	27	16,390	-47.6		232	5.2
80	27	17,866	-46.9		225	3.3
70	26	18,752	-46.7		205	1.9
60	26	19,775	-46.4		134	1.9
50	26	20,986	-45.9		109	4.1
40	25	22,471	-45.4		100	6.0
30	25	24,395	-44.2		90	9.3
25	23	25,626	-43.0		82	10.3
20	22	27,134	-41.5		84	13.4
15	17	29,105	-38.7		88	15.9
10	13	31,928	-34.3			

NORFOLK, VA.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	22.3	82	200	3.3
1000	31	145	22.[illegible]	71	224	6.0
950	31	587	20.3	65	249	7.8
900	31	1,055	17.7	[illegible]	244	7.2
850	31	1,542	15.0	56	242	6.8
800	31	2,053	12.0	57	244	8.2
750	31	2,589	9.1	51	246	9.5
700	31	3,160	5.8	49	25[illegible]	12.2
650	31	3,758	2.6	46	250	13.0
600	31	4,408	- .8	45	254	14.0
550	31	5,091	- 4.3	40	258	15.5
500	31	5,845	- 8.6	40	255	17.5
450	31	6,648	-13.6	36	254	18.3
400	31	7,541	-19.6	33	256	20.4
350	31	8,519	-26.3		255	22.5
300	31	9,616	-34.5		254	26.2
250	31	10,864	-44.2		257	29.5
200	31	12,322	-55.5		267	30.5
175	31	13,161	-60.3		275	26.6
150	31	14,115	-63.7		270	20.0
125	30	15,225	-65.5		271	13.8
100	30	16,589	-63.2		286	5.8
80	29	17,967	-61.1		75	6.2
70	29	18,863	-58.9		84	9.9
60	29	19,774	-56.3		84	13.0
50	29	20,939	-53.8		86	14.6
40	28	22,382	-51.1		87	19.4
30	27	24,264	-48.3		91	21.4
25	26	25,471	-46.3		85	23.9
20	22	26,952	-44.8		88	26.6
15	14	28,864	-41.0			

NORTH PLATTE, NEBR.
916 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	848	18.8	77	115	1.6
1000	31	88				
950	31	535				
900	31	1,004	21.0	66	159	3.7
850	31	1,501	22.2	48	211	12.4
800	31	2,027	20.0	42	225	10.7
750	31	2,581	16.3	42	246	8.2
700	31	3,162	12.0	43	257	6.4
650	31	3,777	7.3	44	278	5.6
600	31	4,431	2.1	43	315	7.8
550	31	5,118	- 2.9	44	316	9.3
500	31	5,875	- 8.1	41	312	12.8
450	31	6,684	-13.4	32	303	15.2
400	31	7,571	-19.3		307	18.5
350	31	[illegible],551	-26.5		300	21.4
300	31	9,646	-34.7		295	28.2
250	31	10,896	-43.8		291	33.0
200	31	12,361	-54.1		294	34.2
175	31	13,208	-59.0		294	32.1
150	31	14,163	-63.6		300	27.0
125	31	15,271	-66.9		304	19.0
100	31	16,619	-66.0		304	7.8
80	31	17,987	-61.7		48	3.5
70	31	18,823	-59.9		63	7.0
60	31	19,786	-57.4		75	9.1
50	30	20,948	-54.6		78	12.8
40	30	22,384	-52.4		85	15.5
30	30	24,255	-49.6		87	18.5
25	29	25,455	-47.4		83	19.4
20	27	26,932	-45.7		84	21.8
15	27	28,862	-42.8		87	24.7
10	20	31,622	-38.4		83	32.6
7	13	34,086	-34.8			
5	5	36,404	-29.8			

* OAKLAND, CALIF.
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	13.1	88	257	4.9
1000	31	116	12.7	88	243	5.6
950	31	556	15.3	67	257	7.2
900	31	1,012	19.8	39	288	8.7
850	31	1,503	18.7	35	272	7.0
800	31	2,021	16.3	33	244	5.2
750	31	2,565	13.3	33	225	6.4
700	31	3,143	9.7	34	222	7.4
650	31	3,752	5.6	37	211	9.7
600	31	4,405	1.2	38	206	12.0
550	31	5,091	- 3.5	38	212	13.6
500	31	5,847	- 8.4	36	222	14.6
450	31	6,650	-13.9	31	230	18.8
400	31	7,543	-20.2	30	232	20.4
350	31	8,518	-27.3	30	232	23.9
300	30	9,620	-35.3	30	228	27.6
250	30	10,866	-44.4		226	34.4
200	30	12,329	-54.0		224	40.4
175	30	13,178	-58.3		222	41.0
150	30	14,138	-62.4		225	36.1
125	30	15,254	-65.4		230	25.1
100	30	16,613	-64.6		210	9.7
80	30	17,984	-61.6		143	6.0
70	30	18,812	-59.9		104	7.0
60	30	19,782	-57.8		96	11.1
50	30	20,938	-55.4		91	14.4
40	30	22,369	-53.2		89	17.7
30	30	24,233	-50.7		88	21.0
25	30	25,425	-49.0		90	23.5
20	29	26,895	-46.6		90	25.4
15	29	28,817	-43.2		90	29.5
10	24	31,571	-37.8		89	35.0
7	9	34,064	-32.8			

OKLAHOMA CITY, OKLA.
969 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	392	23.2	71	168	6.4
1000	31	115				
950	31	570	25.3	59	192	14.2
900	31	1,042	24.5	50	217	19.0
850	31	1,541	21.4	47	224	14.4
800	31	2,063	17.5	50	235	8.0
750	31	2,605	13.5	49	232	4.9
700	31	3,189	9.7	50	201	2.7
650	31	3,795	5.5	48	129	1.4
600	31	4,450	1.3	44	19	1.6
550	31	5,138	- 2.9	41	340	2.9
500	31	5,895	- 7.5	40	325	4.9
450	31	6,703	-12.4	37	322	5.6
400	31	7,598	-18.5	34	343	7.8
350	31	8,581	-25.4		348	9.5
300	31	9,682	-33.6		350	14.6
250	31	10,935	-43.4		352	17.3
200	31	12,401	-54.2		336	16.1
175	31	13,247	-59.7		333	16.5
150	31	14,198	-65.2		335	14.8
125	31	15,296	-69.2		348	10.3
100	30	16,627	-68.7		26	8.4
80	30	17,978	-64.5		63	10.5
70	30	18,799	-62.5		75	14.2
60	30	19,754	-59.6		85	17.1
50	30	20,903	-56.4		89	19.2
40	30	22,328	-54.0		86	19.0
30	30	24,185	-51.2		86	26.0
25	29	25,379	-48.9		85	28.6
20	24	26,852	-46.3		86	28.2
15	10	28,757	-44.4			

OMAHA, NEBR.
967 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	403	21.1	80	151	3.1
1000	31	110				
950	31	556	23.1	65	186	7.4
900	31	1,028	22.8	50	215	13.4
850	31	1,525	20.3	48	233	13.0
800	31	2,045	17.1	50	247	12.2
750	31	2,592	13.4	52	265	10.3
700	31	3,170	9.4	51	287	10.5
650	31	3,775	5.0	49	298	10.3
600	31	4,428	.5	44	307	12.8
550	31	5,115	- 4.2	42	308	12.4
500	31	5,866	- 8.9	37	306	14.2
450	31	6,670	-13.6		309	14.4
400	31	7,563	-19.5		310	18.3
350	31	8,542	-26.1		310	22.0
300	31	9,639	-34.3		309	26.8
250	31	10,888	-44.1		309	30.7
200	31	12,349	-54.5		305	31.3
175	31	13,195	-59.2		306	30.9
150	31	14,153	-62.3		309	28.7
125	31	15,271	-64.8		313	21.4
100	31	16,631	-64.3		316	12.2
80	31	18,004	-61.2		15	6.0
70	31	18,840	-58.9		56	7.6
60	31	19,809	-56.5		77	8.9
50	31	20,972	-53.7		80	11.3
40	31	22,414	-51.5		89	14.2
30	29	24,288	-48.9		87	18.1
25	27	25,490	-47.1		90	21.0
20	27	26,974	-44.6		92	22.9
15	25	28,905	-41.9		89	25.4
10	14	31,674	-37.4			

PEORIA, ILL.
992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	200	19.7	90	133	1.6
1000	31	130				
950	31	579	21.5	69	241	3.1
900	31	1,044	19.4	64	263	6.0
850	31	1,535	16.7	58	281	7.4
800	31	2,050	13.9	49	295	8.0
750	31	2,591	10.6	49	304	9.3
700	31	3,163	7.0	50	306	9.9
650	31	3,767	3.0	47	317	13.2
600	31	4,414	- .6	40	319	14.6
550	31	5,101	- 4.5	37	320	15.7
500	31	5,849	- 9.2		316	15.3
450	31	6,656	-14.3		313	15.7
400	31	7,541	-20.0		313	18.3
350	31	8,518	-26.9		314	21.4
300	31	9,611	-35.0		311	27.0
250	31	10,857	-44.6		307	31.9
200	31	12,316	-54.5		311	34.2
175	31	13,164	-58.3		312	30.7
150	31	14,126	-61.4		317	24.1
125	31	15,251	-63.2		314	17.9
100	31	16,621	-63.1		324	11.3
80	31	18,003	-60.3		15	7.4
70	31	18,840	-58.3		54	8.0
60	30	19,816	-55.7		73	10.1
50	30	20,985	-52.7		81	13.8
40	30	22,433	-50.9		87	15.3
30	29	24,309	-48.7		85	18.8
25	29	25,513	-46.8		86	22.5
20	27	27,001	-44.1		90	25.8
15	26	28,951	-40.4		91	28.6
10	22	31,735	-36.8		88	36.9
7	6	34,220	-33.1			

PITTSBURGH, PA.
975 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	353	18.2	90	216	1.4
1000	31	137				
950	31	580	19.6	76	251	4.5
900	31	1,043	17.6	71	278	6.4
850	31	1,530	14.3	72	284	6.0
800	31	2,040	11.2	65	279	6.2
750	31	2,573	8.0	59	278	8.2
700	31	3,143	4.8	53	282	9.1
650	31	3,738	1.7	46	286	9.9
600	31	4,385	- 1.9	40	282	11.3
550	31	5,065	- 5.4		281	12.8
500	31	5,814	-10.1		286	13.2
450	31	6,612	-15.3		284	15.2
400	31	7,498	-21.4		280	16.1
350	31	8,469	-28.6		278	19.0
300	31	9,555	-36.7		285	21.4
250	31	10,794	-45.5		284	26.4
200	31	12,252	-54.0		288	30.3
175	31	13,101	-57.9		290	27.4
150	31	14,067	-60.2		289	26.0
125	31	15,198	-62.2		287	18.1
100	31	16,577	-61.1		305	10.3
80	31	17,970	-59.0		3	4.3
70	31	18,815	-57.3		60	6.2
60	31	19,790	-55.4		78	8.5
50	31	20,958	-53.4		80	10.9
40	31	22,402	-51.1		85	14.4
30	31	24,286	-48.2		85	17.5
25	30	25,493	-46.3		88	21.2
20	29	26,983	-44.2		88	23.9
15	29	28,927	-40.8		89	28.0
10	21	31,729	-36.5		94	37.9
7	10	34,233	-32.2			
5						

* POINT ARGUELLO, CALIF.
1000 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	113	11.3	98	310	4.1
1000	31	116			314	4.7
950	31	555	16.8	61	345	8.5
900	31	1,015	22.3	29	7	7.6
850	31	1,510	20.5	27	5	3.9
800	31	2,030	17.5	25	278	1.2
750	31	2,573	14.4	25	222	4.1
700	31	3,156	10.9	24	218	7.2
650	31	3,762	7.0	26	219	9.3
600	31	4,422	2.7	27	217	10.7
550	31	5,112	- 2.3	28	213	12.4
500	31	5,869	- 7.5	26	213	13.2
450	31	6,675	-12.6	23	217	15.0
400	31	7,570	-18.8	21	221	18.1
350	31	8,550	-26.3	22	219	22.7
300	31	9,646	-34.5	23	216	28.4
250	31	10,896	-43.8		214	32.1
200	31	12,359	-54.4		212	37.7
175	31	13,204	-59.7		212	36.3
150	31	14,156	-64.9		213	33.0
125	31	15,258	-68.1		219	21.4
100	31	16,597	-67.2		191	6.8
80	31	17,952	-64.0		110	9.1
70	31	18,773	-61.7		103	12.8
60	31	19,733	-59.7		96	15.0
50	31	20,881	-56.9		90	17.1
40	31	22,302	-54.2		87	21.8
30	31	24,159	-51.3		86	26.2
25	31	25,348	-49.3		89	27.8
20	30	26,817	-47.2		90	28.7
15	30	28,731	-44.6		87	33.0
10	28	31,478	-39.3		88	38.7
7	24	33,949	-33.1		91	42.3
5	13	36,325	-29.4			

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	39	28.2	78	58	3.1
1000	31	82	27.8	78	64	3.3
950	31	528	23.9	80	100	5.2
900	31	1,008	20.7	82	108	7.8
850	31	1,501	17.8	78	101	11.3
800	31	2,019	15.3	71	99	10.5
750	31	2,562	12.5	69	97	11.3
700	31	3,142	9.3	68	96	12.4
650	31	3,751	5.8	67	95	14.0
600	31	4,406	2.1	61	93	13.8
550	31	5,101	- 1.6	59	92	12.0
500	31	5,860	- 5.8	57	92	11.5
450	31	6,680	-10.4	51	90	12.2
400	31	7,579	-16.0	44	90	12.8
350	31	8,572	-22.6	39	99	12.4
300	31	9,685	-31.0		95	11.1
250	31	10,952	-41.2		85	11.3
200	31	12,427	-54.0		53	8.4
175	31	13,270	-61.2		55	3.5
150	31	14,211	-68.5		335	1.7
125	31	15,284	-75.1		342	3.7
100	31	16,574	-75.1		73	5.1
80	31	17,886	-69.1		89	11.5
70	31	18,690	-65.2		94	8.7
60	31	19,635	-62.4		130	1.9
50	31	20,767	-59.8		350	1.0
40	31	22,169	-57.2		167	1.7
30	30	24,003	-53.6		92	18.6
25	30	25,179	-51.8		90	36.9
20	27	26,635	-49.0		92	53.4
15	15	28,538	-45.7		90	64.5
10	9	31,266	-41.1			

PORTLAND, ME.
1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	20	16.6	89	254	.8
1000	31	136	17.1	83	276	1.6
950	31	577	16.9	69	297	4.9
900	31	1,035	15.2	64	291	6.2
850	31	1,518	13.0	61	291	8.0
800	31	2,025	9.9	59	287	10.7
750	31	2,555	6.9	55	283	12.8
700	31	3,124	3.7	50	275	14.6
650	31	3,718	.5	44	269	17.3
600	31	4,361	- 3.0	36	270	19.2
550	31	5,039	- 6.8		266	21.8
500	31	5,785	-11.3		266	24.1
450	31	6,577	-16.7		264	25.4
400	31	7,461	-23.0		261	28.0
350	31	8,427	-29.8		258	31.3
300	31	9,508	-37.4		256	34.6
250	31	10,745	-45.9		254	36.3
200	31	12,200	-54.2		256	38.9
175	31	13,050	-57.2		260	36.1
150	31	14,021	-58.2		259	29.5
125	31	15,167	-59.0		261	21.2
100	30	16,567	-57.2		263	11.8
80	30	17,981	-56.2		275	1.6
70	30	18,836	-54.8		54	1.4
60	30	19,821	-53.4		86	4.1
50	30	21,000	-51.4		102	7.2
40	30	22,456	-49.3		87	12.6
30	27	24,351	-46.6		88	15.5
25	23	25,567	-44.6		85	18.6
20	14	27,064	-42.5		88	20.4
15	6	29,017	-39.8			

RAPID CITY, S. DAK.
904 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	966	18.6	70	323	2.1
1000	31	90				
950	31	537				
900	31	1,006			294	1.6
850	31	1,501	21.3	47	213	4.9
800	31	2,025	19.0	42	214	5.6
750	31	2,571	15.7	39	231	6.8
700	31	3,158	11.4	41	247	8.5
650	31	3,765	6.7	43	258	11.3
600	31	4,424	1.6	44	273	15.2
550	31	5,106	- 3.8	43	274	18.8
500	31	5,863	- 9.4	41	275	21.4
450	31	6,665	-14.9	36	278	22.0
400	31	7,551	-20.7		277	24.5
350	31	8,524	-28.0		278	29.3
300	31	9,612	-36.0		280	36.1
250	31	10,854	-45.1		280	42.3
200	31	12,313	-54.3		278	46.4
175	31	13,160	-58.4		279	43.7
150	31	14,121	-62.1		279	37.5
125	31	15,240	-64.2		279	23.9
100	31	16,606	-63.0		274	11.7
80	31	17,991	-59.2		19	1.9
70	31	18,835	-57.7		67	5.2
60	31	19,807	-55.9		75	7.8
50	31	20,975	-53.0		84	12.4
40	30	22,422	-50.8		86	14.8
30	29	24,313	-47.4		86	18.3
25	28	25,522	-45.3		88	19.8
20	25	27,011	-42.7		86	22.1
15	15	28,967	-38.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1964

ST. CLOUD, MINN.
977 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	316	17.5	87	163	2.5
1000	31	116				
950	31	563	20.2	69	162	4.5
900	31	1,024	18.8	61	226	5.1
850	31	1,514	16.4	62	260	8.7
800	31	2,028	13.5	54	275	11.3
750	31	2,567	10.5	48	288	13.6
700	31	3,140	6.9	48	288	15.7
650	31	3,739	3.0	49	290	18.8
600	31	4,389	- 1.5	49	289	21.2
550	31	5,067	- 5.8	44	291	22.0
500	31	5,819	-10.2	33	293	24.9
450	31	6,619	-15.4		298	25.4
400	31	7,503	-21.6		295	25.3
350	31	8,474	-28.8		295	29.9
300	31	9,558	-37.0		294	32.1
250	31	10,797	-45.6		290	39.0
200	31	12,253	-54.5		289	44.1
175	31	13,101	-58.0		293	41.2
150	31	14,068	-59.7		297	35.9
125	31	15,202	-61.5		299	24.7
100	31	16,589	-59.8		303	13.8
80	30	17,986	-58.6		337	8.2
70	30	18,829	-57.0		8	5.2
60	30	19,809	-55.0		53	6.8
50	30	20,980	-52.6		62	9.3
40	30	22,428	-50.6		76	11.1
30	30	24,313	-48.0		87	16.7
25	29	25,518	-46.3		89	18.1
20	27	27,006	-43.6		89	20.4
15	15	28,936	-40.9			
10						

ST. PAUL IS., ALASKA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	6.2	96	91	.6
1000	31	93	5.9	91	266	.6
950	31	513	5.5	84	105	2.5
900	31	955	4.6	78	142	3.3
850	31	1,420	3.2	70	150	2.7
800	31	1,910	1.5	67	140	1.7
750	31	2,428	- .7	63	272	.2
700	31	2,978	- 3.4	62	269	1.0
650	31	3,558	- 6.6	63	293	1.9
600	31	4,183	-10.2	60	267	3.5
550	31	4,846	-14.1	53	274	6.0
500	31	5,567	-18.8	48	263	7.2
450	31	6,338	-24.1	44	261	9.5
400	30	7,195	-30.3	42	264	12.2
350	30	8,132	-36.8		264	14.2
300	30	9,182	-44.5		263	18.1
250	30	10,387	-50.1		260	26.2
200	30	11,845	-49.0		267	28.6
175	30	12,723	-48.4		267	24.5
150	30	13,736	-49.0		265	22.9
125	30	14,930	-49.8		267	18.5
100	30	16,388	-50.1		265	13.2
80	30	17,848	-49.6		261	6.4
70	30	18,723	-49.3		256	4.1
60	30	19,734	-48.9		240	1.2
50	30	20,932	-48.4		108	1.6
40	30	22,403	-47.7		103	4.3
30	28	24,312	-46.4		92	7.2
25	28	25,526	-45.0		89	8.7
20	28	27,024	-43.0		83	10.5
15	27	28,977	-40.2		90	12.6
10	20	31,754	-36.8		95	15.9

SALEM, OREG.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	13.2	86	238	1.4
1000	31	141	13.7	80	251	1.4
950	31	572	13.0	72	320	2.1
900	31	1,028	12.3	65	277	2.7
850	31	1,506	10.4	60	230	6.2
800	31	2,010	9.1	49	232	8.9
750	31	2,537	6.9	44	230	11.8
700	31	3,107	4.2	43	231	16.3
650	31	3,700	.7	37	231	19.4
600	31	4,345	- 2.9	39	230	22.5
550	31	5,018	- 7.4	45	230	23.1
500	31	5,766	-12.2	40	232	25.8
450	31	6,554	-17.5	36	233	28.9
400	31	7,435	-23.8	35	232	33.0
350	31	8,396	-31.1		232	35.2
300	31	9,470	-39.3		230	37.9
250	31	10,696	-47.6		230	41.4
200	31	12,147	-53.3		230	42.0
175	31	13,002	-55.3		232	42.3
150	31	13,983	-56.6		236	36.9
125	31	15,135	-58.0		235	28.2
100	31	16,542	-57.8		231	17.3
80	31	17,954	-56.4		214	6.2
70	30	18,807	-55.7		163	3.9
60	29	19,790	-54.3		112	6.4
50	29	20,962	-52.9		97	8.0
40	28	22,409	-50.6		87	11.1
30	28	24,294	-48.2		88	16.7
25	28	25,501	-46.2		87	17.1
20	25	27,001	-43.1		87	19.6
15	19	28,950	-39.7		86	23.3
10						

SALT LAKE CITY, UTAH
871 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,288	18.2	45	149	8.0
1000	31	86				
950	31	531				
900	31	1,006				
850	31	1,502	23.2	30	161	11.7
800	31	2,029	21.7	24	185	11.7
750	31	2,583	17.8	24	217	7.2
700	31	3,170	13.2	26	234	8.9
650	31	3,783	8.1	30	237	11.8
600	31	4,442	2.5	37	237	13.4
550	31	5,128	- 3.3	42	227	15.3
500	31	5,886	- 8.6	42	225	18.8
450	31	6,688	-14.0		231	19.6
400	31	7,580	-20.3		236	21.0
350	31	8,556	-27.1		242	28.7
300	31	9,648	-35.3		245	32.8
250	31	10,893	-44.3		243	44.1
200	31	12,354	-54.6		243	44.9
175	31	13,198	-59.6		243	44.9
150	31	14,151	-64.3		247	35.4
125	31	15,258	-67.0		247	19.6
100	31	16,602	-66.9		228	8.7
80	31	17,968	-61.9		176	3.7
70	31	18,798	-59.8		122	6.4
60	31	19,766	-57.8		92	9.5
50	31	20,923	-55.0		88	13.0
40	30	22,359	-52.4		92	14.6
30	27	24,231	-50.0		86	18.8
25	23	25,430	-48.2		92	19.6
20	23	26,909	-45.6		88	22.5
15	13	28,824	-43.5		87	25.6
10						

SAN ANTONIO, TEXAS
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	243	24.2	82	168	2.7
1000	30	131				
950	30	583	22.5	81	180	9.7
900	29	1,052	20.5	70	175	12.6
850	29	1,546	18.6	60	161	9.1
800	28	2,065	15.8	57	135	6.4
750	28	2,605	12.8	50	108	6.4
700	28	3,188	9.5	43	88	6.6
650	28	3,794	5.9	42	78	8.9
600	28	4,450	1.4	43	78	8.5
550	28	5,138	- 2.7	39	82	6.8
500	28	5,897	- 6.9		69	4.3
450	28	6,707	-12.1		51	4.5
400	28	7,604	-18.4		49	5.6
350	28	8,587	-25.3		57	8.2
300	28	9,688	-33.6		51	8.9
250	28	10,942	-43.3		64	9.1
200	28	12,408	-54.7		73	4.3
175	28	13,251	-60.7		62	5.6
150	28	14,196	-66.7		79	8.9
125	28	15,285	-71.4		58	11.1
100	28	16,602	-70.3		67	15.5
80	28	17,941	-66.1		80	19.4
70	27	18,757	-63.1		87	19.0
60	27	19,709	-60.2		83	20.2
50	27	20,853	-57.8		87	25.3
40	26	22,269	-54.6		85	28.6
30	26	24,127	-50.8		85	29.7
25	26	25,319	-48.5		87	30.5
20	25	26,796	-46.0		85	32.2
15	22	28,718	-43.7		84	33.2
10	13	31,457	-38.8			

SAN DIEGO, CALIF.
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	124	16.6	90	302	1.9
1000	31	105				
950	31	545	18.3	62	356	1.6
900	31	1,012	23.4	29	315	2.9
850	31	1,510	22.3	24	269	5.2
800	31	2,035	19.8	27	237	7.4
750	31	2,578	16.1	33	219	8.2
700	31	3,170	12.0	35	205	9.9
650	31	3,777	7.5	39	194	10.1
600	31	4,440	2.7	39	188	10.1
550	31	5,129	- 2.1	39	182	8.9
500	31	5,891	- 6.7	31	183	8.4
450	31	6,697	-12.1	30	189	8.7
400	31	7,599	-17.9		191	9.3
350	31	8,584	-24.9		198	12.2
300	31	9,687	-32.9		200	15.7
250	31	10,946	-42.4		200	19.4
200	31	12,418	-53.7		195	22.3
175	30	13,265	-60.0		197	21.8
150	30	14,212	-66.3		204	18.6
125	30	15,304	-70.4		211	10.9
100	30	16,628	-69.2		142	5.2
80	30	17,974	-65.4		98	11.8
70	30	18,791	-62.6		96	14.0
60	30	19,749	-59.4		95	17.7
50	30	20,899	-56.3		90	20.4
40	29	22,327	-53.3		89	24.5
30	29	24,190	-50.8		89	28.2
25	29	25,382	-48.6		90	28.0
20	29	26,859	-46.0		87	28.7
15	18	28,789	-42.9		90	33.2
10						
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5						

* SAN JUAN, P. R.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	26.5	81	100	6.0
1000	31	145	25.6	77	95	14.0
950	31	589	22.2	78	92	17.9
900	31	1,064	19.2	74	95	19.8
850	31	1,555	16.3	70	95	19.8
800	31	2,069	14.4	53	100	19.6
750	31	2,605	11.7	47	102	21.4
700	31	3,186	8.4	40	102	19.2
650	31	3,788	4.4	37	102	17.9
600	31	4,442	.2	37	102	15.9
550	31	5,127	- 3.2	34	98	11.7
500	31	5,884	- 7.2	32	94	9.7
450	31	6,688	-12.4	30	88	7.8
400	31	7,589	-17.9	28	73	5.8
350	31	8,572	-25.2	26	51	3.5
300	31	9,672	-33.8	26	323	2.3
250	31	10,923	-43.8		259	3.3
200	31	12,384	-55.2		269	6.0
175	30	13,223	-61.3		269	6.2
150	30	14,166	-66.8		278	4.5
125	29	15,256	-70.4		333	3.1
100	29	16,577	-71.4		72	10.5
80	29	17,911	-66.8		83	21.0
70	29	18,727	-63.7		87	23.1
60	29	19,675	-61.3		90	26.2
50	29	20,814	-58.3		92	29.3
40	28	22,232	-54.8		92	32.2
30	28	24,085	-51.4		94	36.9
25	28	25,275	-49.1		94	38.5
20	28	26,748	-46.2		89	42.9
15	26	28,679	-42.4		85	50.9
10	26	31,442	-38.9		91	54.6
7	24	33,906	-35.7		94	60.4
5	10	36,253	-33.0			

SANTA MONICA, CALIF.
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	16.3	88	63	1.0
1000	31	107	16.0	87	102	1.2
950	31	550	19.2	58	99	2.3
900	31	1,014	22.5	27	7	1.2
850	31	1,510	21.3	24	277	3.1
800	31	2,032	18.7	23	241	6.6
750	31	2,580	15.6	25	218	8.5
700	31	3,165	11.7	28	207	10.5
650	31	3,773	7.5		204	11.1
600	31	4,435	3.0	29	198	12.0
550	31	5,124	- 2.1		198	12.0
500	31	5,886	- 7.0		205	13.4
450	31	6,692	-12.4		206	15.5
400	31	7,591	-18.6		210	16.1
350	31	8,573	-25.6		211	18.8
300	31	9,673	-33.9		212	22.7
250	31	10,926	-43.3		208	28.4
200	31	12,394	-54.3		207	30.9
175	31	13,238	-60.5		208	28.7
150	31	14,185	-66.4		211	24.7
125	31	15,276	-70.4		213	14.8
100	31	16,600	-69.3		169	5.6
80	31	17,947	-65.1		101	10.1
70	31	18,765	-62.7		99	12.2
60	31	19,721	-60.1		92	15.0
50	31	20,869	-56.4		91	19.0
40	30	22,292	-54.2		88	22.7
30	30	24,149	-51.2		91	27.0
25	28	25,339	-49.4		90	26.8
20	28	26,809	-47.1		90	28.4
15	23	28,716	-44.3		91	32.8
10	11	31,471	-39.7			
7						
5						

SAULT STE. MARIE, MICH.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	221	15.0	87	336	1.4
1000	31	131				
950	31	568	17.0	67	293	2.3
900	31	1,029	15.5	59	290	5.2
850	31	1,511	12.4	58	294	7.6
800	31	2,017	9.2	57	294	10.3
750	31	2,548	6.5	50	301	12.2
700	31	3,113	3.4	46	302	14.2
650	31	3,706	.1	39	302	15.2
600	31	4,347	- 3.6	36	307	16.7
550	31	5,021	- 7.8	33	305	16.5
500	31	5,765	-12.2		301	19.6
450	31	6,557	-17.7		302	22.1
400	31	7,433	-24.1		305	26.2
350	31	8,393	-31.1		307	29.3
300	31	9,467	-39.0		303	34.0
250	31	10,695	-47.1		302	35.0
200	31	12,150	-52.9		305	39.4
175	31	13,007	-54.7		303	34.4
150	31	13,990	-55.8		300	28.7
125	31	15,147	-56.8		299	21.8
100	31	16,558	-56.9		306	14.4
80	31	17,975	-55.4		328	6.6
70	31	18,829	-53.9		5	4.7
60	31	19,822	-52.7		46	6.0
50	31	21,002	-51.2		70	9.3
40	31	22,458	-49.5		83	12.6
30	30	24,354	-46.7		86	15.3
25	30	25,568	-44.8		86	18.5
20	29	27,068	-41.9		87	21.4
15	22	29,030	-38.8		90	25.3
10	6	31,898	-30.7			
7						
5						

SHEMYA, ALASKA
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	6.1	96	68	2.9
1000	31	90			99	2.7
950	31	510	5.3	87	96	5.2
900	31	953	5.6	80	107	4.7
850	31	1,420	4.9	75	100	4.5
800	31	1,914	3.4	71	119	3.7
750	31	2,435	1.3	70	127	3.3
700	31	2,990	- 1.5	66	172	2.9
650	31	3,571	- 4.4	60	205	2.7
600	31	4,205	- 7.8	53	227	3.7
550	31	4,871	-11.7	47	246	6.0
500	31	5,602	-16.2	47	249	9.1
450	31	6,380	-21.7	45	249	13.4
400	31	7,244	-27.6	43	250	16.1
350	31	8,191	-34.7	40	250	18.8
300	31	9,249	-42.6		251	22.7
250	31	10,458	-50.1		252	28.7
200	31	11,908	-50.7		248	31.9
175	31	12,780	-49.9		249	28.9
150	31	13,787	-50.6		248	25.8
125	31	14,972	-51.3		247	20.0
100	30	16,424	-51.6		244	15.9
80	29	17,875	-51.1		234	9.1
70	28	18,748	-50.7		225	6.0
60	28	19,749	-50.3		193	3.3
50	28	20,941	-49.6		120	3.5
40	28	22,404	-48.8		99	6.6
30	28	24,299	-47.6		89	11.8
25	28	25,507	-46.1		90	13.0
20	25	27,002	-43.8		90	14.4
15	20	28,956	-40.8		87	16.7
10	11	31,723	-37.1			
7						
5						

* SHREVEPORT, LA.
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	23.6	89	192	3.7
1000	31	141	23.8	85	202	5.1
950	31	600	23.7	69	231	10.3
900	31	1,064	21.1	64	200	6.4
850	31	1,558	18.1	61	154	2.7
800	31	2,075	14.9	60	99	3.5
750	31	2,619	11.7	56	73	4.3
700	31	3,194	8.2	55	49	4.7
650	31	3,801	4.4	53	31	4.3
600	31	4,450	.3	55	28	5.8
550	31	5,141	- 3.6	52	22	5.6
500	31	5,892	- 7.7	42	28	6.4
450	31	6,706	-12.7	32	25	7.4
400	30	7,593	-18.3	31	10	8.2
350	30	8,576	-25.2	25	5	8.9
300	30	9,677	-33.6	25	355	9.1
250	30	10,930	-43.3		353	11.5
200	30	12,397	-54.0		354	9.3
175	30	13,243	-59.9		349	11.1
150	30	14,192	-65.6		358	10.9
125	30	15,288	-69.7		21	9.9
100	30	16,617	-68.9		52	10.5
80	30	17,965	-64.6		78	14.8
70	30	18,799	-61.9		84	16.5
60	29	19,746	-59.4		84	19.2
50	29	20,895	-56.2		88	22.5
40	29	22,322	-53.5		93	24.7
30	29	24,183	-51.0		90	29.3
25	29	25,374	-49.0		89	32.2
20	29	26,847	-46.6		89	33.6
15	29	28,768	-43.7		89	34.8
10	21	31,503	-40.1		90	39.6
7						

SPOKANE, WASH.
931 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	722	14.0	62	156	5.1
1000	31	110				
950	31	546				
900	31	1,010	16.7	52	196	7.6
850	31	1,496	15.0	45	222	9.5
800	31	2,006	11.6	46	232	10.1
750	31	2,536	7.9	51	241	11.8
700	31	3,108	4.5	47	235	15.2
650	31	3,707	.7	45	236	19.2
600	31	4,346	- 3.3	47	238	22.9
550	31	5,026	- 7.5	44	238	27.2
500	31	5,765	-12.1	38	236	30.5
450	31	6,555	-17.4	34	237	33.8
400	31	7,436	-23.5	35	238	35.4
350	31	8,398	-30.6	35	239	37.1
300	31	9,474	-39.2		239	41.8
250	31	10,698	-48.2		239	46.6
200	31	12,145	-54.4		240	47.8
175	31	12,998	-55.3		241	45.8
150	31	13,980	-56.2		242	37.9
125	31	15,136	-56.9		239	26.2
100	31	16,548	-57.0		236	16.7
80	31	17,964	-55.8		211	6.6
70	31	18,821	-54.5		179	2.9
60	31	19,807	-53.1		119	4.5
50	31	20,987	-51.6		100	7.4
40	30	22,441	-50.1		86	11.1
30	28	24,332	-47.3		85	14.0
25	28	25,544	-45.0		89	15.7
20	27	27,046	-42.1		87	18.5
15	22	29,007	-38.6		88	19.8
10						
7						

SWAN ISLAND, W. I.
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	26.5	85	92	9.1
1000	31	119	25.8	84	89	11.8
950	31	577	23.0	82	99	16.7
900	31	1,040	20.2	76	106	20.6
850	31	1,532	17.3	71	106	22.3
800	31	2,048	14.6	60	106	21.4
750	31	2,593	11.8	53	107	20.2
700	31	3,167	8.5	48	105	18.6
650	31	3,777	5.1	49	105	18.5
600	31	4,426	1.4	49	106	16.9
550	31	5,111	- 2.4	43	104	15.3
500	31	5,873	- 6.7	40	103	13.2
450	31	6,686	-11.9	43	97	12.0
400	31	7,581	-17.5	40	76	10.3
350	31	8,567	-24.5	39	60	7.6
300	31	9,671	-32.9		36	7.2
250	31	10,927	-43.2		9	5.8
200	30	12,387	-55.5		339	8.2
175	30	13,225	-62.4		342	10.5
150	30	14,160	-69.1		348	9.7
125	30	15,237	-72.8		32	9.9
100	30	16,548	-71.8		75	14.2
80	29	17,873	-68.7		86	20.2
70	29	18,682	-66.3		90	22.0
60	28	19,617	-63.4		88	25.8
50	28	20,745	-60.1		87	31.1
40	28	22,149	-56.6		96	34.0
30	27	23,991	-52.7		95	36.9
25	26	25,178	-50.3		94	40.2
20	26	26,644	-47.3		92	45.1
15	23	28,562	-44.2		91	53.0
10	9	31,307	-40.8			
7						

TAMPA, FLA.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	25.0	90	138	4.3
1000	31	149	24.8	84	147	6.6
950	31	592	22.8	76	177	8.5
900	31	1,070	20.1	70	187	8.0
850	31	1,562	17.3	63	189	7.2
800	31	2,078	14.3	60	196	7.0
750	31	2,615	11.3	54	208	5.6
700	31	3,194	8.0	50	214	4.9
650	31	3,794	4.5	42	223	4.5
600	31	4,451	.9	44	235	4.5
550	31	5,136	- 2.8	43	247	3.7
500	31	5,896	- 7.1	42	251	3.5
450	31	6,702	-12.0	38	284	3.1
400	31	7,602	-17.7		319	3.7
350	31	8,588	-24.5		347	2.7
300	31	9,692	-32.9		359	2.7
250	31	10,948	-42.9		5	6.6
200	31	12,411	-55.2		8	10.1
175	31	13,250	-61.8		18	10.9
150	31	14,191	-67.3		32	11.5
125	31	15,276	-70.6		43	10.1
100	31	16,602	-68.8		59	12.8
80	31	17,950	-65.0		76	19.2
70	31	18,769	-62.7		81	22.9
60	31	19,725	-59.5		84	27.6
50	31	20,874	-56.4		91	30.5
40	30	22,301	-53.4		95	30.1
30	28	24,167	-49.8		89	29.9
25	28	25,364	-47.9		85	31.7
20	28	26,843	-45.5		86	33.2
15	21	28,760	-42.3		86	36.7
10	7	31,580	-36.6			
7						

* TATOOSH IS., WASH
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	11.8	96	165	6.4
1000	31	132	11.6	94	178	7.2
950	31	562	10.9	84	211	8.9
900	31	1,012	9.7	78	215	8.0
850	31	1,485	7.5	72	206	8.7
800	31	1,984	5.8	68	216	10.1
750	31	2,507	3.2	68	219	12.8
700	31	3,067	.3	61	220	15.0
650	31	3,655	- 2.7	57	222	17.1
600	31	4,290	- 6.1	53	223	21.0
550	31	4,961	-10.1	49	227	23.1
500	31	5,695	-14.7	47	230	26.4
450	31	6,478	-20.0	43	230	30.3
400	31	7,348	-26.2	41	230	32.8
350	31	8,301	-33.1	39	229	36.5
300	31	9,368	-40.6		228	39.8
250	31	10,588	-48.3		233	40.4
200	30	12,045	-52.3		234	39.4
175	30	12,908	-52.9		233	37.3
150	30	13,900	-53.6		235	32.8
125	30	15,070	-54.5		234	26.0
100	30	16,498	-54.4		229	18.3
80	30	17,929	-54.1		219	9.1
70	30	18,786	-53.5		194	4.1
60	30	19,779	-52.8		122	4.7
50	30	20,958	-51.7		110	6.8
40	28	22,410	-50.5		102	7.6
30	28	24,295	-48.3		94	12.0
25	28	25,500	-46.8		97	13.4
20	28	26,985	-44.6		89	14.8
15	25	28,936	-41.0		96	18.3
10	24	31,720	-36.8		91	23.9
7	16	34,195	-31.8		92	33.4

See reference note at end of table

RAWINSONDE DATA

Average monthly values

TOPEKA, KANS. 983 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	269	21.4	79	145	3.5
1000	31	118				
950	31	566	23.6	66	196	8.7
900	31	1,041	23.0	55	228	11.8
850	31	1,538	20.0	56	241	13.0
800	31	2,058	16.8	56	262	10.5
750	31	2,599	13.0	57	261	8.4
700	31	3,182	9.0	58	274	7.2
650	31	3,784	4.7	57	284	9.3
600	31	4,440	.3	56	300	10.3
550	31	5,122	- 4.2	50	304	11.3
500	31	5,878	- 8.5	43	308	12.0
450	31	6,683	-13.4	39	306	12.2
400	31	7,576	-19.3	33	313	12.4
350	31	8,555	-26.3		319	16.5
300	31	9,652	-34.3		321	20.4
250	31	10,903	-43.8		320	27.0
200	31	12,366	-54.4		316	28.7
175	31	13,211	-59.3		315	26.0
150	30	14,165	-63.9		319	23.5
125	30	15,272	-67.0		320	14.6
100	30	16,619	-65.6		345	8.9
80	30	17,986	-62.5		42	7.4
70	30	18,818	-59.9		64	9.5
60	30	19,783	-57.4		73	11.3
50	30	20,941	-55.0		81	14.6
40	30	22,375	-52.4		85	16.7
30	28	24,248	-50.0		87	19.0
25	27	25,441	-48.1		84	23.1
20	27	26,920	-45.5		85	25.4
15	22	28,855	-42.9		88	28.4
10	11	31,626	-38.7			
7						

+ TRUK, CAROLINE IS. 1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	2	28.6	76	53	2.1
1000	31	85	27.8	77	69	2.3
950	31	534	24.0	80	100	3.9
900	31	1,012	20.8	79	112	5.6
850	31	1,506	17.9	77	106	7.4
800	31	2,024	15.2	73	101	8.9
750	31	2,571	12.6	66	101	9.9
700	31	3,147	9.5	61	99	10.9
650	31	3,762	6.0	64	100	10.9
600	31	4,413	2.4	63	99	10.9
550	31	5,107	- 1.4	59	92	11.7
500	31	5,867	- 5.5	52	88	10.9
450	31	6,686	-10.2	46	90	11.3
400	31	7,588	-15.7	40	93	10.9
350	31	8,583	-22.3	35	98	12.8
300	31	9,697	-30.8		101	12.2
250	31	10,964	-41.2		96	12.8
200	31	12,440	-53.5		94	12.0
175	31	13,286	-60.5		90	9.7
150	31	14,229	-68.1		87	5.4
125	31	15,305	-75.2		32	5.4
100	31	16,594	-74.9		77	8.9
80	31	17,909	-68.7		89	12.2
70	31	18,714	-65.4		89	10.1
60	31	19,659	-62.2		98	6.2
50	31	20,793	-59.2		95	2.1
40	31	22,197	-57.0		97	3.7
30	30	24,031	-53.3		97	20.4
25	28	25,210	-51.3		97	35.5
20	21	26,669	-48.9		96	48.4
15	8	28,548	-46.9			
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TUCSON, ARIZ. 923 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	789	25.3	55	144	6.0
1000	31	78				
950	31	531				
900	31	1,012	25.9	48	164	4.7
850	31	1,514	23.6	45	356	1.6
800	31	2,041	20.1	48	4	3.7
750	31	2,590	16.4	50	1	2.7
700	31	3,178	12.2	54	78	1.6
650	31	3,791	7.8	57	130	3.7
600	31	4,450	2.9	62	138	4.5
550	31	5,139	- 2.0	62	129	7.4
500	31	5,900	- 6.7	60	120	7.6
450	31	6,710	-11.4	51	107	6.8
400	31	7,611	-17.2	44	121	6.2
350	31	8,599	-24.0	34	113	5.6
300	31	9,705	-32.3		131	5.8
250	31	10,964	-42.5		138	7.4
200	31	12,433	-54.5		143	6.6
175	31	13,275	-61.0		138	5.4
150	31	14,218	-67.2		147	4.3
125	31	15,303	-71.9		142	3.9
100	31	16,617	-71.2		101	8.2
80	31	17,951	-66.4		88	13.4
70	31	18,766	-63.3		90	17.1
60	31	19,719	-60.[illegible]		90	18.5
50	31	20,866	-56.7		89	22.9
40	31	22,288	-54.3		90	24.7
30	31	24,144	-51.0		89	27.2
25	31	25,336	-48.6		91	27.2
20	31	26,912	-46.2		87	27.8
15	30	28,741	-43.0		86	31.7
10	24	31,497	-37.4		90	38.9
7	8	34,006	-31.7			

* WAKE IS., PACIFIC AREA 1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	27.0	76	85	9.9
1000	31	117	25.9	80	86	13.0
950	31	577	22.2	88	93	16.7
900	31	1,048	19.5	82	100	17.7
850	31	1,539	16.8	74	98	16.9
800	31	2,054	14.3	69	95	14.4
750	31	2,596	11.5	62	96	14.8
700	31	3,172	8.4	58	94	12.4
650	31	3,778	4.8	55	90	11.7
600	31	4,431	1.0	50	92	9.5
550	31	5,125	- 3.1	51	92	6.8
500	31	5,875	- 7.6	51	88	4.5
450	31	6,685	-12.5	45	86	2.1
400	31	7,578	-18.4	44	315	1.0
350	31	8,561	-25.4	41	278	4.1
300	31	9,560	-33.9	39	286	7.2
250	31	10,910	-44.1		275	10.1
200	31	12,367	-56.1		259	13.2
175	31	13,202	-62.5		260	16.3
150	31	14,140	-67.8		269	15.3
125	31	15,228	-70.0		315	3.7
100	31	16,554	-70.2		58	12.4
80	31	17,884	-68.5		81	21.2
70	31	18,688	-65.8		87	25.1
60	31	19,631	-62.9		86	27.8
50	31	20,762	-59.9		86	32.3
40	31	22,167	-56.5		89	36.3
30	31	24,009	-52.6		90	40.8
25	30	25,192	-50.6		91	41.2
20	29	26,658	-47.9		91	43.7
15	27	28,569	-45.4		89	46.6
10	26	31,297	-41.1		89	50.7
7	5	33,743	-37.1			

WALLOPS IS. VA. NASA 1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	22	3	20.5	92	208	1.7
1000	22	144	21.8	82	232	5.4
950	22	588	20.9	69	242	7.6
900	22	1,057	18.2	67	246	7.4
850	22	1,545	15.1	65	240	8.0
800	22	2,066	11.9	63	239	9.3
750	22	2,593	9.2	55	247	10.7
700	22	3,164	6.3	49	250	12.2
650	22	3,765	2.9	47	254	14.0
600	22	4,413	- .7	49	254	15.5
550	22	5,098	- 4.6	44	255	17.1
500	22	5,849	- 8.8	42	261	17.3
450	22	6,655	-13.7	40	255	19.6
400	22	7,544	-19.6	37	256	20.2
350	22	8,522	-26.8	38	254	24.3
300	22	9,616	-35.0	46	256	26.0
250	22	10,862	-44.7		261	27.4
200	21	12,324	-55.0		267	27.8
175	21	13,168	-59.5		265	24.7
150	21	14,123	-63.6		264	20.6
125	21	15,135	-65.4		265	16.7
100	21	16,596	-63.8		294	7.2
80	21	17,973	-61.1		59	4.9
70	21	18,810	-58.3		77	8.5
60	21	19,778	-56.8		84	11.8
50	21	20,939	-54.7		89	15.0
40	21	22,374	-52.4		89	17.3
30	20	24,244	-49.5		89	20.0
25	19	25,446	-47.7		89	22.7
20	19	26,926	-45.5		86	26.6
15	16	28,855	-42.0		94	31.1
10	14	31,631	-37.5		89	[illegible]
7	10	34,096	-33.4			

WASHINGTON, D. C. 1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	84	19.6	91	306	.4
1000	31	139	20.2	85	312	1.2
950	31	584	19.8	72	307	3.9
900	31	1,048	17.4	69	292	4.1
850	31	1,535	14.6	67	285	5.6
800	31	2,046	11.7	64	275	6.8
750	31	2,582	8.6	57	268	8.5
700	31	3,151	5.3	54	267	9.5
650	31	3,752	2.0	53	262	11.1
600	31	4,396	- 1.5	46	260	12.4
550	31	5,079	- 5.1	39	261	12.6
500	31	5,829	- 9.5	34	261	14.6
450	31	6,632	-14.7	33	264	17.3
400	31	7,519	-20.8		263	19.4
350	31	8,493	-27.7		263	23.7
300	31	9,583	-35.8		262	28.6
250	31	10,825	-45.5		265	31.7
200	31	12,279	-55.2		272	32.8
175	31	13,123	-59.1		270	27.8
150	31	14,082	-62.2		271	23.5
125	31	15,203	-63.7		280	16.1
100	31	16,573	-62.5		308	7.2
80	30	17,956	-60.1		39	3.7
70	30	18,798	-58.4		72	5.8
60	30	19,765	-56.6		78	7.8
50	30	20,928	-54.2		84	11.5
40	28	22,366	-52.0		87	16.7
30	27	24,243	-49.1		86	19.4
25	26	25,442	-47.4		84	19.2
20	24	26,924	-44.8		82	24.5
15	20	28,860	-41.[illegible]		91	27.8
10	9	31,651	-38.2			
7	5	34,114	-34.5			

WINNEMUCCA, NEV. 869 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	14.2	44	111	2.3
1000	31	98				
950	31	544				
900	31	1,014				
850	31	1,500	20.0	28	131	1.2
800	31	2,021	18.1	26	274	4.1
750	31	2,569	14.5	27	244	6.4
700	31	3,148	10.2	29	224	11.7
650	31	3,756	6.0	31	217	17.3
600	31	4,409	1.1	36	211	22.5
550	31	5,098	- 4.1	35	213	25.8
500	31	5,847	- 9.3		218	25.4
450	31	6,651	-14.6		225	25.3
400	31	7,536	-20.8		228	29.3
350	31	8,510	-27.8		227	32.6
300	31	9,599	-36.0		232	40.0
250	31	10,843	-44.7		232	49.5
200	30	12,304	-53.8		231	54.2
175	30	13,153	-58.1		231	51.5
150	30	14,115	-61.8		232	45.5
125	30	15,236	-63.9		236	28.0
100	30	16,601	-63.8		218	10.3
80	29	17,981	-60.3		126	5.6
70	29	18,825	-58.4		105	7.2
60	29	19,791	-56.6		93	9.7
50	29	20,953	-54.4		87	14.8
40	29	22,390	-52.2		85	17.1
30	28	24,264	-49.0		84	20.8
25	28	25,467	-46.9		87	22.7
20	24	26,958	-44.3		90	24.7
15	17	28,895	-41.3			
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WINSLOW, ARIZ. 853 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,492	20.0	55	186	3.3
1000	31	89				
950	31	536				
900	31	1,014				
850	31	1,519	20.4	53	183	3.3
800	31	2,044	20.9	42	261	5.8
750	31	2,596	17.6	40	271	6.2
700	31	3,185	13.2	47	224	3.9
650	31	3,797	8.4	54	184	4.1
600	31	4,460	3.4	62	157	5.6
550	31	5,153	- 1.8	69	169	6.0
500	31	5,912	- 6.7	66	180	6.0
450	31	6,722	-11.8	62	215	5.2
400	31	7,621	-17.6	49	216	6.6
350	31	8,607	-24.5	44	221	7.8
300	31	9,711	-33.0	37	217	10.3
250	31	10,967	-43.2		220	11.7
200	31	12,432	-54.6		228	14.4
175	31	13,273	-61.1		235	13.4
150	31	14,217	-67.2		244	9.3
125	31	15,303	-71.5		225	5.4
100	31	16,620	-70.2		145	4.1
80	31	17,964	-65.3		100	9.5
70	31	18,788	-62.5		96	12.6
60	31	19,741	-59.4		90	16.5
50	30	20,888	-56.6		89	18.8
40	30	22,312	-54.2		90	22.3
30	30	24,169	-51.3		90	24.9
25	30	25,358	-49.3		90	26.8
20	27	26,829	-47.2		93	25.3
15	21	28,734	-44.8		88	30.7
10	7	31,456	-42.0			
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YAKUTAT, ALASKA 1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	12	9.7	93	103	3.5
1000	31	111	9.8	91	110	5.1
950	31	535	9.1	80	132	7.4
900	31	984	6.8	76	136	8.2
850	31	1,452	4.2	75	141	8.2
800	31	1,944	1.6	73	133	8.7
750	31	2,461	- 1.3	74	142	7.8
700	31	3,009	- 4.5	73	141	7.6
650	31	3,585	- 7.9	68	145	7.8
600	31	4,197	-11.7	63	148	7.8
550	31	4,865	-16.0	57	144	8.0
500	31	5,581	-20.5	52	163	8.4
450	31	6,347	-25.7	48	171	9.1
400	31	7,198	-31.8	46	169	10.1
350	31	8,129	-38.7	40	171	10.3
300	31	9,171	-46.0		169	11.1
250	31	10,369	-51.0		179	10.9
200	31	11,928	-47.7		215	8.0
175	31	12,711	-47.3		237	7.6
150	31	13,730	-47.3		245	5.6
125	31	14,934	-47.9		247	4.7
100	31	16,405	-47.9		217	2.9
80	30	17,879	-47.8		109	1.7
70	30	18,758	-47.8		147	1.4
60	30	19,777	-47.6		118	2.5
50	30	20,982	-47.3		92	4.7
40	29	22,459	-46.6		80	6.2
30	29	24,374	-45.0		87	11.7
25	29	25,594	-43.7		89	13.0
20	29	27,100	-41.7		93	15.5
15	24	29,071	-38.4		83	16.9
10	7	31,841	-33.0			
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+ YAP, CAROLINE IS. 1007 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	17	28.7	80	116	1.9
1000	30	83	27.6	79	[illegible]	2.1
950	30	530	23.4	79	90	4.3
900	30	1,009	20.4	77	93	5.2
850	30	1,502	17.7	74	100	5.[illegible]
800	30	2,020	15.0	69	104	6.2
750	30	2,565	12.2	62	94	6.6
700	30	3,141	9.1	58	92	8.7
650	30	3,749	5.7	57	97	9.1
600	30	4,405	2.1	55	90	9.3
550	30	5,098	- 2.0	55	86	9.9
500	30	5,856	- 6.1	46	94	9.9
450	30	6,673	-10.7	39	92	11.5
400	29	7,573	-16.4	36	93	9.3
350	28	8,564	-23.1		95	9.9
300	28	9,675	-31.6		101	9.7
250	28	10,937	-42.0		80	10.9
200	28	12,407	-54.5		89	9.5
175	28	13,248	-61.7		81	9.7
150	28	14,185	-69.2		67	8.7
125	28	15,255	-75.9		87	9.9
100	28	16,539	-75.7		77	14.8
80	28	17,847	-70.2		77	21.0
70	28	18,646	-66.4		85	19.8
60	28	19,586	-63.3		88	15.9
50	28	20,714	-60.8		80	15.5
40	28	22,112	-57.7		85	18.3
30	25	23,947	-54.0		91	25.3
25	22	25,119	-51.7		89	34.0
20	19	26,584	-48.7		90	48.2
15	9	28,495	-45.2			
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YUCCA FLAT, NEV. 880 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,196	17.3	30	216	2.1
1000	31	79				
950	31	526				
900	31	1,003				
850	31	1,498	24.3	24	207	5.8
800	31	2,024	21.3	23	204	14.0
750	31	2,576	17.1	25	200	16.9
700	31	3,161	12.5	28	196	14.6
650	31	3,775	8.0	31	186	14.6
600	30	4,433	3.4	32	189	15.2
550	30	5,127	- 1.9	36	197	15.2
500	30	5,883	- 7.1		205	16.3
450	30	6,689	-12.5		215	18.3
400	30	7,587	-18.6		225	19.4
350	30	8,569	-25.5		228	24.7
300	30	9,668	-33.7		226	29.7
250	30	10,921	-43.4		225	35.0
200	30	12,386	-54.1		223	37.9
175	30	13,231	-60.1		224	38.3
150	30	14,180	-65.6		226	32.6
125	29	15,279	-69.3		232	20.2
100	29	16,614	-67.5		201	8.7
80	29	17,971	-63.1		113	5.6
70	29	18,797	-60.7		95	8.7
60	29	19,762	-58.3		89	13.6
50	29	20,915	-55.8		87	16.5
40	27	22,341	-53.1		84	19.2
30	26	24,206	-50.6		87	22.3
25	26	25,400	-48.3		89	23.5
20	25	26,876	-46.2		93	25.8
15	15	28,778	-43.5		87	26.0
10	7	31,525	-39.5			

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. 'Number of observations' refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

See reference note at end of table

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

JULY 1964

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, N. MEX.

	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
July									
1	0.64	0.70	0.86	1.01	1.29	----	0.89	0.70	----
2	.60	.66	.81	1.00	M	M	.82	----	----
3	.64	.74	.92	1.07	1.30	1.09	----	.68	0.60
4	.60	.70	.85	1.06	1.05	----	----	----	----
5	.58	.67	.81	1.02	1.31	1.09	.91	.75	.65
6	.72	.81	.94	1.11	1.34	----	----	----	----
7	M	----	----	----	1.33	----	----	----	----
8	.68	.77	.91	1.10	1.25	----	.91	----	----
10	----	----	----	----	1.19	----	----	----	----
13	.75	.82	F	1.14	1.34	1.14	.95	.85	.73
14	.70	.80	.94	1.10	1.31	----	----	----	----
16	----	----	----	1.12	1.31	1.14	----	----	----
17	----	----	----	----	1.34	----	----	----	----
18	.74	.84	.93	1.04	1.35	----	----	----	----
19	.69	.78	.91	1.07	1.31	----	----	----	----
20	.76	.86	.98	1.14	1.35	----	----	----	----
21	.76	.87	.99	1.12	1.35	----	----	----	----
22	.74	.83	.96	1.11	1.25	----	.94	----	----
23	----	----	----	----	1.29	----	----	----	----
24	.64	.75	.89	----	----	----	----	----	----
25	.76	.86	.99	1.07	1.33	----	----	----	----
27	.77	.85	.96	1.11	1.33	----	----	----	----
28	M	M	.91	1.07	1.31	----	----	----	----
29	----	----	.85	1.01	1.28	----	----	----	----
30	----	.76	.86	1.05	1.30	1.06	----	----	----
31	.66	.74	----	----	1.21	1.08	----	----	----
Averages	0.69	0.78	0.91	1.08	1.29	1.10	0.90	0.75	0.66

OMAHA, NEBR.

	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
July									
6	----	----	----	----	HS1.19	----	----	----	----
8	----	----	----	----	HS1.29	HM1.04	HM0.83	HM0.54	----
12	----	----	----	----	HM1.23	----	HS .73	HS .61	HS0.50
13	HM0.71	HS0.80	HS0.94	HS1.05	----	----	----	HS .62	HM .40
14	HM .54	HM .65	----	----	HM1.14	HM .83	HM .74	HM .61	----
15	HM .43	HM .54	HM .59	----	----	----	----	----	----
16	----	----	----	----	----	HM .80	HM .62	HM .41	HM .33
17	----	----	----	HM .86	HM1.10	----	----	----	----
19	HM .48	HM .52	HM .68	HM .85	----	----	----	----	----
20	HS .52	HS .66	HM .76	HM .89	----	----	----	----	----
23	----	----	----	----	HM1.18	HS .85	HS .77	HS .61	HS .50
24	HM .51	HM .60	HM .75	HM .92	----	----	HS .80	HM .54	----
25	----	----	----	----	----	----	----	HS .81	----
26	HS .70	HS .80	HS .92	HS1.06	HS1.25	HS .98	----	----	----
28	----	----	----	----	----	HS .99	HS .76	HS .65	HS .52
29	HS .70	HS .83	HS .95	HS1.10	HS1.29	HS1.03	HS .88	HS .74	HS .63
Averages	0.65	0.68	0.80	0.96	1.21	0.93	0.77	0.61	0.48

GUAM, M. I.

	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
			No observation due to cloudiness						

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

MADISON, WIS.

	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69.
July									
1	----	----	----	HI0.55	----	----	----	----	----
15	M 0.43	M 0.51	M 0.62	----	----	----	----	----	----
19	S .37	S .48	S .62	S .83	----	----	----	----	----
22	----	----	----	M .81	----	----	----	----	----
26	----	----	M .88	S 1.03	S 1.21	----	----	----	----
29	S .74	S .83	S .96	S 1.12	----	----	----	----	----
Averages	0.51	0.61	0.77	0.87	1.21	----	----	----	----

TUCSON, ARIZ.

	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
July									
5	----	----	----	----	----	----	----	----	0.57
11	0.37	0.51	0.69	----	----	----	----	----	----
14	.58	----	----	----	----	----	----	----	----
16	.64	.74	----	----	----	----	----	0.78	.68
27	.69	.78	.88	----	----	----	----	----	.79
28	.78	.86	----	----	----	----	----	----	----
Averages	0.61	0.72	0.78	----	----	----	----	0.78	0.68

MAUNA LOA OBS., HAWAII

	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
July									
1	1.07	1.17	1.27	1.39	1.53	1.36	1.23	1.14	1.03
2	1.03	1.12	1.22	1.35	1.51	1.34	1.22	1.12	1.03
3	1.04	1.14	1.24	1.37	----	----	----	----	----
4	----	----	----	----	----	----	1.26	1.16	1.00
5	1.07	1.17	1.27	1.38	1.51	----	----	----	1.07
6	1.06	1.15	1.26	1.37	----	----	----	----	1.01
7	1.02	1.11	1.22	1.35	----	----	----	----	----
8	1.05	1.14	1.24	1.37	----	----	----	----	----
9	1.06	1.14	1.26	1.37	----	----	----	----	----
10	1.03	1.11	(1.20)	(1.31)	----	----	----	----	----
11	1.04	1.12	1.22	1.34	----	----	----	----	----
12	1.04	1.13	1.23	1.35	----	----	----	1.12	1.04
13	1.07	1.16	1.27	1.39	----	----	----	----	----
15	1.01	1.09	1.20	1.32	1.48	1.30	1.17	1.06	.97
16	.98	1.07	1.19	1.32	1.50	----	----	1.06	.97
17	1.03	1.12	1.23	1.36	----	----	----	----	----
18	1.02	1.12	1.22	1.35	----	----	----	----	----
19	1.03	1.13	1.23	1.37	1.51	1.37	1.24	1.15	1.05
20	1.06	1.14	1.24	1.37	1.53	1.36	1.23	1.14	1.05
21	1.02	1.11	1.21	1.34	(1.50)	1.34	1.21	1.13	1.04
22	1.06	1.15	1.24	1.36	----	----	1.19	1.10	1.00
23	1.05	1.14	1.23	1.36	----	----	----	----	----
25	.99	1.09	1.19	1.33	----	----	(1.17)	(1.07)	(.96)
28	----	----	----	1.37	1.53	1.37	1.24	1.15	1.05
30	----	----	----	----	----	1.35	1.24	1.15	1.05
31	1.08	1.17	1.26	1.38	----	----	1.23	1.13	1.02
Averages	1.04	1.13	1.23	1.36	1.51	1.35	1.22	1.12	1.03

M	Moderate haze - indeterminable
F	Fog
HI	Intense haze
S	Slight haze - indeterminable
HM	Moderate haze
HS	Slight haze
( )	Clouds present
*	Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JULY 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	759	744	739	718	745	758	727	706	---	674	362	159	751	722	681	731	729	723	705	723	702	650	559	720	731	556	690	635	682	710	621	670
AMES IOWA	425	537	581	632	522	542	482	487	387	413	176	529	628	602	582	364	581	575	557	384	565	528	550	536	576	573	501	538	570	190	484	503
ANNETTE ALASKA	349	243	59	130	428	247	414	307	215	46	139	248	350	396	192	102	401	204	183	213	95	144	65	312	272	423	93	93	239	114	116	220
APALACHICOLA FLORIDA	468	466	624	636	613	688	688	659	450	436	251	489	373	676	626	586	33	362	618	629	452	254	491	312	390	519	143	423	653	648	652	494
ASTORIA OREGON	126	426	366	300	358	614	600	339	708	690	765	682	370	252	412	391	392	547	796	306	425	421	783	772	680	596	718	415	422	361	215	492
ATLANTA GEORGIA	124	540	577	431	748	683	695	216	485	305	566	107	485	572	417	559	394	246	621	194	573	605	482	577	577	527	627	657	506	287	324	474
BARROW ALASKA	573	696	574	579	738	404	534	615	429	417	233	732	765	683	379	635	---	---	475	632	604	486	558	364	428	---	598*	350	362	567	517	533*
BETHEL ALASKA	633	617	332	415	579	716	713	752	604	523	281	416	245	304	312	447	227	566	572	515	349	297	384	380	538	497	605	110	100	121	267	433
BISMARCK N.DAK.	716	591	588	302	630	717	694	641	611	344	562	706	683	633	649	631	581	657	591	633	380	574	511	666	680	568	652	678	200	237	276	567
BLUE HILL MASS.	621	345	390	247	655	694	647	463	104	64	623	240	169	316	623	734	533	567	590	670	461	412	157	198	276	481	706	624	378	701	737	465
BOISE IDAHO	734	699	749	566	759	750	712	729	747	750	738	551	608	606	707	738	709	722	735	728	727	726	747	752	734	709	706	331	603	564	679	688
BROWNSVILLE TEXAS	714	712	714	710	626	711	723	626	692	644	712	724	697	587	644	---	366	405	386	713	665	556	542	626	721	705	638	572	668	628	628	635
BURLINGTON VERMONT	485	214	255	561	303	398	628	686	491	550	569	443	181	292	446	637	612	558	414	670	507	104	430	242	425	324	611	565	392	576	681	460
CANTON ISLAND P.I.	497	512*	488	---	---	574	476	591*	455	589	562	587	599	600	631	539*	613	613	602	566	607	597	433	546	573	617	622	623	623	591	605	570*
CAPE HATTERAS N.C.	568	529	481	440	674	723	730	524	515	613	429	558	438	665	632	648	560	351	425	564	414	227	311	507	420	684	373	490	635	300	561	516
CARIBOU MAINE	529	724	72	344	556	106	137	402	462	640	480	552	409	252*	554	558	368	541	603	721	202	345	230	714	631	588	549	389	435	586	647	462*
CHARLESTON S.C.	---	210	587	495	406	705	746	677	613	640	466	458	273	671	630	463	68	241	379	224	159	268	381	290	379	315	214	323	543	485	196	417
CLEVELAND OHIO	315	457	460	597	699	656	394	324	476	650	302	53	538	---	218	534	588	601	633	490	557	554	646	512	538	572	612	291	387	593	622	496
COLUMBIA MISSOURI	439	682	640	596	548	586	650	265	569	537	268	612	733	702	672	598	617	689	673	498	640	649	504	658	596	585	509	349	697	641	637	582
DAVIS CALIFORNIA	782	767	774	623	753	748	752	748	760	751	738	726	740	740	736	738	726	747	737	726	731	737	736	692	708	712	461	662	681	712	731	722
DODGE CITY KANSAS	586	644	638	453	642	642	595	617	602	426	635	499	653	601	492	604	138	165	632	632	632	620	634	610	581	496	550	593	591	546	575	559
E. LANSING MICHIGAN	585	439	473	808	783	543	393	252	592	730	533	338	221	425	601	667	709	668	701	449	510	705	715	667	453	718	699	638	719	593	499	575
EL CENTRO CALIF NARF	588	589	582	586	573	594	547	260	499	553	541	544	407	488	556	559	536	529	542	372	466	511	454	476	430	503	515	521	506	465	351	505
EL PASO TEXAS	731	676	706	689	771	765	398	574	695	703	746	250	572	738	745	726	713	697*	676	733	738	564	685	745	708	694	530	596	403	697	624	654*
ELY NEVADA	810	807	798	803	804	796	799	784	493	627	611	583	639	631	779	762	758	779	769	733	744	734	584	679	540	326	414	684	699	721	716	691
EPPLEY.NEWPORT R.I.	631	396	316	303	656	658	694	498	77	142	609	223	159	261	557	636	598	591	479	542	359	205	356	138	247	575	608	440	201	640	670	434
FAIRBANKS ALASKA	376	423	460	555	536	425	641	426	391	191	239	465	549	676	684	678	570	254	432	512	639	595	501	540	511	588	561	378	194	194	374	470
FORT WORTH TEXAS	613	634	702	710	691	735	726	716	711	573	666	620	720	719	721	644	687	677	709	675	688	710	715	715	542	664	643	655	579*	622	642	672*
FRESNO CALIFORNIA	768	775	769	782	762	737	746	758	732	723	697	741	700	733*	746	729	712	720	744	744	735	714	710	678	603	616	550	665	671	693	706	715*
GAINESVILLE FLORIDA	500	415	454	542	682	644	716	834	667	397	374	155	362	879	749	853	333	571	884	649	573	---	---	642	208	123	376	600	621	612	408	546
GLASGOW MONTANA	756	698	714	721	613	759	753	601	705	518	645	752	725	459	701	710	730	538	406	722	628	719	742	712	731	718	705	709	544	643	667	669
GRAND JUNCTION COLO.	815	813	830	510	612	779	767	568	438	---	669	757	569	658	590	437	693	734	733	677	551	668	547	731	745	661	723	647	680	389	351	645
GREAT FALLS MONTANA	702	562	726	699	436	641	700	639	592	693	698	604	546	512	563	561	690	503	680	666	658	667	696	684	675	661	649	590	470	464	631	621
GREENSBORO N.C.	473	646	476	407	756	736	653	499	397	662	689	237	374	590	650	658	460	226	378	374	263	546	523	548	412	463	548	460	535	492	533	505
GRIFFIN EXP.STA.GA.	234	568	647	370	813	769	695	327	616	396	661	260	465	501	460	555	483	275	717	340	650	546	448	576	645	549	564	588	645	529	205	519
INDIANAPOLIS INDIANA	600	682	469	825	751	143	251	463	463	672	630	268	589	236	664	703	678	304	702	485	462	525	681	683	446	719	660	647	564	684	629	557
ITHACA NEW YORK	483	381	485	465	573	622	558	212	492	672	660	299	155	602	492	690	529	371	440	631	517	512	526	402	413	346	663	---	445	590	720	498
LAKE CHARLES LA.	82	168	352	268	531	651	634	---	602	510	585	589	511	532	425	583	569	412	296	314	554	659	597	601	488	573	---	124	362	523	630	473
LAKELAND FLORIDA	326	298	596	698	365	681	482	683	684	691	398	604	618	661	434	551	290	641	687	688	580	482	370	278	224	105	366	575	632	575	715	515
LANDER WYOMING	---	---	---	---	---	---	738	719	472	733	717	663	507	523	687	751	753	611	707	686	669	573	556	720	719	682	718	595	658	626	597	655
LARAMIE WYOMING	589	610	656	626	585	581	544	616	447	547	488	569	605	463	542	510	491	527	558	551	587	435	418	592	524	541	633	523	382	446	377	534
LAS VEGAS NEVADA	797	808	753	812	800	796	777	554	567	703	563	632	666	727	774	764	755	769	687	717	728	662	684	668	631	381	674	710	718	675	724	699
LITTLE ROCK ARKANSAS	331	504	642	562	519	599	598	437	473	486	772	369	651	637	591	541	594	604	---	---	---	---	---	---	---	---	---	559	529	700	735	565
LOS ANGELES CALIF.	758	745	741	744	737	718	734	690	665	672	708*	721	699	660	670	666	550	619	670	718	662	626	643	658	624	657	680*	687	685*	593	628	678*
MADISON WISCONSIN	479	758	641	801	646	220	325	472	557	539	317	574	333	558	690	691	589	390	597	463	505	660	598	641	657	664	500	659	767	216	365	544
MANHATTAN KANSAS	635	716	627	625	725	625	648	700	513	414	606	609	728	655	656	537	673	668	583	638	707	696	513	575	490	618	519	670	674	676	658	625
MAUNA LOA OB.HAWAII	856	795	603	766	793	739	539	403	518	486	378	705	660	832	826	806	464	724	848	846	845	645	530	290	550	677	750	834	651	724	810	674
MEDFORD OREGON	596	670	730	555	764	754	735	438	765	741	733	588	707	436	721	751	735	671	737	738	716	614	725	726	716	714	696	152	338	454	350	638
MIAMI FLORIDA	465	675	670	627	429	318	307	597	453	---	---	---	---	---	---	---	---	---	---	---	---	---	466	416	356	525	592	557	637	573	596	---
MIDLAND TEXAS	654	499	591	689	681	692	587	660	691	714	702	523	680	688	678	686	628	632	605	569	654	540	473	628	633	430	638	529	562	519	625	615
NASHVILLE TENNESSEE	439	416	559	665	662	385	453	597	684	373	416	170	433	711	722	534	556	643	237	503	522	510	478	576	398	474	435	551	355	597	544	503
NEW YORK N.Y. U	582	403	450	234	631	720	663	141	45	629	641	486	53	478	610	509	535	571	634	434	281	166	437	166	322	334	524	563	446	700	717	455
NORTH OMAHA NEBRASKA	578	649	344	597	524	684	659	749	689	330	555	744	725	718	701	658	690	716	495	658	658	691	703	685	460	704	591	690	714	432	621	626
OAK RIDGE TENNESSEE	255	389	413	467	639	570	500	308	481	436	475	100	364	615	534	413	580	---	251	394	290	413	483	531	427	475	496	525	289	402	529	435
OKLAHOMA CITY OKLA.	316	627	653	646	651	644	642	543	510	424	404	454	645	617	607	491	460	531	602	629	586	602	605	600	606	558	403	381	432	595	503	547

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JULY 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	637	677	656	702	681	670	634	316	610	579	621	580	647	494	486	649	628	641	599	594	606	623	587	531	625	454	640	653	379	513	238	579
PORTLAND MAINE	618	477	405	339	457	290	496	618	269	87	644	419	137	165	606	655	616	620	333	639	451	395	211	384	314	513	485	591	527	620	710	454
RAPID CITY S.DAK.	526	476	519	575	659	739	409	572	652	263	534	722	717	587	618	657	518	654	540	618	566	556	544	637	594	423	507	634	413	592	243	557
RIVERSIDE CALIFORNIA	719	718	715	757	758	741	726	696	671	653	655	651	644	688	693	681	676	675	651	660	674	657	651	630	602	429	617	634	642	643	648	666
SAINT CLOUD MINN.	503	721	727	716	579	691	696	404	326	278	476	701	685	619	657	640	644	613	639	535	684	503	662	565	581	620	611	562	624	257	472	580
SALT LAKE CITY UTAH	851	850	867	887	848	829	828	849	279	819	806	794	766	719	788	794	827	841	823	497	714	804	786	841	830	766	746	757	769	660	627	770
SAN ANTONIO TEXAS	660	567	646	644	700	691	675	658	693	691	681	522	653	677	687	647	586	516	337	499	626	617	631	657	701	597	629	659	565	500	558	618
SANTA MARIA CALIF.	652	754	683	751	---	685	659	716	728	705	687	714	675	611	683	655	731	716	724	654	710	713	691	676	622	617	545	677	604	561	581	673
SAULT STE MARIE MICH	621	361	389	767	720	550	508	692	708	691	618	536	202	343	693	674	379	528	703	425	553	681	606	511	658	664	364	499	582	614	605	563
SEATTLE TACOMA WASH.	485	157	425	422	486	538	582	263	710	677	727	729	587	171	281	443	233	465	674	313	398	346	730	722	721	718	711	684	482	304	347	501
SEATTLE WASH. UNIV.	466	164	410	505	294	428	542	220	573	469	705	703	535	248	315	362	311	290	612	281	380	463	697	676	683	686	688	637	467	227	235	460
SHREVEPORT LOUISIANA	706	607	629	725	724	695	707	696	618	545	594	545	646	603	645	659	677	699	697	644	496	607	369	491	660	633	641	556	506	473	556	614
SPOKANE WASHINGTON	693	346	753	506	569	792	790	756	722	788	787	764	188	540	483	693	770	580	798	750	576	600	778	769	760	773	756	598	375	285	589	643
STATE COLLEGE PENN.	616	555	630	437	754	757	506	136	562	658	674	232	290	649	511	503	554	683	637	474	353	465	477	439	295	329	566	549	516	754	758	526
STERLING VIRGINA	472	406	503	322	754	754	661	173	433	673	705	288	340	560	682	581	638	433	---	---	---	---	---	---	---	---	---	---	464	701	690	---
STILLWATER OKLAHOMA	535	674	704	---	---	702	553	---	---	248	537	---	711	687	599	429	529	614	619	642	630	671	655	500	593	449	531	309	390	635	588	567
SWAN ISLAND W.I.	580	823	---	689	511	669	678	563	603	689	582	676	613	139	249	647	434	514	573	633	379	499	251	164	637	672	673	664	700	661	704	562
TUCSON ARIZONA	619	680	571	---	---	---	---	---	---	---	---	---	---	---	---	684	645	576	650	667	612	597	549	422	503	592	659	637	511	475	164	---
WAKE ISLAND.PACIFIC	401	198	186	456	598	597	610	598	630	556	551	249	609	262	582	615	621	614	570	355	467	372	242	614	554	579	520	597	604	615	604	504

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

JULY 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	445	453	444	461	468	464	468	431	390	443	436	425	310	388	422	435	449	348	427	427	448	472	387	378	406	387	391	450	423	236	389	416

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. The instrument with which they were measured has not been checked by the Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code ∧s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
																Data will be delayed																

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code ∧s designates the type of measurement made.

DESCRIPTION of CHARTS

CHART I., A. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1931-60) for the first-order Weather Bureau stations.

CHART II. TOTAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. -In this chart the anomaly in the month's precipitation is shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1931-60) for about 270 first-order Weather Bureau stations.

CHART IV. TOTAL SNOWFALL. CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND.-Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and cooperative stations as of 7:00 a.m. Eastern Standard Time on the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

> Isolines for Charts I, II, III, IV, and V, are drawn through points of approximately equal value. Caution should be used in interpolating on these charts, particularly in mountainous areas.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION, LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. -Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm. $^{-2}$) for all Weather Bureau stations which record this element.

CHART VII-B shows the percentages of the mean based on at least 5 years of record during the period 1950-1960, and corrected to the International Pyrheliometer Scale of 1956.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a.m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

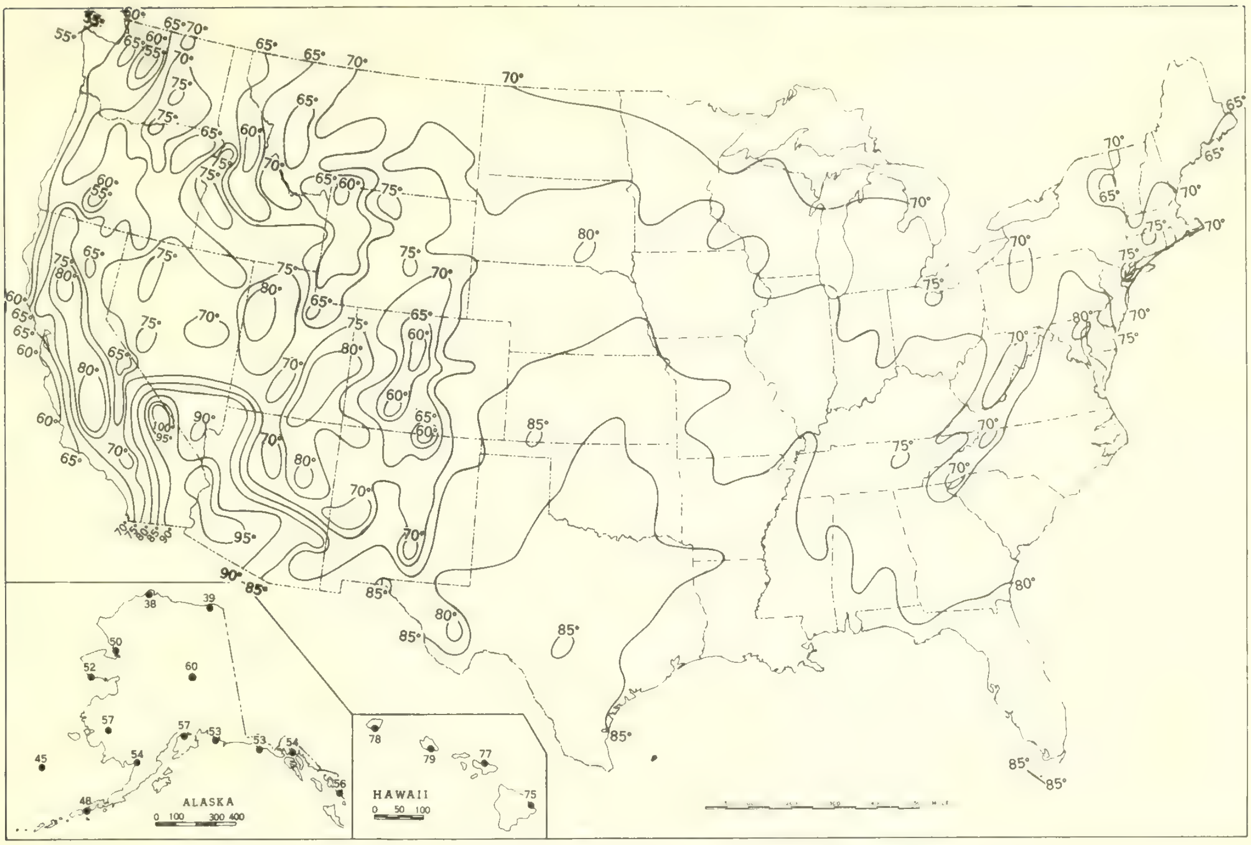
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND RESULTANT SURFACE WIND.-The average monthly sea level pressure is obtained from the averages of the 24 daily pressure obs. reported at Weather Bureau Stations. Resultant surface wind directions (to 36 points of the compass) for the month are shown by arrows. Resultant speeds are indicated by the length of arrow shafts. Constancy ratios (resultant surface wind divided by average surface wind for month) are shown to two decimal places. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record; and for each 10° intersection in a diamond grid over the oceans.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

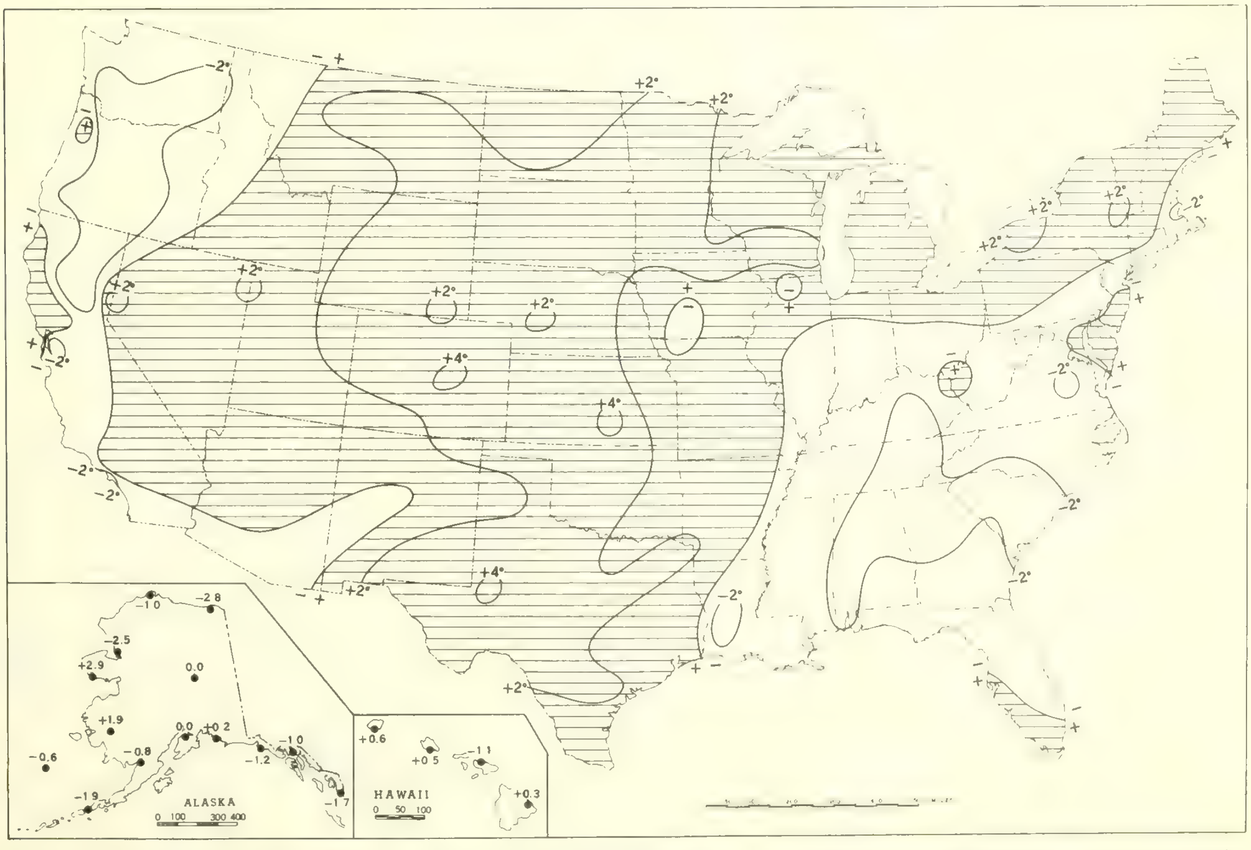
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages for surface elements are presented in the CDNS Annual Issue each year.

Chart I. A. Average Temperature (°F.) at Surface, July 1964.



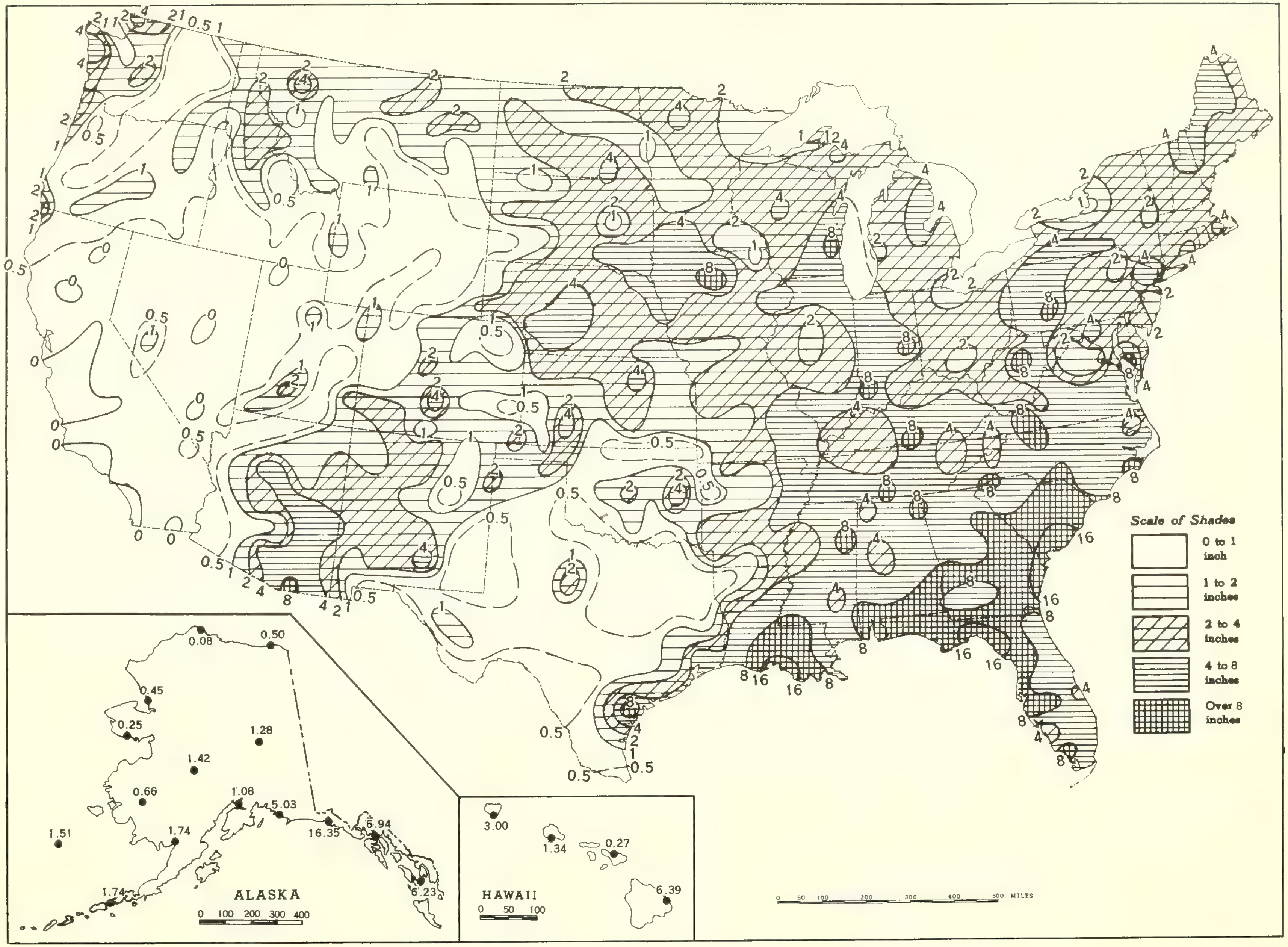
B. Departure of Average Temperature from Normal (°F.), July 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

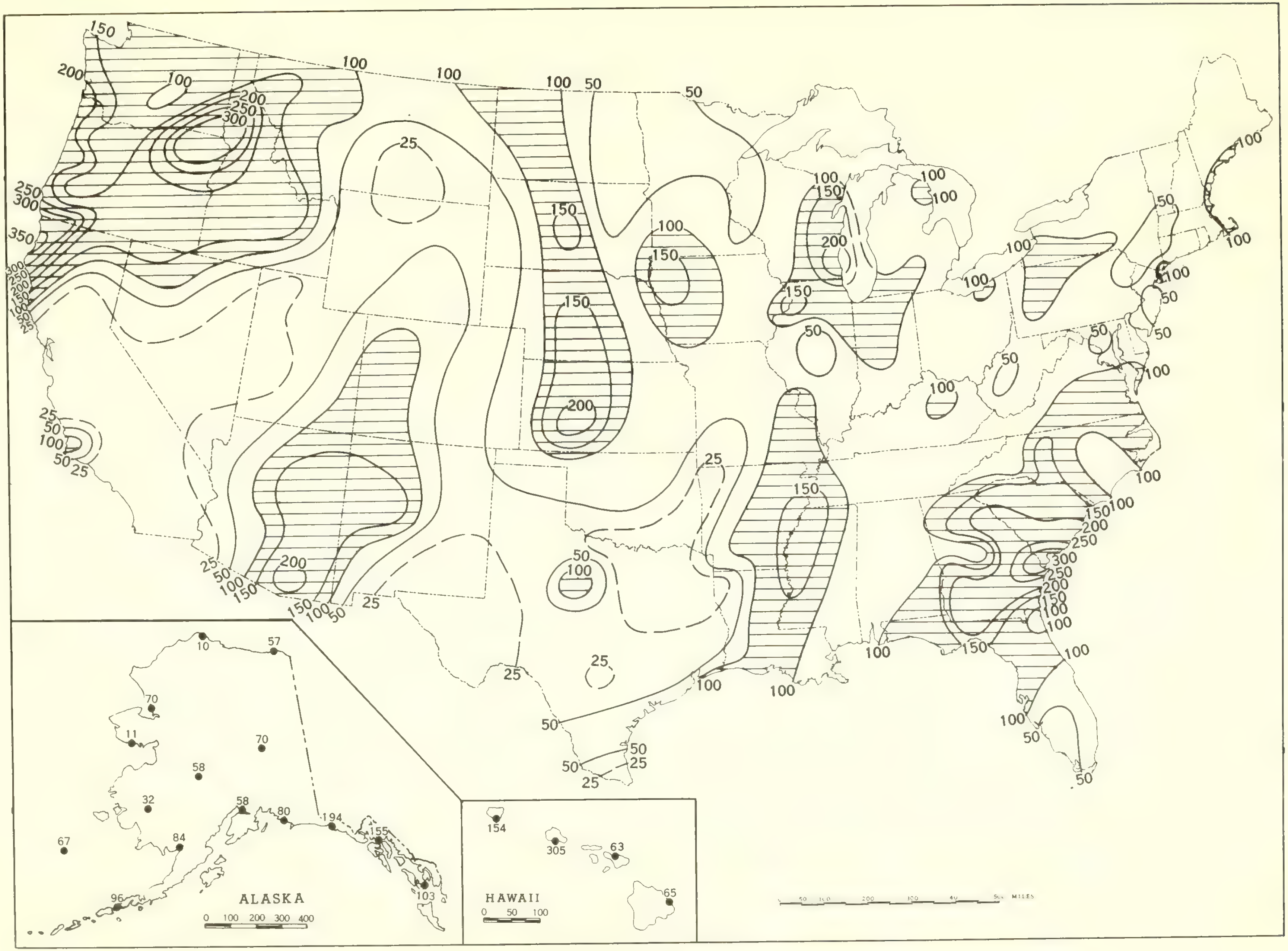
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), July 1964.



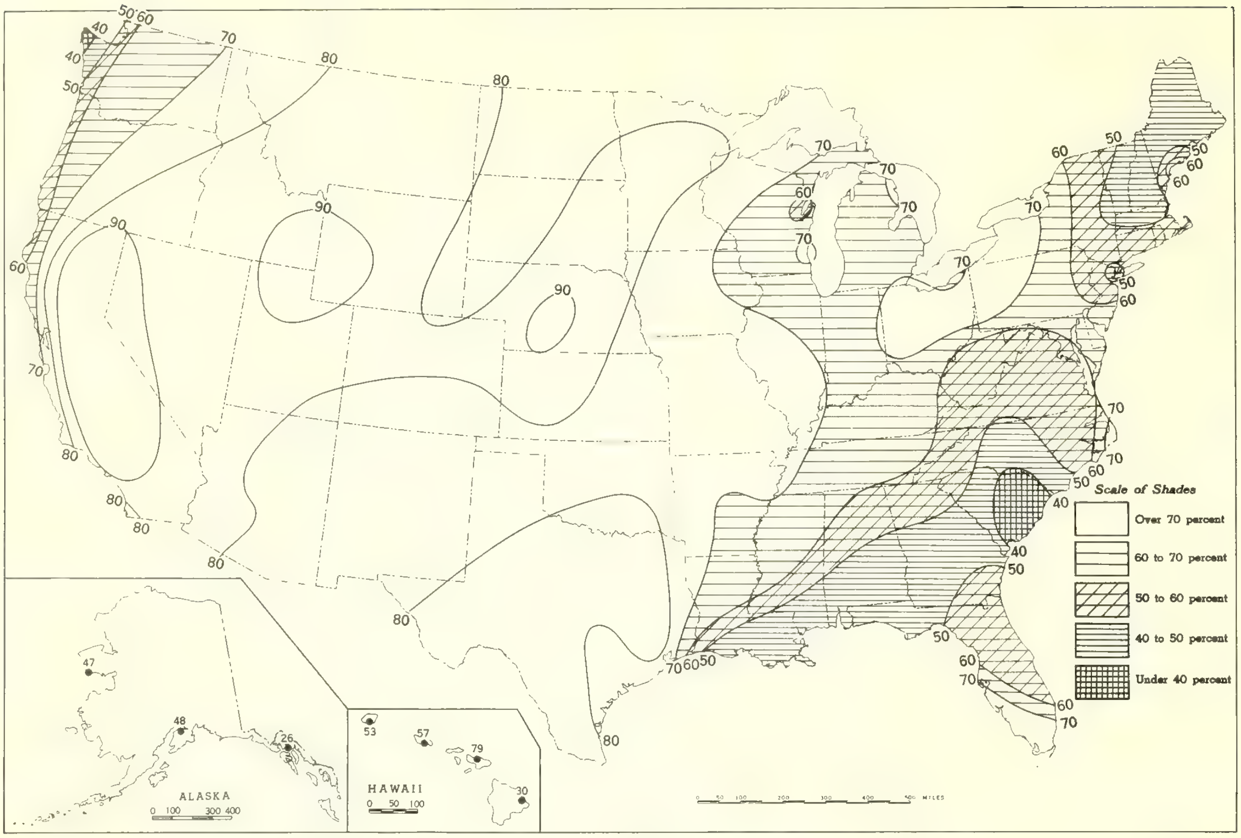
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, July 1964.

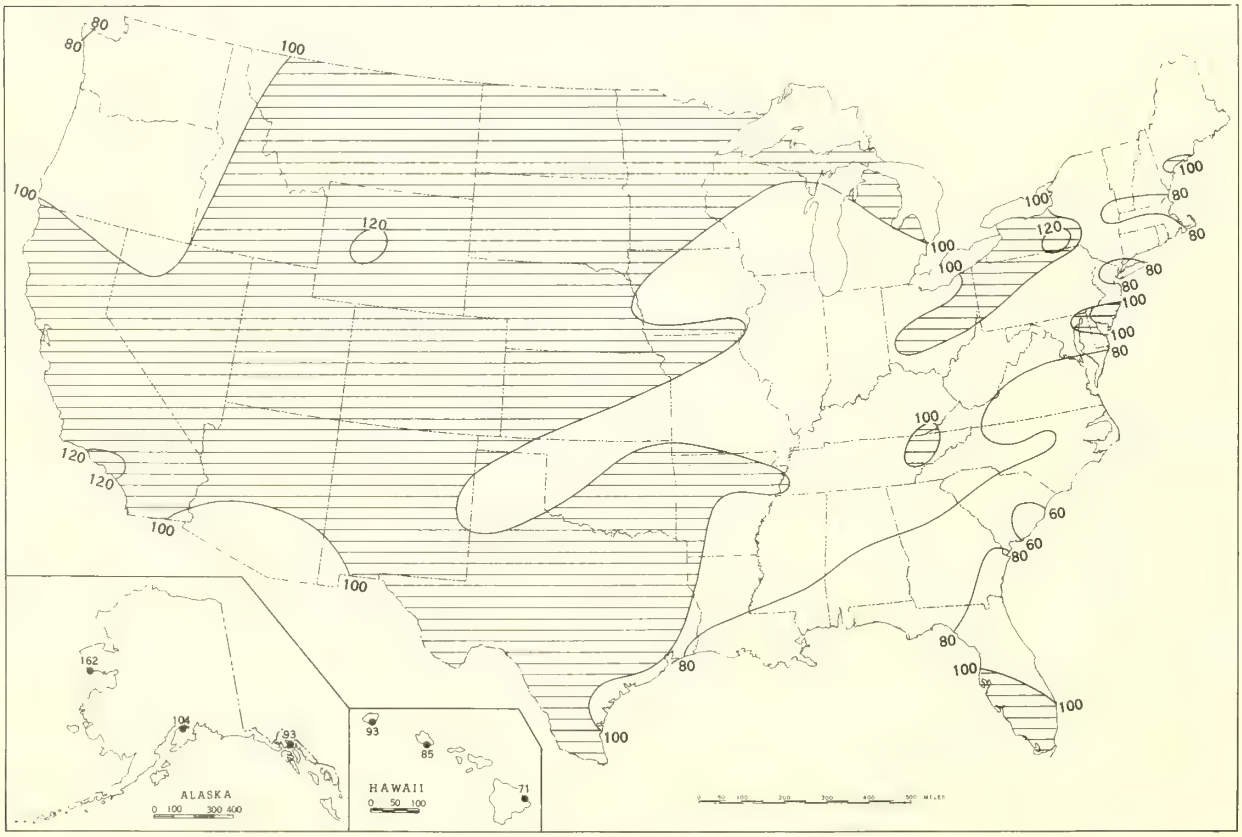


Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, July 1964.

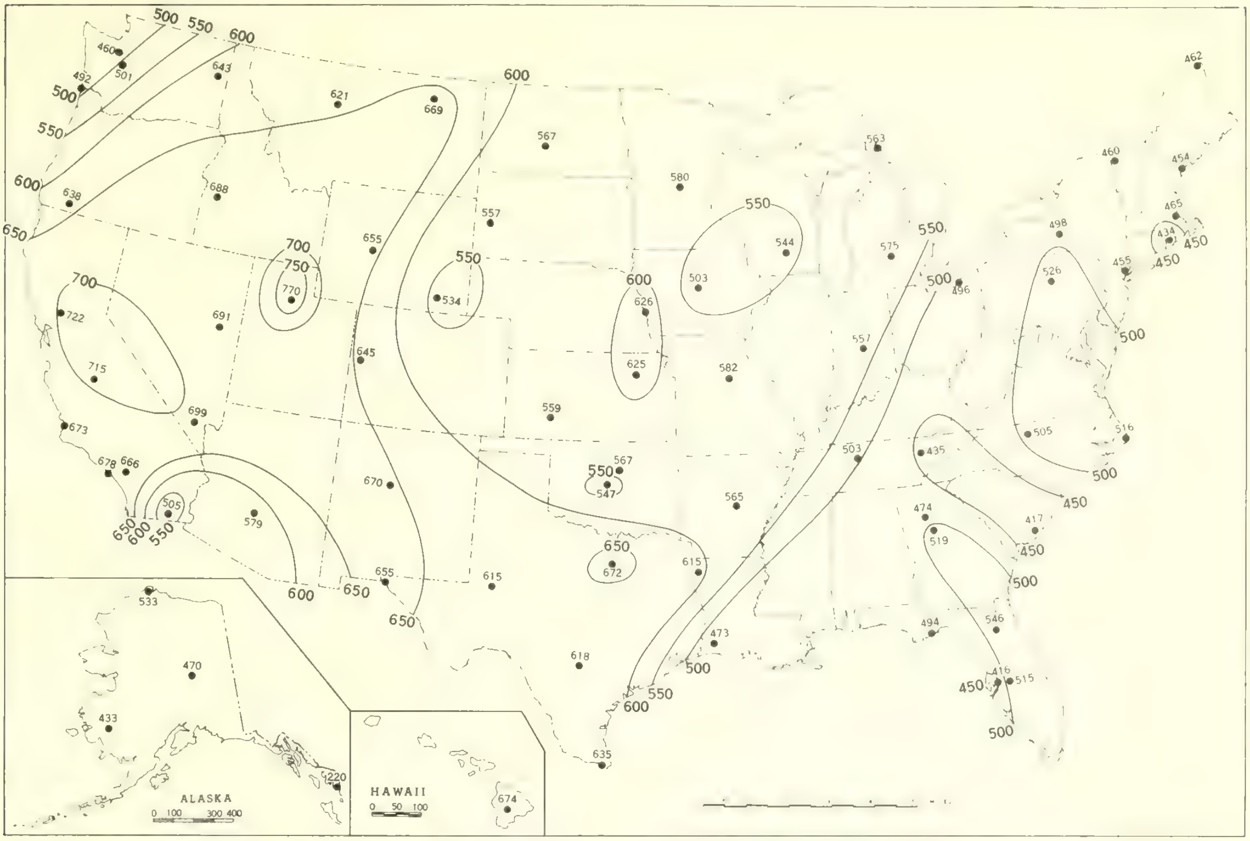


B. Percentage of Mean Monthly Sunshine, July 1964.

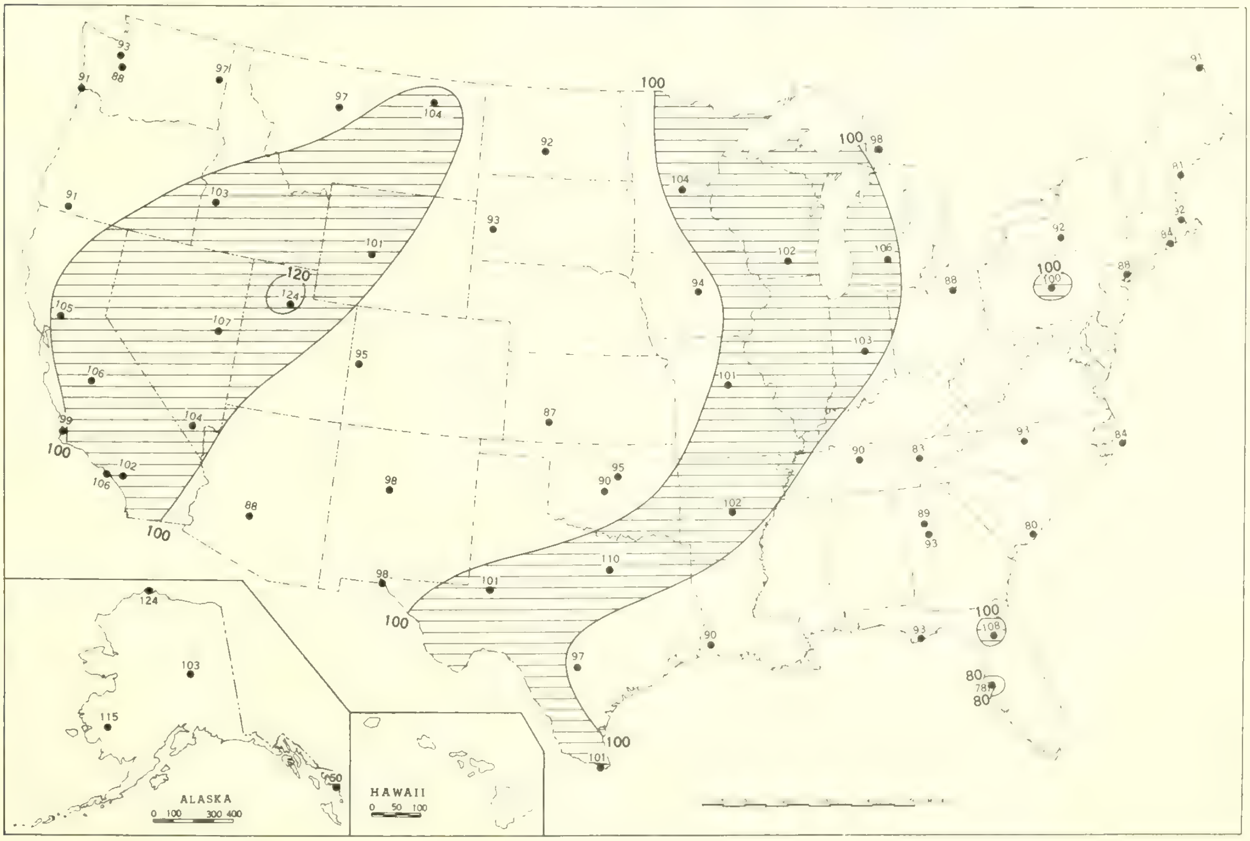


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, July 1964.

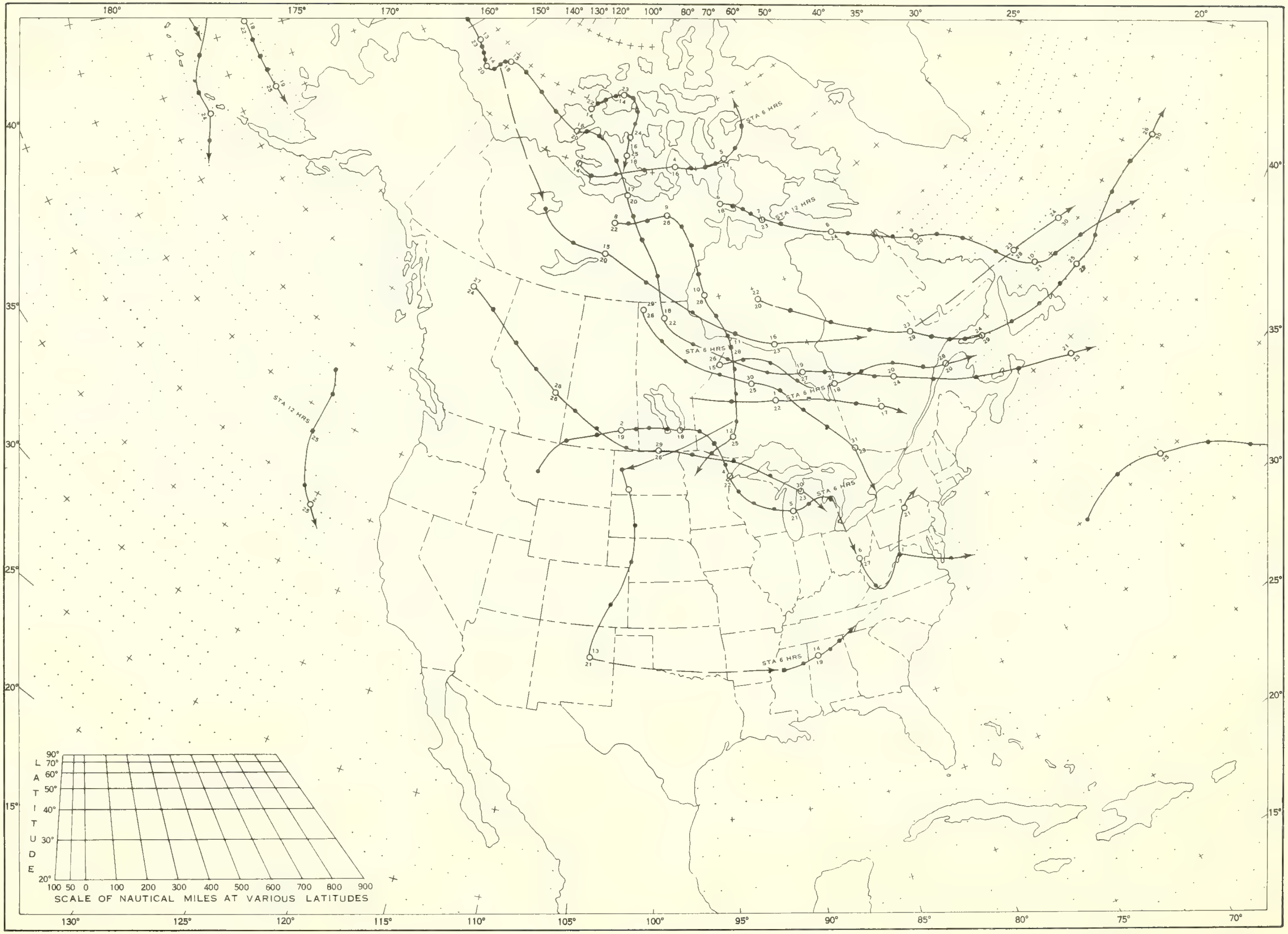


B. Percentage of Mean Daily Solar Radiation, July 1964.



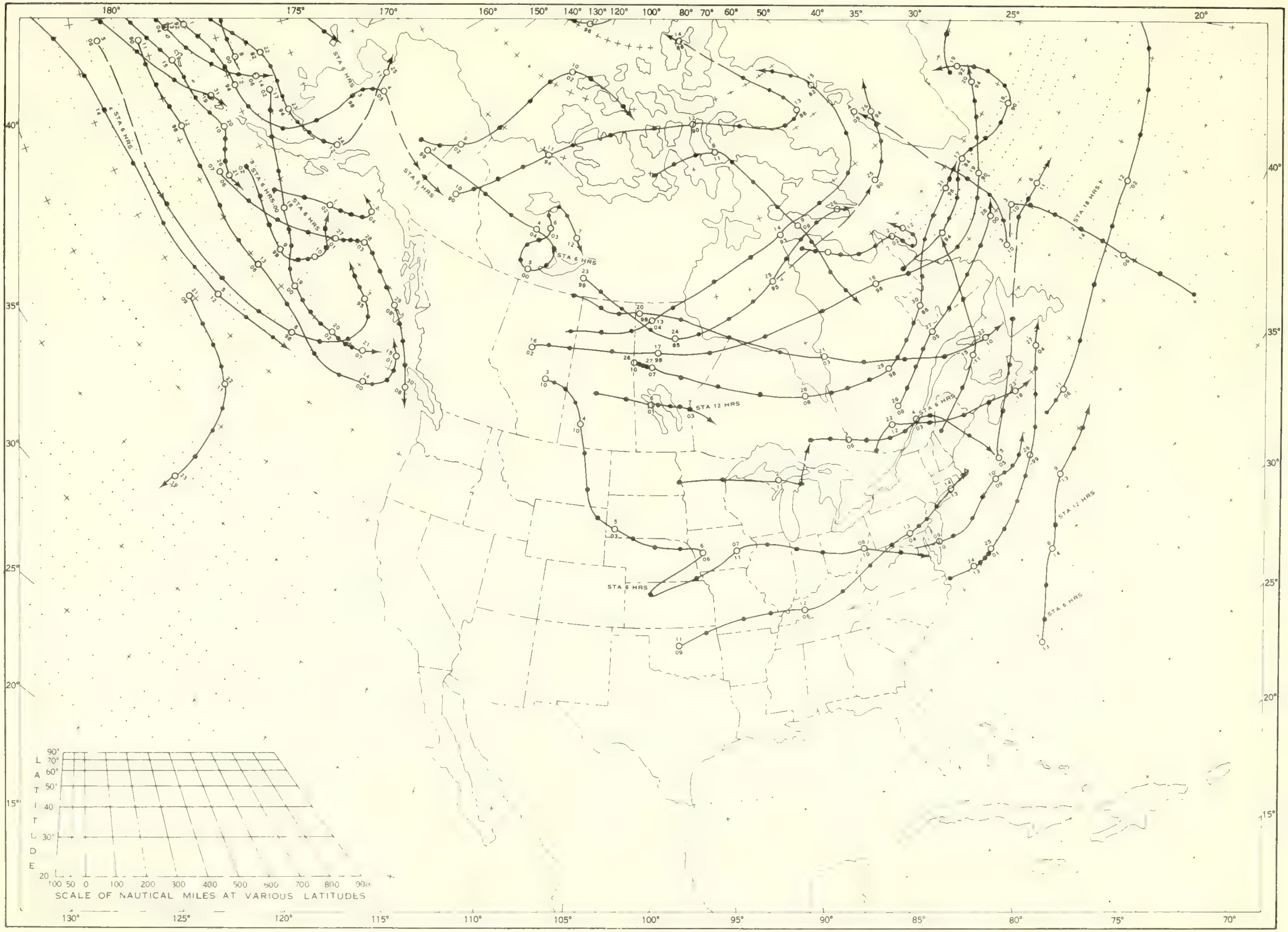
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, July 1964.



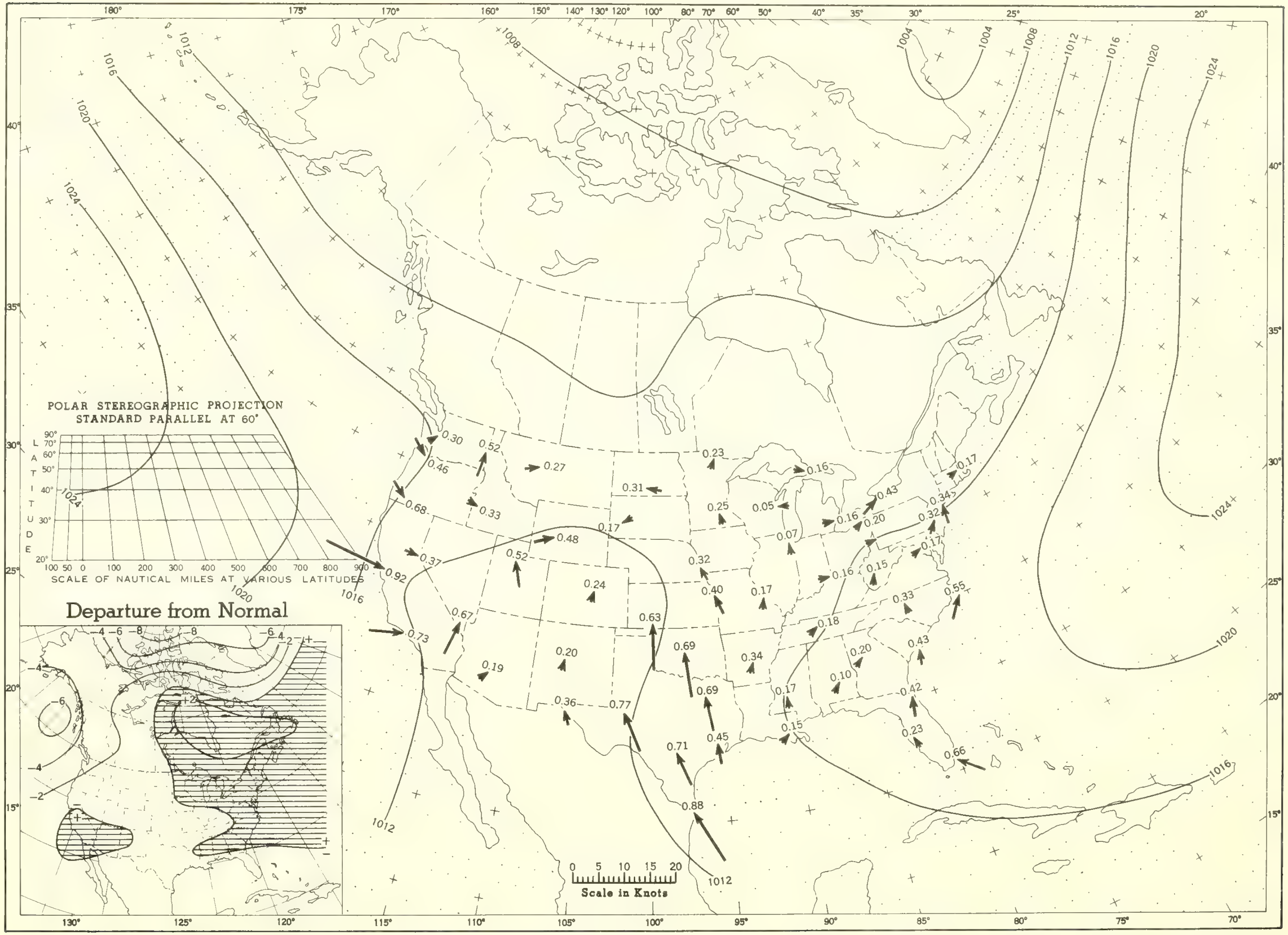
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, July 1964.



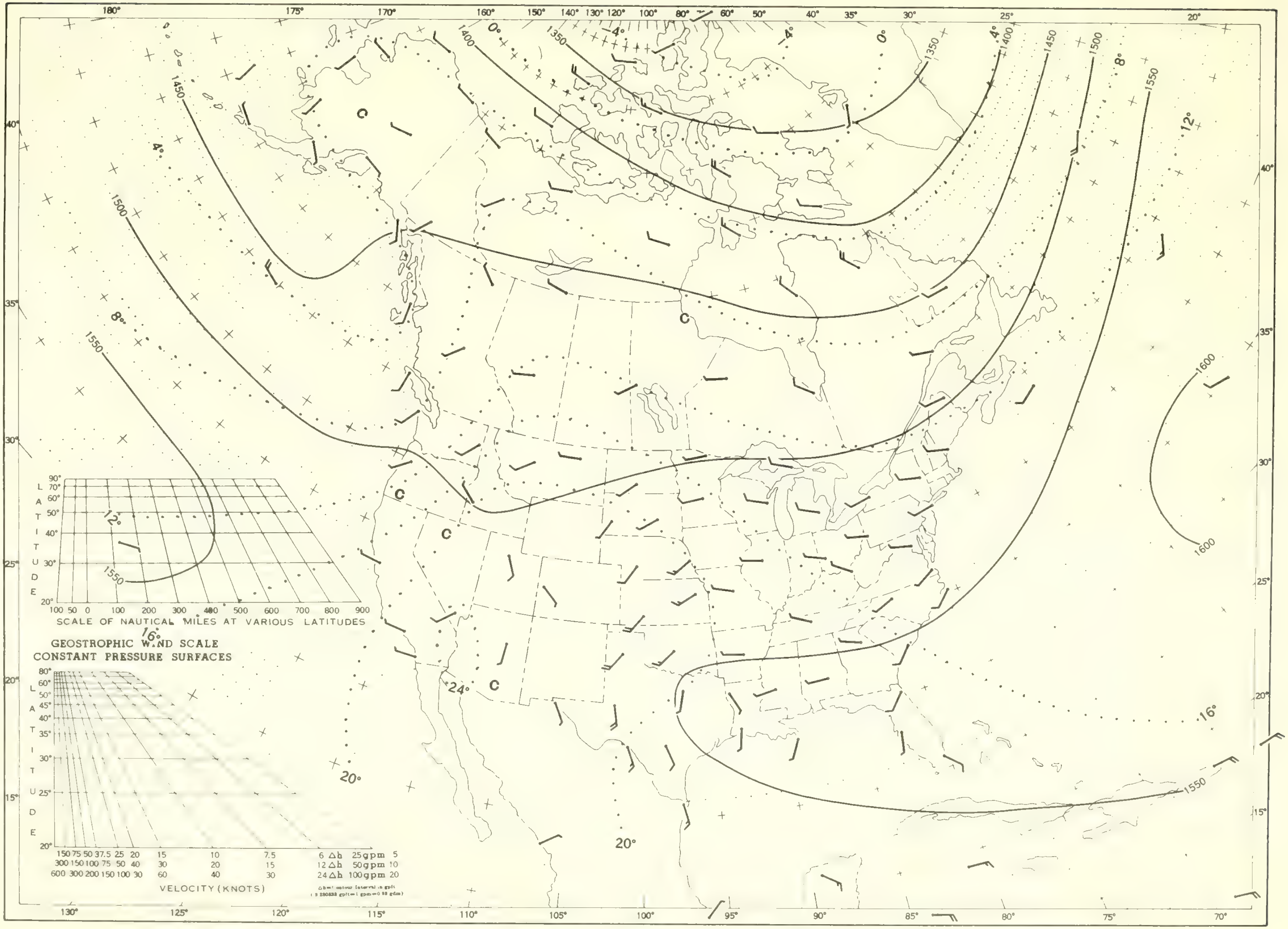
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, July 1964. Inset: Departure of Average Pressure (mb.) from Normal, July 1964.



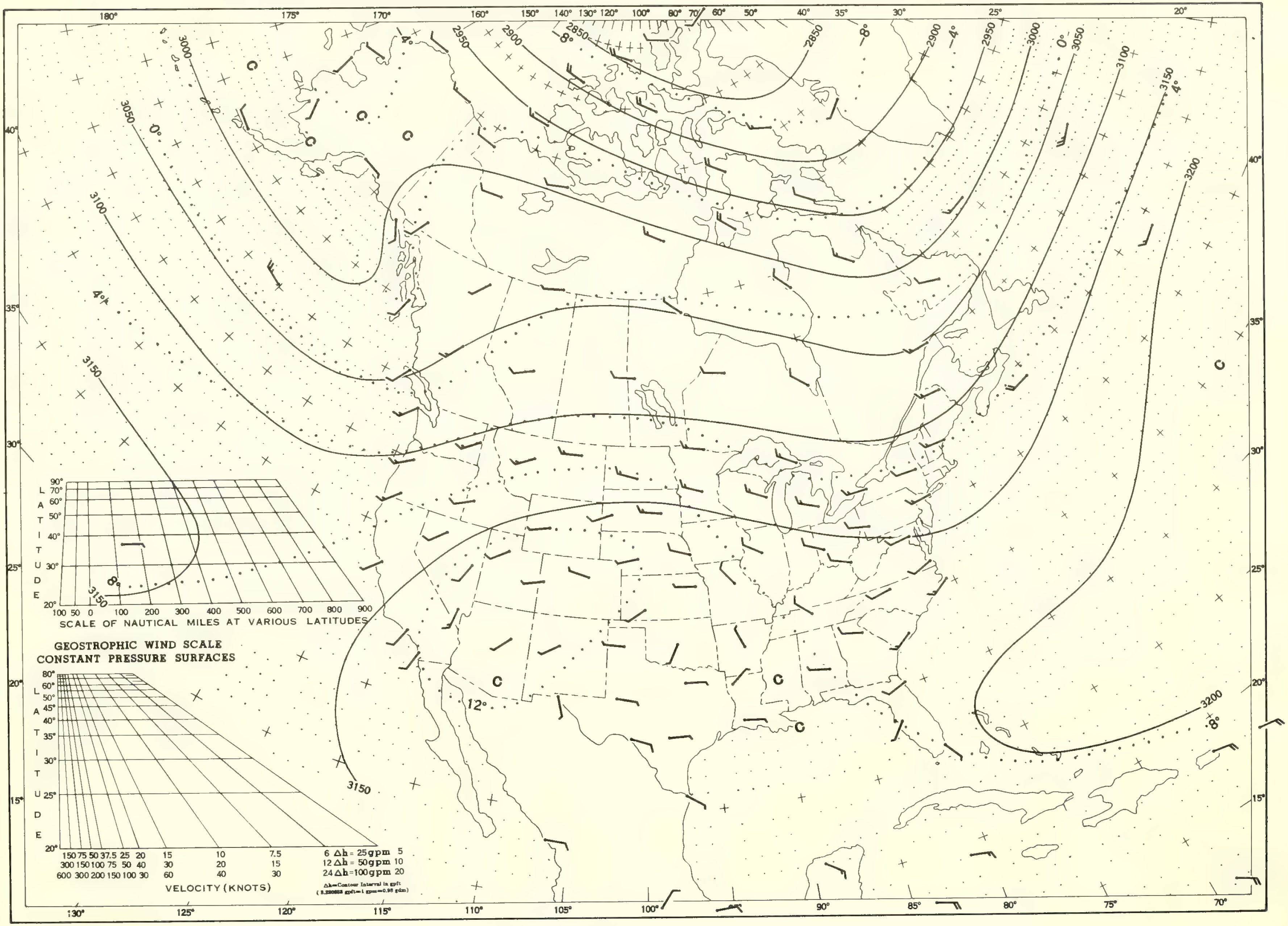
Average sea level pressures are obtained from the averages of 24 hourly readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, July 1964. Average Height and Temperature, and Resultant Winds.



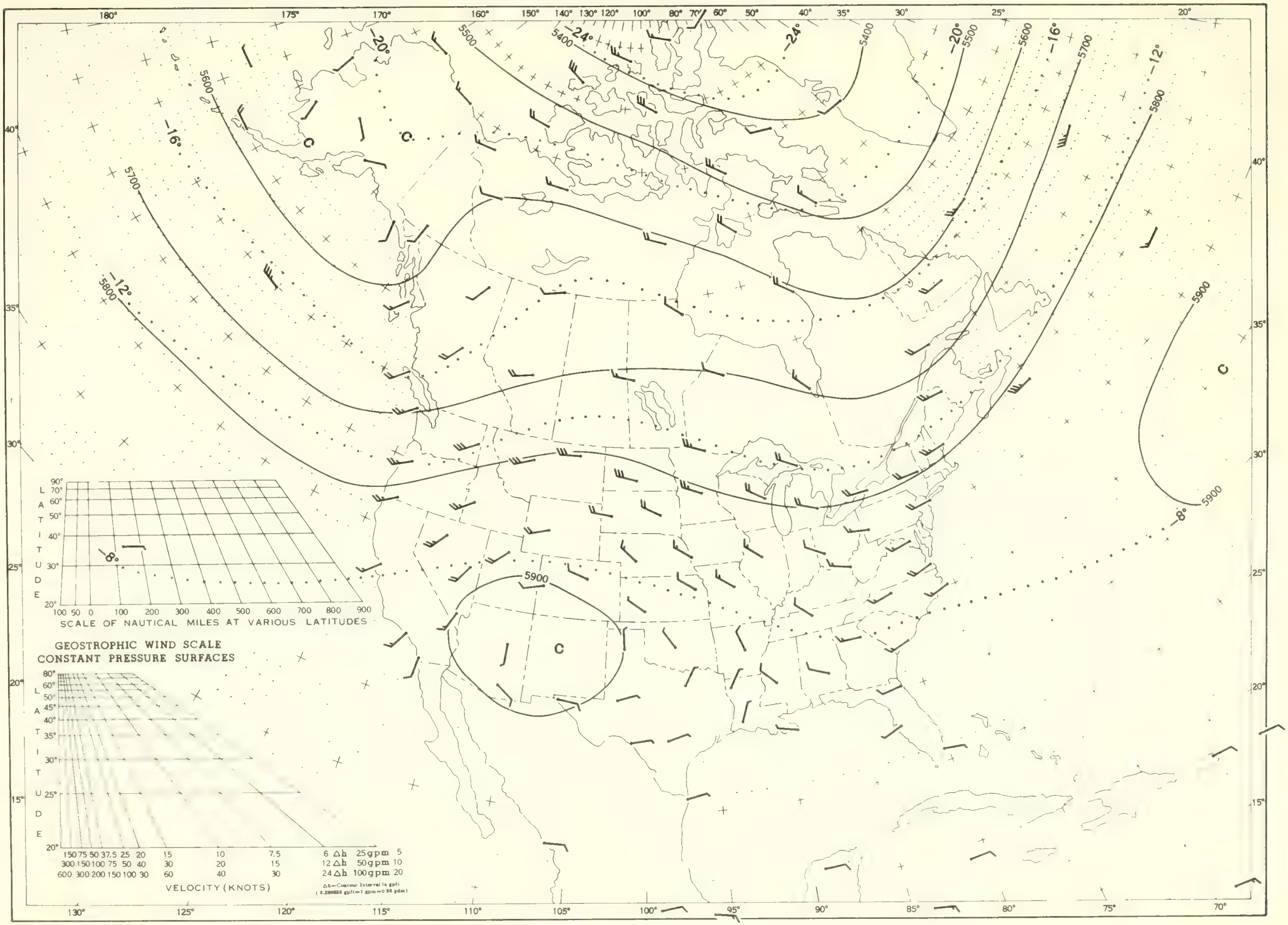
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, July 1964. Average Height and Temperature, and Resultant Winds.



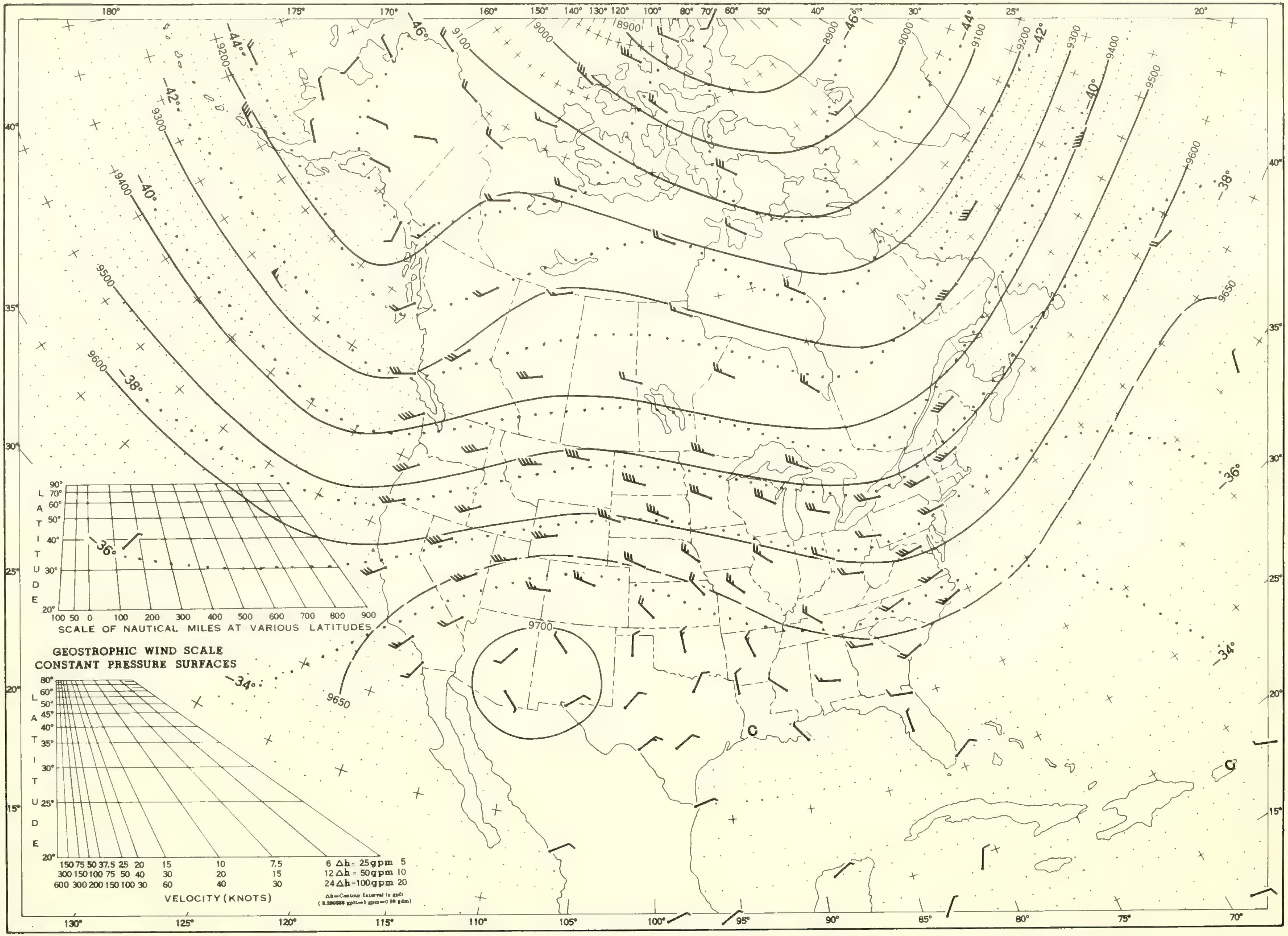
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, July 1964. Average Height and Temperature, and Resultant Winds.



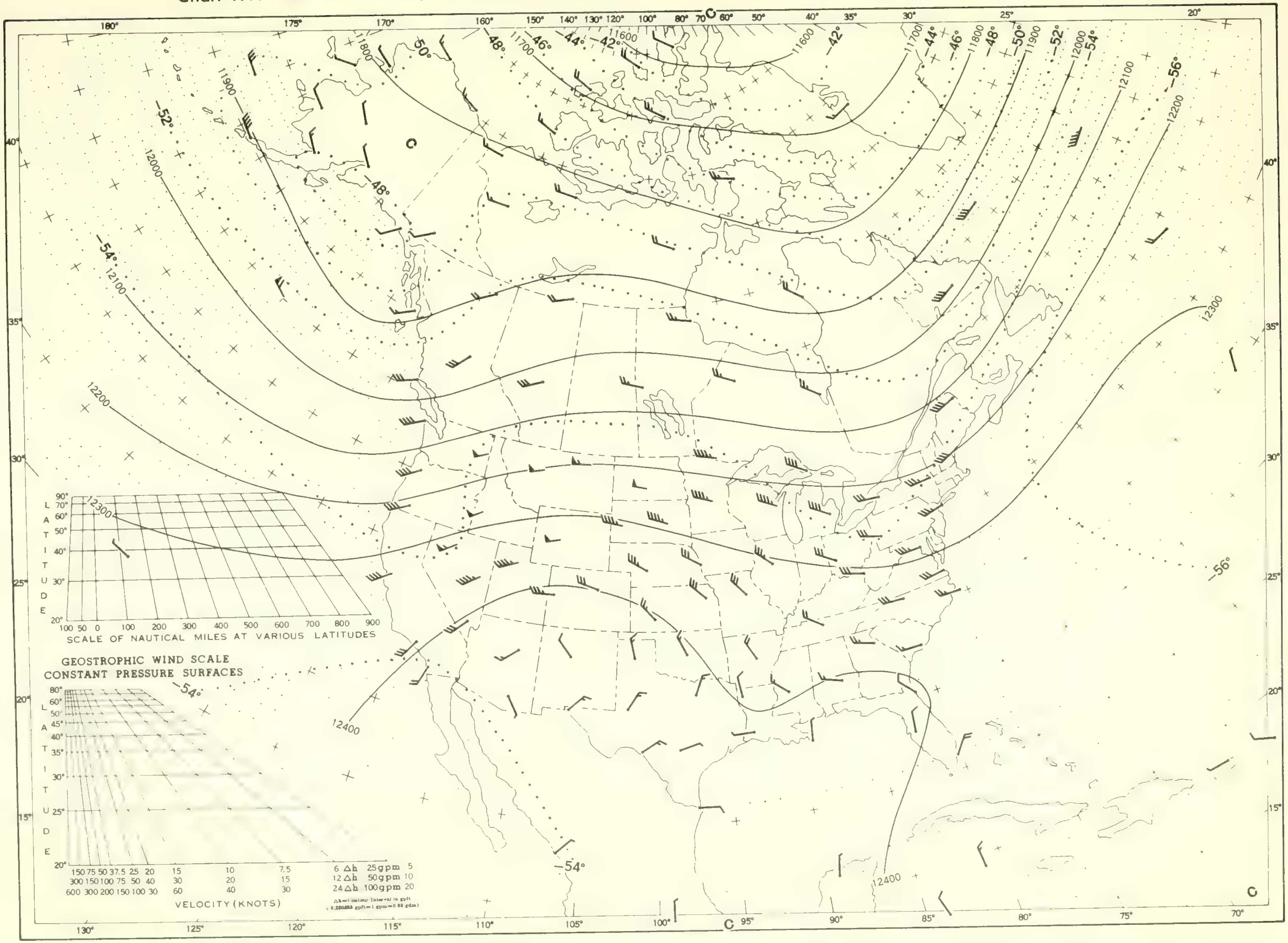
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, July 1964. Average Height and Temperature, and Resultant Winds.



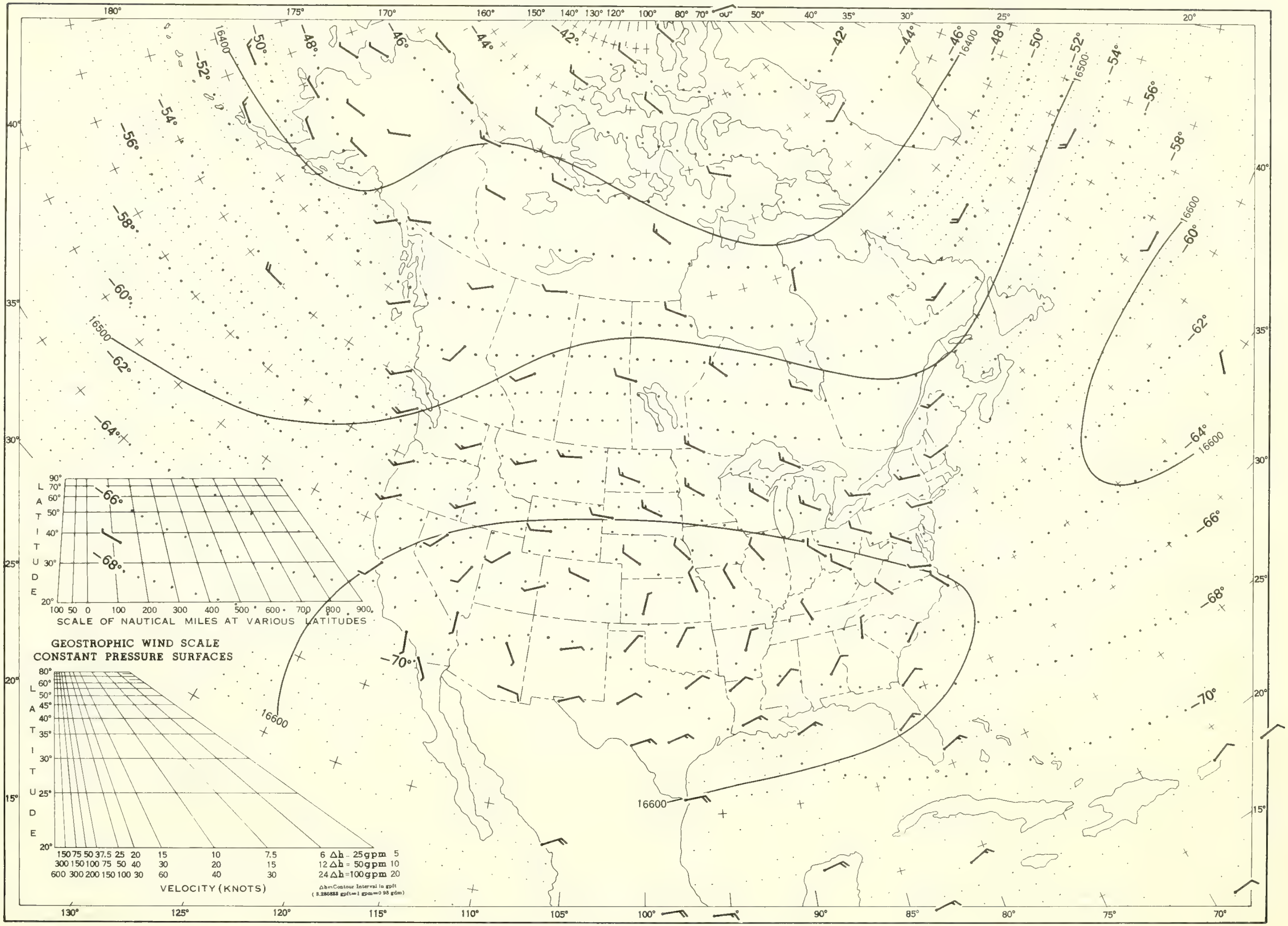
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, July 1964. Average Height and Temperature, and Resultant Winds.



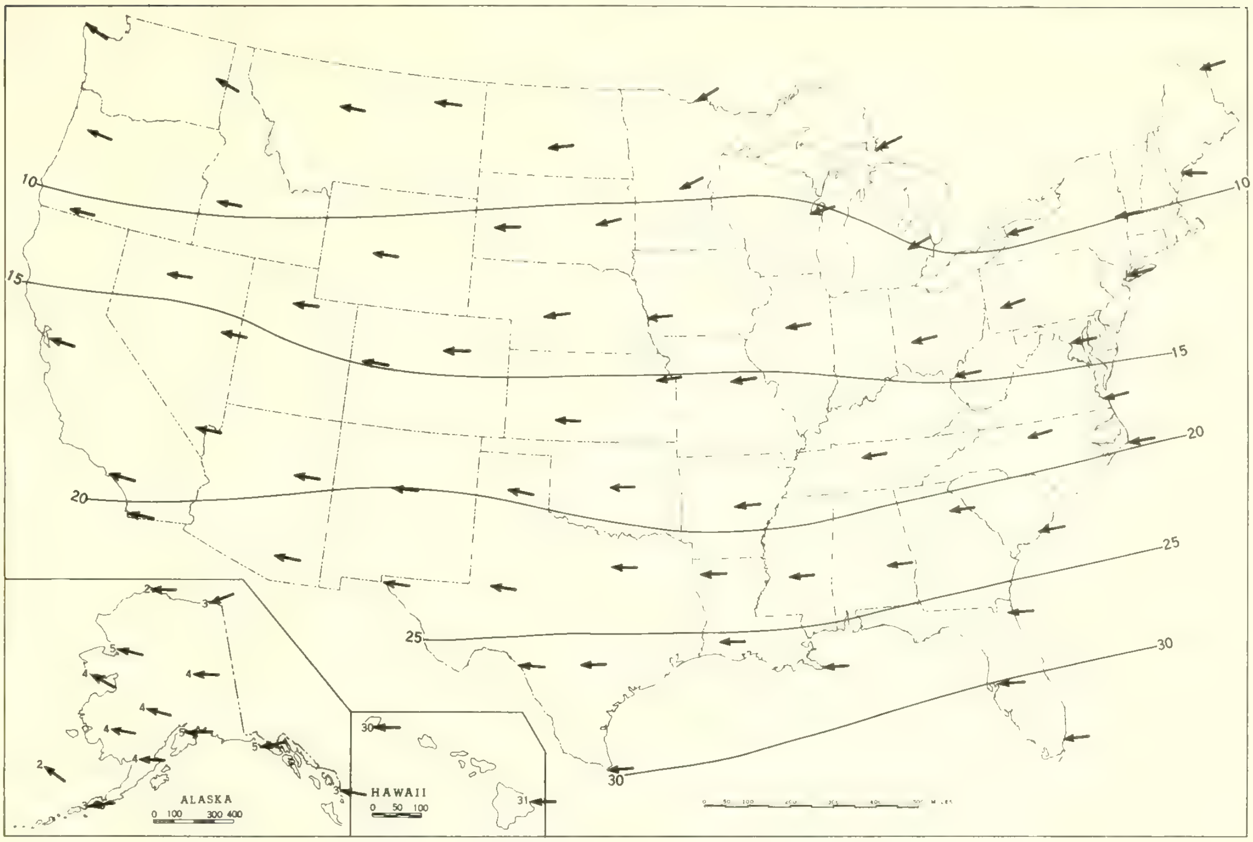
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, July 1964. Average Height and Temperature, and Resultant Winds.

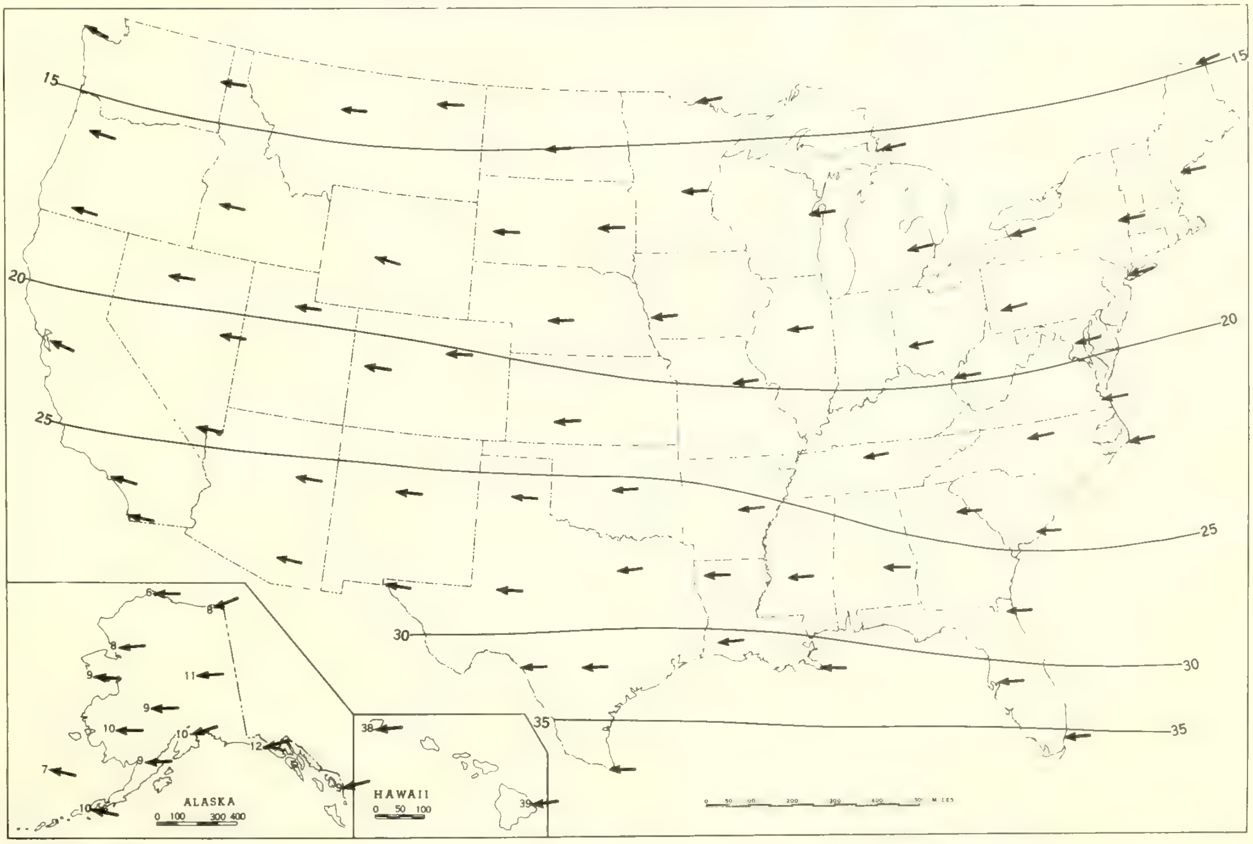


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, July 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, July 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

AUGUST 1964
Volume 15 No. 8

ASHEVILLE: 1964

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 8 AUGUST 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

August averaged warmer than normal over much of California, southern New Mexico, most of Texas, Louisiana, southern Mississippi, and the central and southern portions of the Florida Peninsula. The rest of the Nation was cooler than usual during August. Rainfall generally totaled less than an inch over Oregon, California, and eastward to the western High Plains and exceeded 1 inch over the rest of the Nation. Spots in Kansas, Oklahoma, and along the Gulf and southern and central Atlantic coasts received more than 6 inches.

TEMPERATURE.--August 1964 was among the coolest of record over the Far Northwest. It was the coolest August since 1950 over the northern Great Plains, and the coolest in 61 years in parts of New England. In contrast to the coolness of the central and northern portions of the Nation, portions of California and some of our southern States averaged warmer than normal. In some of the Gulf States, the high relative humidity made some days unpleasant.

The first day of August was hot and humid over much of the Nation. Temperatures over the central and southern sections of the Country exceeded 90° and reached 100° at a few locations in the Great Plains. Higher temperatures occurred on the 2d over much of the Midwest. Omaha, Nebr., registered 107°; Grand Island, 106°; and Concordia, Kan., 105°. Partial relief came on August 3 when cooler, less humid air spread southward across the Great Lakes preceded by thunderstorms. Summer heat continued in the Deep South and the arid Southwest. Abundant sunshine and southerly flow returned high temperatures to the western Great Plains. Miles City, Mont., registered 105° on August 4. Wichita Falls, Tex., registered 113° on August 6, setting a new alltime high temperature record.

Cool comfortable weather prevailed over much of the eastern United States. Early morning temperatures in the 40's and 50's were common from Ohio and Pennsylvania to New England. Polar continental air covered the Northeast as far south as the Ohio River and afternoon temperatures rose only to the 70's and lower 80's.

A mass of maritime polar air began pushing into the Northwest. As the cool air flowed across the northern and central Great Plains, the early morning temperatures dropped to the 40's and 50's and afternoon temperatures to the 70's. Minot, N. Dak., registered 93° on Sunday, the 9th, and no higher than 70° on the 10th. Midday temperatures in the 50's were common in Minnesota on the 11th and the temperature dropped to 33° at Bismarck, N. Dak., on the morning of August 12 and to 32° at Brookings, S. Dak., on the 13th. New low temperature records were set at scattered stations from Illinois and New York to northern Florida. Although temperatures characteristic of October covered the northern Great Plains, Texas continued to register afternoon maximums in the 90's and, in some places, above 100°.

After several days the temperatures over the East returned to seasonal levels. Temperatures climbed to 100° or higher at a few stations in the Dakotas on the 18th and 19th but, in general, temperatures over the western States averaged below normal during the last half of August. Cool temperatures continued over the Central and East. Portions of Nebraska averaged 9° to 15° below normal during the last 2 weeks of August.

PRECIPITATION.--Rainfall was generally of little importance from the Pacific Ocean to the western Great Plains. There were a few outstanding exceptions to this general statement. Parts of Montana received much more rain than normal. At some Montana stations, August 1964 was the rainiest August of record. At other locations, it was the rainiest in many years. Another exception was Winslow, Ariz., where, on August 12, a cloudburst produced 1.56 inches in 30 minutes, 2.07 inches in 80 minutes. This was the fastest rainfall of record for Winslow.

Tropical storm Abby dumped 4 to 6 inches of rain in the Palacios-Victoria, Tex., area about the end of the first week of August. Warm Gulf air, riding up over a dome of cold air, produced generous showers from Texas to the Carolinas near the end of the second week of August. During the third week of August, a cold front, moving across the Great Plains, producing thundershowers over the Corn Belt and general shower activity from the Texas High Plains southeastward across that State. Hurricane Cleo dropped heavy rains along the south Atlantic coast at the end of the last week of August. The highest monthly rainfall totals occurred over central Florida where numerous stations received more than 8 inches of rain.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Red Bay	102	5	Valley Head	46	13	Newton	11.97	Orrville	1.50
Alaska	Kobuk	84	13	Paxson	22	2	Little Port Walter	19.79	Chalkyitsik	.08
Arizona	4 Stations	114	15+	Fort Valley	31	23	Kitt Peak	8.22	Dateland	.00
Arkansas	2 Stations	111	4	Narrows Dam	39	8	Ozark	14.73	Arkansas City	1.17
California	Death Valley	119	10+	Bridgeport	24	29	White Mountain 2	1.98	217 Stations	.00
Colorado	Eversoll Ranch	108	10	Fraser	15	28	Bonham Reservoir	5.62	Holly	.02
Connecticut	Mansfield Hollow Dam	93	31	Coventry	31	10	Eastford	3.51	Norwalk Gas Plant	.27
Delaware	Milford 3WNW	95	23+	Milford 3WNW	43	15	Georgetown 5SW	2.65	Milford 3WNW	.44
Florida	Melbourne	100	13	DeFuniak Springs	58	14	Stuart 1N	15.11	Dry Tortugas	1.27
Georgia	Thomaston 2S	99	31+	2 Stations	46	13	Millen 4N	13.45	Monticello	2.15
Hawaii	2 Stations	92	29+	Haleakala Summit, Maui	35	17	Piihonua 89, Hawaii	18.20	9 Stations	.00
Idaho	Swan Falls Power House	105	11	4 Stations	21	28+	Avery Ranger Station	5.03	3 Stations	.00
Illinois	Harrisburg	107	3	7 Stations	40	26+	Prairie DuRocher 1WSW	5.21	Sidell	.75
Indiana	4 Stations	103	4+	3 Stations	34	14	Angola	4.40	Frankfort Disposal Plant	.34
Iowa	Shenandoah	106	2	Saratoga 2E	32	14	Denison 2S	6.53	Keosauqua No 2	1.28
Kansas	2 Stations	115	6	3 Stations	38	30+	Wellington	10.62	Jetmore 14NW	.05
Kentucky	do	105	4+	Falmouth 5WNW	40	15	Baxter	8.53	Berea	1.03
Louisiana	Logansport	109	5	5 Stations	60	14+	Jennings	9.99	Haynesville	1.56
Maine	2 Stations	89	31	Bridgewater	31	14	Rumford Power Plant	5.00	Houlton	1.53
Maryland	do	98	23	Sines Deep Creek 2	31	15	Westernport	6.45	Preston 1S	.71
Massachusetts	Fitchburg 2S	95	31	4 Stations	35	14+	Chester 2	5.91	Salem CG Air Station	.65
Michigan	2 Stations	102	2	3 Stations	29	9	Chatham Exp Farm	9.33	Vanderbilt Trout Sta	1.97
Minnesota	Stillwater	102	1	Bigfork	26	13	Riverton	9.82	Drayton 2NE	1.58
Mississippi	2 Stations	105	5	University	51	13	Vancleave	11.01	Scott	1.05
Missouri	Perryville	109	3	Albany	39	13	Seligman	9.09	Louisiana Starks Nur	.38
Montana	6 Stations	107	18+	Yellowstone Park NE Ent	24	30	Rocky Boy	7.78	2 Stations	.30
Nebraska	Red Cloud	110	2	Nenzel 20S	30	12	Herman	9.40	do	T
Nevada	Sunrise Manr Las Vegas	114	13	Charleston	15	30	Adaven	1.55	11 Stations	.00
New Hampshire	2 Stations	92	31+	Grafton	31	4+	Pinkham Notch	5.80	Nashua 2NNW	1.80
New Jersey	Hammonton 2NNE	97	24	3 Stations	40	15	Woodstown	3.25	New Monmouth	.05
New Mexico	San Jon	108	6	Cowles	25	28	Crownpoint	6.28	2 Stations	.00
New York	Poughkeepsie	95	30	Indian Lake 2SW	31	1	Hoffmeister 2W	8.56	do	.24
North Carolina	3 Stations	98	4+	Banner Elk	40	15	Rosman	15.83	Bodie Island	3.30
North Dakota	Waterford City 14S	107	1	Lostwood 12N	27	12	Cooperstown	6.67	Golden Valley 10S	.60
Ohio	Peebles	103	3	Ashland 3NW	34	6	Ironton	7.51	Athens 5NW	.94
Oklahoma	Waurika	116	6	Boise City 2E	40	28	Spavinaw	12.26	Arnett	.68
Oregon	Modoc Orchard	104	22	Fremont	18	29	Brightwood	4.13	9 Stations	.00
Pennsylvania	Shippensburg	97	30	Clermont 4NW	32	20+	Meadville 1S	9.69	Phil Drexel Inst Tech	.33
Puerto Rico	Ponce Mercedita AP	97	22	Guineo Reservoir	61	17	Bayamon Hato Tejas	15.18	Culebra Island	1.29
Rhode Island	Greenville	87	30	Kingston	39	10	Greenville	2.68	Block Island WBAP	.26
South Carolina	2 Stations	98	3+	Caesars Head	47	13	Branchville 6S	12.35	Gaston Shoals	4.63
South Dakota	Wood	110	1	Deerfield 5NW	20	25	Lead 1SE	7.77	Ardmore 2N	.42
Tennessee	3 Stations	106	5+	2 Stations	42	15+	Gatlinburg 2SW	9.49	2 Stations	2.47
Texas	do	114	7	Stratford	49	28	Arthur City	8.57	9 Stations	.00
Utah	Glen Canyon City	107	19	Hardware Ranch	18	30	Blowhard Mtn Radar	4.05	2 Stations	.03
Vermont	Vernon	90	31	2 Stations	32	27+	Salisbury	6.34	Readsboro 1SSE	3.04
Virginia	2 Stations	98	26+	do	37	15	Suffolk Lake Kilby	11.60	Tye River 1SE	.52
Washington	Little Goose Dam	101	12	Rainier Paradise RS	29	30	Tolt South Fork Resvr	8.18	White Swan	.00
West Virginia	2 Stations	100	4+	Canaan Valley	27	15	Summersville	8.28	Wardensville R M Farm	.96
Wisconsin	3 Stations	104	3+	2 Stations	27	14+	Buckatabon	8.79	Portage	1.64
Wyoming	Arvada 3N	105	4	Bondurant 3NW	15	30	Sundance	6.02	6 Stations	.00

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet		Average speed	Prevailing direction	Fastest mile			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max. 90 F. or above	Min. 32 F. or below						.01 inch or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	991.6	1016.4	88	68	78.1	- 3.0	94	31+	56	13	13	0	69	76	2.78	- 2.07	1.04	10	7	0.0	0	5.4	9	30	N	25	5	17	9	6.2	66
HUNTSVILLE	605	993.3	1016.1	85	67	76.4	- 3.8	96	4	54	13	5	0	67	76	2.54	- 0.75	1.05	10	5	0.0	0	5.1	16	36*	6	4	9	13	9	5.5	
MOBILE	211	1013.2	1015.4	91	73	81.5	- 0.6	96	31	66	14	23	0	72	80	6.20	- 0.24	1.96	16	13	0.0	0	7.3	18	28*	26	22	5	11	15	6.7	
MONTGOMERY	195	1004.6	1015.9	89	71	80.3	- 1.4	95	31+	62	14	15	0	71	77	2.55	- 1.55	0.68	11	10	0.0	0	5.4	36	25	S	10	6	13	12	6.1	63
ALASKA												B																				
ANCHORAGE	90	1005.0	1009.9	61	48	54.6		69	26+	38	25	0	0	48	80	2.16		0.41	16	0	0.0	0	7.1	18	21*	16	23	2	7	22	8.0	31
ANNETTE	110	1010.7	1014.6	62	50	55.7	- 2.7	74	23	42	18	2	0	50	85	10.49	2.98	2.25	19	0	0.0	0	7.5	16	26*	16	24	1	4	26	8.6	
BARROW	22	1012.3	1012.9	39	31	34.9	- 3.0	58	10	27	7+	0	23	32	91	0.36	- 0.54	0.14	7	0	1.3	1	11.8	9	30*	9	14	2	6	23	8.4	
BARTER ISLAND	39	1010.3	1012.0	40	33	36.8	- 3.2	54	31	27	21	0	12	34	91	1.50	0.45	0.72	13	0	3.5	T	10.9	9	31*	9	13	0	8	23	8.7	
BETHEL	125	1006.8	1008.2	58	46	52.1	- 0.2	66	7	38	26	0	0	48	88	1.71	- 2.49	0.41	15	0	0.0	0	10.1	24	39*	17	30	0	0	31	9.5	
COLD BAY	94	1006.5	1010.2	53	44	48.6	- 2.7	61	30	39	10	0	0	44	87	3.56	- 0.69	0.91	21	0	0.0	0	14.8	28	46*	19	30	1	3	27	9.1	
CORDOVA	40	1009.1	1010.8	62	47	54.3	1.9	72	27	38	25	2	0	47	80	9.59	1.53	2.71	24	0	0.0	0	5.5	7	23*	7	13	2	1	28	9.0	
FAIRBANKS	436	991.8	1008.8	66	47	56.5	2.2	79	12	36	22	12	0	47	76	2.37	0.17	0.50	16	2	0.0	0	5.8	2	22*	22	3	2	6	23	8.0	
JUNEAU	17	1012.2	1013.1	60	47	53.6	- 0.5	69	11	38	30	0	0	49	88	3.48	- 1.54	1.03	18	0	0.0	0	8.5	36	32*	12	28	1	2	28	9.3	20
KING SALMON	43	1006.3	1008.3	60	46	52.9	- 1.7	71	2	38	29	2	0	46	81	3.45	0.02	0.65	22	1	0.0	0	10.9	20	46*	8	22	1	6	24	8.7	
KOTZEBUE	10	1006.8	1007.2	59	47	52.9	2.3	72	12	41	5	2	0	47	80	1.32	- 0.84	0.41	16	1	0.0	0	10.8	30	37*	11	30	7	6	18	7.1	
MC GRATH	334	995.7	1008.3	64	45	54.6	0.5	75	2	38	29+	10	0	47	77	1.78	- 2.01	0.44	17	2	0.0	0	5.8	21	35*	19	30	0	7	24	8.5	
NOME	13	1005.5	1005.8	58	47	52.1	3.1	81	13	37	28	2	0	47	80	2.11	- 1.69	0.70	15	0	0.0	0	13.5	23	40*	26	31	1	12	18	8.0	30
ST. PAUL ISLAND	22	1005.5	1006.4	50	44	46.7	- 0.9	52	12+	41	15	0	0	45	94	2.39	- 0.90	0.64	20	0	0.0	0	13.8	18	46*	18	30	0	0	31	9.9	
SHEMYA	122	1006.0	1009.7	50	45	47.2	- 2.5	59	11	42	16+	0	0	45	93	2.55	0.43	0.94	16	0	0.0	0	18.3	19	52*		31	1	3	27	9.2	
YAKUTAT	28	1012.0	1013.1	59	48	53.2	- 0.6	74	11	41	30+	2	0	49	86	9.68	- 1.24	2.08	19	0	0.0	0	7.0	9	28*	14	12	2	2	27	9.1	
ARIZONA																																
FLAGSTAFF	6993	793.8	1015.8	77	49	63.3	- 0.6	86	7	38	23	0	0	48	65	1.32	- 1.52	0.42	10	16	0.0	0	5.9	17	20*	20	29+	11	12	8	5.4	
PHOENIX	1117	971.5	1009.6	99	74	86.2	- 1.3	108	7	67	27	29	0	61	47	1.29	0.17	0.54	5	6	0.0	0	6.8	12	46Y	NE	13	20	8	3	3.1	84
PRESCOTT	5014	849.2	1013.4	86	60	72.7	- 0.7	93	9+	51	22	7	0	54	58	3.36	0.70	1.12	12	15	0.0	0	7.2	18	33	E	8	11	13	7	4.7	78
TUCSON	2584	924.8	1010.7	92	71	81.6	- 1.5	102	7	65	27	25	0	61	56	3.90	1.02	2.05	9	10	0.0	0	8.3	18	32	SW	27	12	13	6	4.5	77
WINSLOW	4880	852.9	1013.2	90	61	75.7	- 2.1	98	7	49	23	18	0	51	49	2.81	1.38	2.08	9	17	0.0	0	8.1	22	43*	29	12	12	12	7	4.5	
YUMA	199	1003.6	1008.6	102	80	91.4	- 1.1	110	23+	69	30	31	0	64	45	0.49	- 0.01	0.44	3	2	0.0	0	10.2	16	42	S	9	19	5	7	3.2	87
ARKANSAS																																
FORT SMITH	449	997.2	1013.7	94	67	80.6	- 1.7	110	4	57	13	21	0	64	64	5.62	2.70	2.67	8	10	0.0	0	7.6	7	42	N	28	10	10	11	5.6	57
LITTLE ROCK	257	1002.1	1015.0	90	69	79.3	- 2.0	108	4	58	13	16	0	69	76	3.71	0.89	1.24	11	6	0.0	0	6.0	24	40	NW	11	5	14	12	6.2	47
TEXARKANA	361	1001.0	1014.3	93	72	82.5	- 0.1	105	5	66	26+	21	0	72	77	4.47	1.40	1.20	14	9	0.0	0	6.0	18								
CALIFORNIA																																
BAKERSFIELD	494	993.7	1011.1	97	69	82.7	1.0	104	8+	58	31	27	0	51	36	0.17	0.17	0.16	2	0	0.0	0	7.0	31	29*	33	31	26	5	0	1.3	
BISHOP	4108	873.3		95	56	75.5	1.2	101	23+	48	28+	27	0			0.05	- 0.07	0.05	1	4	0.0	0						24	4	3	2.1	
BLUE CANYON	5280	840.4		76	57	66.4	- 0.3	83	24+	35	31	0	0			0.55	0.49	0.55	1	0	0.0	0	6.0		22*	18	30	26	4	1	1.2	
BURBANK	699	986.8	1012.4	87	63	74.6	0.5	99	8	54	16	12	0	60	69	T	- 0.05	T	0	0	0.0	0	7.6	18	21*	19	8	19	11	1	2.8	
EUREKA U	43	1014.9		62	52	57.0	0.3	75	20	48	31+	0	0			0.03	- 0.07	0.01	3	0	0.0	0	7.1	N#	33	NW	19	8	14	9	5.5	63
FRESNO	326	999.1	1010.8	97	61	78.9	0.0	105	8	54	31	29	0	53	44	0.25	0.24	0.25	1	0	0.0	0	7.6	31	23	NW	26	27	3	1	1.3	95
LONG BEACH	34	1011.5	1013.1	78	63	70.9	- 1.4	86	19	57	16	0	0	59	72	T	- 0.03	T	0	0	0.0	0	6.9	18	21*	16	8	16	14	1	3.8	
LOS ANGELES	97	1009.6	1013.4	75	64	69.4	0.3	81	8	60	23+	0	0	60	75	T	- 0.02	T	0	0	0.0	0	9.5	27	25Y	W	22+	12	15	4	4.2	
MT SHASTA R	3544	892.9		83	48	65.4	- 1.3	96	22	38	27	8	0			0.05	- 0.13	T	1	0	0.0	0						28	1	2	1.1	
OAKLAND	3	1013.7	1014.0	70	58	64.0	- 0.2	83	20+	55	19	0	0	55	75	0.03	0.00	0.03	1	0	0.0	0	10.1	30	29*	26	30	21	8	2	3.1	
RED BLUFF	341	998.7	1011.1	97	65	80.7	- 0.3	108	21	56	31	28	0	46	34	0.67	0.61		1	0	0.0	0	7.8	17	28	N	19	24	3	4	1.7	95
SACRAMENTO	17	1010.5	1012.0	93	58	75.8	1.7	102	20+	52	27	24	0	53	56	0.11	0.09	0.11	1	0	0.0	0	9.0	22	26	SW	30	29	1	1	0.7	97
SACRAMENTO U	23			91	59	74.8	2.0	99	20+	54	31	20	0			0.06	0.02	0.06	1		0.0	0										
SANDBERG R	4517	863.6		85	63	74.0	0.7	93	24+	44	31	9	0			T	- 0.09	T	0	0	0.0	0	10.7		32*	31	27+	24	5	2	1.9	
SAN DIEGO	13	1009.9	1013.0	76	65	70.7	- 1.1	83	19	62	1	0	0	61	75	T	- 0.08	T	0	0	0.0	0	7.0	20	22	S	8	12	10	9	5.3	56
SAN FRANCISCO	8	1013.7	1014.4	73	55	64.3	1.5	89	19+	52	9	0	0	53	74	0.01	- 0.01	0.01	1	0	0.0	0	12.7	30	34	W	12	25	4	2	2.5	
SAN FRANCISCO U	52			66	55	60.0	0.6	80	19	52	13	0	0			0.01	- 0.03	0.01	1	0	0.0	0	10.4	W#	33	SW	26					73
SANTA CATALINA	1568	958.1		81	65	72.8	2.4	98	8	58	16	6	0			T	- 0.06	T	0	1	0.0	0						19	6	6	3.2	
SANTA MARIA	238	1005.9		73	52	62.2	- 0.2	84	6	47	19	0	0			0.10	0.07	0.10	1	0	0.0	0						16	12	3	3.8	
STOCKTON	28	1010.6	1012.3	93	61	77.0	0.8	102	5	53	31	22	0	50	45	0.29	0.29	0.29	1	0	0.0	0	8.9	27	21*	25	31+	28	2	1	0.9	
COLORADO																																
ALAMOSA	7536	777.5		79	45	61.9	- 1.1	87	10	29	21	0	4			0.73	- 0.25	0.34	10	12	0.0	0						11	17	3	4.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	813.4	1012.8	85	54	69.3	0.1	95	10	43	21	7	0	42	44	0.60	- 1.56	0.24	9	13	0.0	0	9.4	2	35*	30	19	9	11	11	5.3	
DENVER	5283	838.2	1011.2	86	55	70.4	- 1.1	95	10	41	23	11	0	39	36	0.27	- 1.01	0.18	6	8	0.0	0	8.3	19	35	W	19	10	17	4	4.9	82
GRAND JUNCTION	4849	859.5	1011.6	88	60	74.1	- 1.4	101	10	48	28+	16	0	43	38	1.16	0.09	0.69	8	5	0.0	0	8.9	14	49	W	26	15	10	6	4.3	77
PUEBLO	4639	856.8	1011.9	90	57	73.4	- 1.2	99	24	42	28	17	0	48	48	2.70	0.85	0.84	9	11	0.0	0	8.9	12	52	N	16	13	14	4	4.2	77
CONNECTICUT																																
BRIDGEPORT	7	1015.2	1016.1	78	60	68.9	- 3.4	87	30	50	10	0	0	59	73	0.99	- 3.46	0.36	9	3	0.0	0	11.6	23	25*	32	9	8	13	10	5.7	
HARTFORD	169	1009.4	1015.5	80	56	68.1	- 3.1	92	30	45	10	2	0	57	70	2.46	- 1.55	1.15	8	7	0.0	0	6.9	17	26	NW	12	3	17	11	6.4	67
NEW HAVEN	6	1015.1		77	59	68.0	- 2.6	86	30	48	10	0	0			2.93	- 1.31	1.32	9	3	0.0	0	7.1		27	NW	18	7	14	10	5.7	67
DELAWARE																																
WILMINGTON	78	1012.7	1016.0	82	62	71.5	- 2.8	92	22	48	15	4	0	60	69	1.83	- 3.76	0.69	10	3	0.0	0	8.2	18	25*	33	18	6	15	10	6.0	
DIST.OF COLUMBIA																																
WASHINGTON U	72			84	65	74.7		94	23	54	15	7	0			2.03	- 2.46	1.57	5													
WASH NATL AP	14	1011.5	1015.5	85	56	75.5	- 1.0	94	22	53	15	9	0	61	64	1.89	- 3.01	1.25	3	2	0.0	0	8.9	18	26	SSE	30+	6	11	14	6.6	50
FLORIDA																																
APALACHICOLA U	13	1013.7		89	76	82.4	0.9	95	28	71	15	11	0			4.41	- 3.33	0.90	13	10	0.0	0	5.3					7	11	13	6.4	49
DAYTONA BEACH	31	1014.9	1016.6	89	73	80.8	0.1	94	4	69	3	10	0	73	81	10.81	4.44	3.71	15	16	0.0	0	7.6	20	40*	10	28	2	12	17	7.3	
FORT MYERS	13	1015.2		92	74	82.9	0.2	95	24+	71	22+	28	0			4.26	- 3.12	1.34	16	23	0.0	0	7.8		23*	31	27+	1	21	9	6.5	
JACKSONVILLE	24	1014.0	1015.7	89	73	81.2	- 1.1	95	31	70	16	16	0	73	81	5.63	- 1.22	2.58	14	14	0.0	0	8.6	24	43	NE	28	2	13	16	7.2	53
KEY WEST	5	1014.6	1015.9	89	80	84.9	1.3	90	29+	74	1	16	0	75	72	3.42	- 0.91	0.76	13	13	0.0	0	9.6	12	26		8	7	15	9	5.9	79
LAKELAND U	214			91	74	82.1	0.2	94	31+	69	7	21	0			9.86	2.78	3.64	17	22	0.0	0	6.0					2	15	14	6.8	54
MIAMI BEACH	9			88	79	83.2	0.3	92	19	74	27+	6	0			6.05	0.99	2.71	11		0.0	0	13.1					3	18	10	6.1	76
MIAMI	7	1014.6	1015.8	90	78	83.6	1.3	93	19	74	7+	18	0	74	76	9.84	2.87	6.92	19	18	0.0	0	7.9	12	74*	36	27	3	14	14	6.6	
ORLANDO	106	1011.8	1016.5	92	74	82.8	0.0	94	31+	71	21	28	0	74	82	9.00	2.06	3.00	14	16	0.0	0	7.6	18	32*	36	28	2	14	15	7.2	
PENSACOLA	13			89	73	81.1	- 0.4	96	31	68	14	14	0			9.37	2.40	2.42	18	12	0.0	0	6.0	35	32	N	4					
TALLAHASSEE	58	1013.6	1016.3	90	72	81.2	0.1	96	31+	65	14	18	0	73	81	9.32	2.39	1.64	17	18	0.0	0	6.6	36	31*	27	13	7	8	16	6.5	
TAMPA	19	1014.3	1016.0	89	74	81.5	- 0.5	93	24+	71	20	12	0	73	80	10.73	2.49	2.24	17	20	0.0	0	9.2	27	35*	3	8	2	14	15	7.1	57
WEST PALM BEACH	15	1015.0	1016.3	90	75	82.6	- 0.4	94	14+	71	19	23	0	75	81	7.33	0.59	4.01	18	12	0.0	0	8.5	12	86*	13	27	3	15	13	6.5	
GEORGIA																																
ATHENS	803	987.6	1016.2	86	67	76.4	- 2.6	94	31	56	13	8	0	68	80	3.78	0.15	1.89	11	7	0.0	0	6.7	24	24*	24	12	10	11	10	5.8	
ATLANTA	1005	975.1	1016.4	84	68	76.0	- 2.4	91	31	56	13	2	0	68	81	4.10	0.50	1.54	10	6	0.0	0	6.5	29	27	N	11+	8	11	12	5.9	60
AUGUSTA	143	1008.8	1015.5	89	69	79.1	- 1.1	94	27+	60	14	19	0	69	76	9.91	6.02	5.98	7	9	0.0	0	5.6	24	30*	23	12	2	15	14	7.0	
COLUMBUS	385	1001.8		89	70	79.5	- 1.2	96	31	60	14	15	0			5.18	0.54	2.75	10	5	0.0	0	4.9		25*	25	11+	6	11	14	6.5	
MACON	356	1002.7	1016.1	89	68	78.7	- 2.6	97	31	56	14	17	0	70	82	2.81	- 1.37	1.23	9	6	0.0	0	6.4	30	26	N	29	6	13	12	6.4	61
ROME	637	993.4		88	65	76.1	- 2.3	94	31+	55	25+	14	0			2.98	- 0.78	1.09	8	7	0.0	0									5.2	
SAVANNAH	48	1013.3	1015.9	89	71	79.6	- 1.4	95	3	67	21+	16	0	71	80	8.37	1.75	5.78	12	10	0.0	0	8.0	22	34	NE	28	4	15	12	6.5	70
HAWAII																																
HILO	31	1015.1	1016.7	83	68	75.4	- 0.4	88	29+	64	25	0	0	67	77	7.33	- 4.12	1.72	27	1	0.0	0	8.7	25	26*	14	28	5	11	15	6.7	40
HONOLULU	7	1015.6	1016.0	87	74	80.4	1.0	90	29	70	28+	1	0	62	57	0.46	- 0.43	0.21	10	0	0.0	0	10.5	6	25	NE	17+	8	17	6	5.1	79
KAHULUI	44	1012.9	1015.7	85	69	76.7	- 2.3	91	29	62	26	1	0	67	75	0.20	- 0.15	0.07	7	0	0.0	0	13.0	5	30	NE	22+	14	16	1	4.2	79
LIHUE	115	1011.9	1017.5	83	72	77.1	- 1.3	85	2	67	29	0	0	69	77	2.07	- 0.39	0.47	18	0	0.0	0	10.2	6	24	NE	12	3	20	8	6.1	61
IDAHO																																
BOISE	2838	918.0	1012.6	85	54	69.2	- 2.9	101	17	38	29	14	0	41	40	0.53	0.37	0.46	4	2	0.0	0	7.7	31	27	NW	30+	21	8	2	2.7	87
IDAHO FALLS 42NW R	4790			84	45	64.1	- 2.3	96	9	30	30	12	1			0.68	0.19	0.36	3													
IDAHO FALLS 46W R	4933	848.1		82	45	63.6	- 3.0	93	4	30	30+	6	2			0.26	- 0.22	0.11	3	2	0.0	0	9.4		35A	WSW	26					
LEWISTON	1413	962.3		82	55	68.6	- 3.1	96	17	47	31	6	0			0.66	0.23	0.35	9	3	0.0	0						14	6	11	4.6	
POCATELLO	4444	863.0	1012.8	85	50	67.5	- 2.6	98	4	34	30	12	0	37	36	0.24	- 0.31	0.16	4	1	0.0	0	10.6	21	37	SW	28	20	8	3	3.1	92
ILLINOIS																																
CAIRO U	314	1001.9		88	69	78.8	- 1.1	103	4+	57	13	14	0			3.17	0.07	1.34	9	6	0.0	0	7.2	S#	35	NW	4	16	6	9	4.6	74
CHICAGO O HARE	658	990.0	1014.4	81	55	67.7	- 3.6	96	3+	41	26+	4	0	57	68	1.95	- 1.26	1.49	6	4	0.0	0	9.5	24	29*	21	11	10	11	10	5.2	
CHICAGO MIDWAY	610	991.7	1014.5	82	61	71.7	- 2.5	98	3	48	14	4	0	58	63	2.19	- 0.97	1.03	6	6	0.0	0	9.0	21	27	W	11	11	10	10	5.1	66
MOLINE	582	992.5	1014.4	83	59	70.8	- 2.8	96	2	45	14	5	0	59	67	2.41	- 1.12	1.90	8	7	0.0	0	8.0	27	38	W	24	9	13	9	5.2	71
PEORIA	652	992.6	1014.7	85	60	72.4	- 1.9	99	2	48	26	8	0	58	65	2.06	- 0.82	1.50	6	6	0.0	0	9.0	18	29	W	30	10	10	11	5.6	72

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	986.5	1013.9	79	55	66.9	- 5.6	93	3+	43	26+	3	0	58	73	1.99	- 2.15	1.50	7	5	0.0	0	9.7	18	35*	27	30	10	13	8	5.0	
SPRINGFIELD	588	991.3	1014.3	87	62	74.5	- 0.7	103	3	43	13	13	0	59	60	2.20	- 0.54	1.20	4	3	0.0	0	9.2	17	31	W	25	11	10	10	4.9	80
INDIANA																																
EVANSVILLE	381	999.7	1015.4	89	62	75.6	- 1.7	102	3	46	13	17	0	63	67	1.17	- 1.90	0.82	5	4	0.0	0	7.0	18	26	S	28	16	5	10	4.4	82
FORT WAYNE	791	984.4	1015.2	83	58	70.6	- 1.9	98	2	41	14	9	0	57	66	2.04	- 1.00	0.58	7	6	0.0	0	8.0	22	34	NW	11	9	11	11	5.6	72
INDIANAPOLIS	793	985.8	1015.3	84	61	72.5	- 1.2	97	3	48	15+	8	0	59	66	0.68	- 2.35	0.20	6	6	0.0	0	8.5	23	34	S	25	7	17	7	5.4	74
SOUTH BEND	768	986.8	1014.6	81	58	69.0	- 3.0	97	2	44	15+	6	0	56	64	3.42	- 0.13	1.12	11	2	0.0	0	8.9	23	23*	23	11	10	10	11	5.5	
IOWA																																
BURLINGTON	694	989.4	1014.8	83	60	71.8	- 2.8	98	2	46	13	8	0	59	66	1.62	- 1.99	0.71	8	7	0.0	0	8.9	16	35	NW	29	12	9	10	5.0	76
DES MOINES	948	983.6	1014.4	81	60	70.4	- 4.6	100	2	48	13+	6	0	57	67	3.94	0.27	1.01	10	7	0.0	0	10.1	13	38	W	29	13	8	10	4.9	68
DUBUQUE	1065	988.9		78	58	67.9	- 2.6	93	2	44	26	2	0			4.03	0.30	1.78	10	8	0.0	0						10	7	14	5.5	
SIOUX CITY	1095	972.6	1013.3	79	59	68.7	- 6.4	101	2	46	13+	4	0	60	77	5.35	2.69	1.94	11	8	0.0	0	10.4	16	43	S	31	11	10	10	5.1	60
WATERLOO	868	981.6	1013.2	80	56	68.2	- 3.5	97	2	39	14	4	0	59	75	4.86	1.44	2.80	10	6	0.0	0	9.0	18	35*	27	29	12	8	11	5.3	
KANSAS																																
CONCORDIA	1470	963.7	1012.7	85	62	73.5	- 5.5	105	2	45	12	11	0	59	66	3.03	- 0.12	1.00	11	10	0.0	0	11.9	12	38	S	31	12	7	12	5.5	68
DODGE CITY	2594	925.8	1012.0	90	65	77.4	- 1.8	107	10	54	23	16	0	58	59	2.99	0.63	2.79	6	8	0.0	0	13.1	19	56	W	19	11	12	8	4.9	76
GOODLAND	3645	887.5	1011.8	89	56	72.1	- 2.6	105	10	38	23	15	0	48	49	0.13	- 2.15	0.06	5	4	0.0	0	14.4	17	37*	17	19	13	14	4	4.2	
TOPEKA	877	978.3	1013.5	85	64	74.5	- 3.9	105	3+	50	12	11	0	62	68	8.24	3.95	3.28	11	11	0.0	0	10.4	18	56	SW	29	11	7	13	5.5	60
WICHITA	1321	964.6	1012.4	87	67	76.8	- 4.0	110	6	52	12	13	0	63	68	6.10	3.23	1.96	13	15	0.0	0	12.0	18	47	NW	27	11	11	9	5.1	62
KENTUCKY																																
COVINGTON	869	983.6	1015.0	87	61	73.7	- 0.4	101	3	48	14+	12	0	61	69	2.25	- 0.35	0.72	8	6	0.0	0	7.3	21	29*	30	11	10	13	8	5.1	
LEXINGTON	979	980.3	1015.6	87	64	75.0	- 1.0	98	3	46	13	13	0	60	64	1.96	- 1.25	1.13	9	4	0.0	0	7.9	18	39*	22	11	10	18	3	4.8	
LOUISVILLE	474	995.8	1014.9	88	64	76.2	0.0	101	3	49	13	14	0	63	68	2.63	- 0.34	0.90	6	4	0.0	0	6.5	18	23	W	28	10	14	7	5.0	75
LOUISIANA																																
ALEXANDRIA	92	1010.7	1015.0	90	70	80.3	- 1.8	101	5	66	13	21	0	72	84	7.31	3.83	2.70	9	14	0.0	0	4.2	18	35*	4	5	7	10	14	6.3	
BATON ROUGE	64	1012.7	1015.6	90	74	82.0	- 0.4	97	5	70	27	23	0	74	80	4.45	- 0.81	1.24	10	14	0.0	0	4.7	18	31*	30	18	6	16	9	5.9	
LAKE CHARLES	14	1013.5	1015.3	90	75	82.7	0.5	97	5	73	26+	18	0	75	82	5.58	0.78	1.40	14	17	0.0	0	6.8	18	46*	11	5	4	16	11	6.1	
NEW ORLEANS	3	1013.5	1015.6	90	73	81.7	- 0.2	96	31	69	29+	19	0	76	85	3.88	- 1.46	1.97	15	12	0.0	0	5.7	22	23*	24	21	7	15	9	5.8	
NEW ORLEANS AUDUBON	6	1008.9		92	75	83.2	0.7	97	31	72	27+	26	0			5.63	- 1.01	2.18	14	17			3.1		14	SW	22	2	19	10	6.3	58
SHREVEPORT	252	1005.6	1015.0	94	74	84.0	0.2	105	5	67	13	23	0	72	74	4.71	2.16	2.04	7	8	0.0	0	9.6	18	26*	3	26	9	8	14	6.2	62
MAINE																																
CARIBOU	624	990.7		68	49	58.6	- 4.0	82	30	42	21+	0	0			3.38	- 0.29	1.02	17	4	0.0	0						1	12	18	7.5	
PORTLAND	61	1011.2	1015.3	73	49	61.1	- 5.7	82	31	40	14	0	0	53	77	1.77	- 0.65	1.00	9	1	0.0	0	8.3	18	28	S	17	6	12	13	6.3	61
MARYLAND																																
BALTIMORE	146	1011.1	1015.8	84	63	73.5	- 1.5	94	23+	49	15	6	0	60	67	1.96	- 3.23	0.80	7	2	0.0	0	7.8	18	27	NW	18	6	13	12	6.4	58
BALTIMORE U	14			85	68	76.5	- 0.8	94	23+	59	14	7	0			1.76	- 2.84	0.75	7													
MASSACHUSETTS																																
BLUE HILL OBS R	629	991.5		75	56	65.5	- 3.9	90	30	46	14	1	0			1.66	- 2.39	0.68	13		0.0	0	12.6	SSW								59
BOSTON	15	1010.8	1015.6	75	58	66.4	- 5.3	85	31+	52	15+	0	0	56	74	1.78	- 1.88	0.70	12	5	0.0	0	10.8	30	29*	N	20	7	13	11	5.9	60
NANTUCKET	43	1015.6	1016.2	72	60	65.7	- 2.4	79	24	50	10	0	0	60	83	2.04	- 1.64	1.04	11	0	0.0	0	11.5	21	30	NE	3	11	5	15	6.4	56
PITTSFIELD	1170			74	49	61.5	- 4.7	85	30	38	20	0	0			3.95	0.05	1.54	8		0.0	0										
WORCESTER	986	979.2	1015.7	73	54	63.4	- 4.9	86	30	45	14	0	0	53	73	2.93	- 1.31	1.08	9	3	0.0	0	8.4	28	31*	10	27	8	10	13	6.0	
MICHIGAN																																
ALPENA	689	991.5		72	51	61.4	- 3.1	87	30	40	9	0	0			3.03	0.00	1.75	13	4	0.0	0	7.0	24	29	N	2	3	11	17	6.9	59
DETROIT	619	988.5	1014.9	78	60	69.1	- 3.7	92	2	48	14	2	0	56	66	5.87	3.01	2.06	9	5	0.0	0	9.5	22	32	SW	17	7	14	10	6.0	57
DETROIT M WAYNE CO	633	991.2	1015.4	77	54	65.3	- 6.6	97	2	40	14	2	0	55	71	7.70	4.86	3.21	9	7	0.0	0	8.7	24				7	13	11	6.0	
DETROIT WILLOW RUN	711	986.9	1015.0	78	55	66.4	- 6.2	99	2	43	14	3	0	57	76	5.68	2.84	2.04	9	7	0.0	0	8.6	24	35*	35	11	8	12	11	5.8	
FLINT	766	987.1	1015.4	77	54	65.3	- 2.9	97	2	39	9	2	0	52	64	2.65	- 0.52	0.77	10	5	0.0	0	8.3	24	32*	27	28	7	13	11	6.1	
GRAND RAPIDS	689	988.8	1014.5	79	55	67.3	- 3.2	100	3	41	14	4	0	56	72	3.19	0.49	1.23	10	4	0.0	0	9.1	25	32	W	11	8	13	10	5.9	63
LANSING	852	983.0	1014.6	79	54	66.8	- 3.4	100	2	38	9	5	0	57	74	3.95	0.90	1.25	8	6	0.0	0	9.0	29	45	SW	28	7	15	9	5.7	57
MARQUETTE U	677	986.2		70	55	62.2	- 3.6	92	2	46	9	1	0			5.04	2.01	1.62	16	4	0.0	0	8.8	W#	29	SW	28	4	14	13	6.6	56

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CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	°F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
MUSKEGON	627	991.8	1014.7	78	57	67.9	- 2.4	99	3	40	9	3	0	56	68	2.41	- 0.50	1.15	8	5	0.0	0	9.8	22	25*	19	28	9	11	11	5.7	
SAULT STE MARIE	721	990.7	1013.3	67	52	59.4	- 4.6	79	30	44	26	0	0	53	80	3.64	0.75	1.17	16	5	0.0	0	10.4	31	30*	29	7	2	12	17	7.6	41
MINNESOTA																																
DULUTH	1426	971.8	1013.2	68	51	59.1	- 4.7	85	4+	36	14	0	0	50	76	6.57	2.76	1.77	16	9	0.0	0	11.3	8	38	E	21	4	10	17	7.2	53
INTERNATIONAL FALLS	1179	970.5	1011.5	71	49	59.8	- 3.3	92	5+	35	14+	3	0	54	82	4.90	1.26	1.74	14	6	0.0	0	10.8	27	28*	34	11+	5	7	19	7.4	
MINNEAPOLIS	822	979.3	1012.4	79	58	68.5	- 1.5	98	1	43	14	5	0	56	68	5.42	2.24	2.05	10	7	0.0	0	10.1	18	36	N	22	13	10	8	5.0	64
ROCHESTER	1297	976.6	1013.7	77	54	65.8	- 4.0	96	2	37	14	5	0	54	69	2.07	- 1.72	0.98	10	7	0.0	0	12.0	18	28*	19	27	13	9	9	4.9	
ST CLOUD	1034	974.6		77	55	65.8	- 2.8	99	1	41	14	5	0			6.66	2.93	2.02	12	9	0.0	0						12	8	11	5.6	
MISSISSIPPI																																
JACKSON	305	1003.8	1015.7	91	72	81.7		99	4	63	14	21	0	71	75	6.43		1.66	12	11	0.0	0	6.6	21	34*	SE	7	7	10	14	6.3	
MERIDIAN	292	1002.6	1016.1	90	69	79.7	- 1.5	97	4	60	14	20	0	71	81	3.10	- 0.44	0.99	14	10	0.0	0	4.9	18	25*	24	22	4	15	12	6.5	
VICKSBURG U	234	1006.0		89	72	80.5	- 1.2	97	4	65	13	16	0			2.08	- 0.93	1.46	9	7	0.0	0	6.6		24	SW	22	9	18	4	5.3	64
MISSOURI																																
COLUMBIA	778	985.6	1013.6	87	65	76.2	- 1.0	103	3	47	13	13	0	58	57	0.77	- 3.04	0.55	4	5	0.0	0	9.6	16	30	NW	11	13	10	8	4.7	75
KANSAS CITY	742	979.2	1013.2	86	66	76.0	- 3.8	104	3	53	12	12	0	60	61	3.79	0.02	2.17	9	8	0.0	0	9.0	18	30	S	27+	13	7	11	5.0	71
ST JOSEPH	809	979.8		84	61	72.4	- 5.1	101	3	46	13+	7	0			5.08	0.87	2.25	10	11	0.0	0	6.8	18	29*	27	29	14	10	7	4.6	
ST LOUIS	535	994.2	1014.7	88	65	76.5	- 0.3	104	3	50	13	16	0	63	67	2.39	- 0.63	1.76	5	3	0.0	0	10.0	18	23	W	22+	14	9	8	5.0	75
ST LOUIS RFC	465			87	68	77.5	- 1.7	104	3	57	13	13	0			2.54	- 1.08	1.31	4		0.0	0										
SPRINGFIELD	1265	967.8	1014.5	86	64	74.9	- 3.1	102	4+	48	13+	12	0	62	69	4.92	1.60	1.90	11	7	0.0	0	9.1	16	26	NW	21	11	11	9	5.2	60
MONTANA																																
BILLINGS	3567	889.6	1011.5	82	54	68.1	- 3.8	103	4	44	30	9	0	42	44	2.08	1.18	1.06	6	0	0.0	0	10.5	22	39	W	19	11	15	5	4.9	68
GLASGOW	2277	937.3		82	54	68.0	0.2	102	18+	42	25	9	0			0.85	- 0.64	0.50	5	0	0.0	0						10	8	13	5.7	
GREAT FALLS	3662	887.5	1012.7	78	52	65.4	- 1.4	101	18	45	24+	7	0	41	46	1.66	0.40	0.64	7	2	0.0	0	11.6	24	36	W	9	9	12	10	5.5	70
HAVRE	2582	924.0		80	51	65.1	- 1.9	102	18	39	25	8	0			1.84	0.74	0.92	8	4	0.0	0	9.6	W#	43	W	9	10	8	13	5.6	67
HELENA	3893	873.2	1013.7	78	49	63.4	- 2.8	95	18+	40	25	5	0	41	47	1.91	1.02	0.87	8	5	0.0	0	8.9	28	34	W	12	12	10	9	4.9	70
KALISPELL	2965	911.6	1015.7	73	44	58.4	- 4.7	88	17	34	25	0	0	44	64	1.77	0.68	0.39	14	2	0.0	0	6.2	18	25	2	22+	11	7	13	5.8	
MILES CITY	2629		1010.9	84	54	69.0	- 3.6	105	4	43	25	11	0	44	47	2.33	1.09	0.96	6	2	0.0	0	9.8	30	32*	29	19					
MISSOULA	3190	902.0	1015.4	77	45	60.8	- 4.0	92	17+	36	25	3	0	45	61	1.84	1.12	0.74	12	2	0.0	0	8.0	32	34	NW	18	15	5	11	4.9	53
NEBRASKA																																
GRAND ISLAND	1841	947.7	1013.2	82	57	69.5	- 5.8	106	2	42	12	7	0	57	70	3.44	1.09	1.45	9	10	0.0	0	12.1	16	46*	32	10	11	11	9	5.0	
LINCOLN U	1150			83	61	72.0	- 5.7	107	2	47	12	5	0			3.61	0.23	1.12	9	10	0.0	0	10.0		38	S	9	13	8	10	5.2	62
NORFOLK	1544	958.1		79	57	68.0	- 7.2	102	2	43	12	3	0			4.19	1.58	1.51	10	9	0.0	0						11	11	9	5.2	
NORTH PLATTE	2779	914.3	1011.6	84	56	69.8	- 4.7	101	1	38	12	11	0	54	63	2.63	0.50	1.12	7	7	0.0	0	10.8	11	54	NW	21	12	10	9	5.2	74
OMAHA	978	974.1	1013.4	82	59	70.5	- 5.7	107	2	44	12	5	0	59	70	4.13	0.15	1.52	9	9	0.0	0	7.5	16	35	N	4	13	9	9	5.2	63
OMAHA N OMAHA AP	1323	965.9		79	59	68.9	- 5.5	101	2	45	12	3	0			3.71	- 0.43	1.28	11	10	0.0	0						13	8	10	5.5	
SCOTTSBLUFF	3950	878.3	1011.9	85	53	68.9	- 3.7	96	9+	37	30	10	0	49	53	0.19	- 0.82	0.10	3	3	0.0	0	11.6	12	44*	25	29	13	10	8	4.7	
VALENTINE	2587	922.3		83	55	68.7	- 4.2	102	1	37	12	11	0			0.68	- 1.61	0.22	6	3	0.0	0	12.6	S#	57	W	29	13	11	7	4.4	66
NEVADA																																
ELKO	5075	845.3	1013.2	87	44	65.3	- 1.6	95	10+	27	30	14	4	30	29	0.10	- 0.20	0.06	4	2	0.0	0	7.0	25	30*	29	26	19	9	3	2.7	
ELY	6257	811.0	1012.4	84	46	64.7	- 1.4	92	9	26	29	2	3	36	39	0.58	0.09	0.26	7	6	0.0	0	8.8	19	42	SE	31	17	12	2	3.1	84
LAS VEGAS	2162	945.3	1009.8	101	75	87.6	0.4	109	8	66	21	31	0	44	25	0.05	- 0.43	0.05	1	2	0.0	0	10.5	18	34*	44	12	21	4	6	3.0	88
RENO	4404	863.1	1014.3	89	45	66.9	1.4	97	23	35	29	19	0	39	40	0.02	- 0.15	0.02	1	0	0.0	0	7.4	29	35	SW	31	26	3	2	1.5	99
WINNEMUCCA	4299	867.9		88	45	66.2	- 1.4	97	11	31	30	21	1			0.50	0.35	0.45	2	2	0.0	0	8.4	29	32	W	7	25	5	1	2.1	88
NEW HAMPSHIRE																																
CONCORD	339	1004.5	1015.4	76	49	62.7	- 4.7	90	30	40	16	1	0	53	73	2.74	- 0.22	1.82	13	2	0.0	0	5.1	32	19*	30	24	7	16	8	5.7	58
MT WASHINGTON OBS	6262	807.3		48	36	42.2	- 5.5	64	29	28	14+	0	6			8.27	1.62	2.35	18	0	1.2	T	26.7	W#	73Y	W	9+	1	8	22	8.4	27
NEW JERSEY																																
ATLANTIC CITY	58	1014.4	1016.7	82	63	72.2	- 1.5	92	23	50	15	2	0	60	70	1.63	- 3.27	1.08	7	1	0.0	0	6.6	20	25*	29	18	7	9	15	6.2	59
ATLANTIC CITY U	10			78	67	72.4	- 1.3	89	24	55	15	0	0			0.93	- 4.21	0.55	7				12.5		35*	NW	18					
NEWARK	11	1014.6	1016.0	83	64	73.9	- 1.5	94	22	54	15	5	0	58	61	0.50	- 3.93	0.38	4	1	0.0	0	10.2	23	25*	23	25	6	15	10	5.5	
TRENTON U	56	1007.9		82	62	72.0	- 1.9	93	22	53	15+	3	0			0.47	- 4.30	0.25	5	3	0.0	0	8.1	S#	25	S	25	8	13	10	5.7	63

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	854.4	1011.5	90	64	76.8	0.6	98	6	54	22	19	0	49	44	0.98	- 0.35	0.59	9	9	0.0	0	6.4	36	45	NW	19	15	9	7	4.2	78
CLAYTON	4969	846.0		87	60	73.4	0.1	99	6	45	28	12	0			2.32	0.23	1.45	8	13	0.0	0						17	8	6	3.8	
RATON	6379	808.5		84	53	68.6	0.4	92	3	42	21	4	0			2.19	- 0.44	0.87	14	11	0.0	0						12	13	6	4.4	
ROSWELL	3619	892.5		96	65	80.4	3.8	102	6+	58	29	27	0			0.57	- 1.05	0.35	5	6	0.0	0	8.6		31	NW	7	16	11	4	3.8	76
SILVER CITY	5373	836.8		88	61	74.7	- 0.4	97	7	57	23	10	0			2.47	0.07	1.13	9	9	0.0	0						14	11	6	4.5	
NEW YORK																																
ALBANY	277	1011.7	1015.6	78	54	66.2	- 3.8	91	30	45	27+	1	0	54	67	2.55	- 0.52	0.77	11	3	0.0	0	7.3	17	29	W	8	4	11	16	6.7	49
BINGHAMTON	1590	957.4	1015.9	76	55	65.2	- 1.3	88	30	45	27	0	0	54	70	1.85	- 1.72	0.60	11	3	0.0	0	9.4	23	24	NW	14+	2	11	18	7.2	54
BUFFALO	705	987.0	1014.8	74	56	64.9	- 3.5	90	11	45	14	1	0	55	73	5.02	1.97	1.74	13	6	0.0	0	9.9	24	32	SW	25	4	13	14	6.9	50
NEW YORK U	132	1005.1		83	63	72.9	- 2.2	92	22	54	15+	4	0			0.24	- 4.20	0.13	4	1	0.0	0	7.6	W#	21	SW	8	11	16	4	4.6	65
NEW YORK LA GUARDIA	19	1013.3	1015.6	81	66	73.8	- 1.6	90	24	59	15+	1	0	59	64	0.24	- 4.84	0.14	4	1	0.0	0	11.2	18	27	NE	2	4	18	9	5.8	
ROCHESTER	543	996.1	1015.3	78	55	66.2	- 3.5	90	30	45	9	1	0	55	71	2.74	0.02	1.20	12	2	0.0	0	8.4	20	27	W	12	2	16	13	6.5	63
SCHENECTADY	217			77	55	65.7	- 5.1	87	30	46	16	0	0			2.02	- 1.24	1.14	7		0.0	0	3.2		20*	SW	11	17	9	5	3.7	
SYRACUSE	417	993.0	1014.6	79	56	67.5	- 2.7	92	7	49	21+	2	0	55	67	3.09	- 0.16	1.20	13	7	0.0	0	9.2	27	42	SW	30	5	17	9	6.1	55
NORTH CAROLINA																																
ASHEVILLE U	2203	938.4		81	62	71.7	- 1.8	89	3+	50	13	0	0			8.88	5.25	2.85	11	6	0.0	0	6.6	NW#	31	NW	3	4	13	14	6.8	54
CAPE HATTERAS R	7	1015.3	1016.0	82	70	76.1	- 1.5	88	3	57	14	0	0	69	80	10.62	4.20	3.26	12	12	0.0	0	8.2	24	45	S	31	6	8	17	6.8	74
CHARLOTTE	735	988.3	1016.1	84	67	75.0	- 3.7	93	3	55	15	3	0	67	80	4.83	0.61	2.56			0.0	0	6.8	18	33	NE	3					
GREENSBORO	891	986.7	1016.6	82	66	74.0	- 2.2	93	3	53	15	1	0	66	81	6.75	2.14	2.78	10	8	0.0	0	6.4	18	36	NW	12	6	11	14	6.5	50
RALEIGH	433	1002.1	1015.8	84	66	74.9	- 2.0	93	3	51	15	5	0	67	81	5.68	0.48	3.05	14	9	0.0	0	7.2	18	23*	33	3	3	15	13	6.6	48
WILMINGTON	30	1013.6	1016.4	86	70	78.1	- 1.3	94	24+	62	15+	6	0	71	82	3.69	- 3.17	1.30	17	7	0.0	0	5.9	22	24	S	31+	5	10	16	7.0	54
WINSTON SALEM	967	981.6	1016.2	83	67	75.2	- 1.6	94	3	55	15	2	0	67	78	5.22	0.91	2.02	13	9	0.0	0	6.1	5	17*	26	12+	7	12	12	6.3	
NORTH DAKOTA																																
BISMARCK	1647	951.5	1011.2	80	49	64.9	- 4.4	104	5	33	12	7	0	47	58	0.76	- 0.97	0.47	8	7	0.0	0	11.6	18	36	NW	10	11	9	11	5.2	74
FARGO	900	977.2	1011.2	77	52	64.9	- 4.6	96	5	33	13	5	0	53	71	2.85	- 0.10	1.86	10	5	0.0	0	10.7	16	44	N	30	9	8	14	5.9	67
WILLISTON	1899	943.8		81	52	66.3	- 1.9	103	4	36	25+	6	0			1.14	- 0.34	0.89	7	2	0.0	0	12.5	SE#	45	NW	10	12	9	10	5.3	65
OHIO																																
AKRON	1209	978.2	1016.0	78	56	67.1	- 4.4	88	11	45	14	0	0	57	72	5.65	2.54	2.77	11	4	0.0	0	7.3	21	29*	28	11	6	13	12	6.0	
CINCINNATI OBS	761			87	63	75.0	- 0.7	101	3	50	13	12	0			1.99	- 1.29	0.62	7	4	0.0	0	4.8	N#	16	W	28					74
CINCINNATI U	553	992.2		88	65	76.5	- 0.9	101	3	52	13	13	0			2.84	- 0.17	1.37	9	3	0.0	0										
CLEVELAND	777	987.5	1015.2	76	59	67.5	- 2.4	90	11	46	14	1	0	58	74	3.82	0.54	1.26	11	7	0.0	0	8.9	18	43	W	3	11	6	14	5.9	65
COLUMBUS	812	986.3	1015.9	83	59	71.2	- 2.0	98	2	43	15	7	0	60	70	3.19	0.33	2.44	5	7	0.0	0	7.4	36	34	E	2	8	16	7	5.3	69
COLUMBUS U	724			83	63	73.3	- 1.5	96	2	50	14	7	0			1.87	- 0.93	1.09	6	7	0.0	0										
DAYTON	997	983.2	1015.4	85	60	72.8	- 0.9	100	3	44	14+	10	0	58	64	1.12	- 1.76	0.45	7	5	0.0	0	9.1	20	34	W	3	10	14	7	4.9	84
MANSFIELD	1296			79	58	68.3	- 1.9	95	2	45	14	2	0			2.44	- 0.79	0.66	8	4	0.0	0						8	10	13	5.9	
TOLEDO	676	992.3	1015.0	80	55	67.8	- 3.1	98	2	39	14	6	0	56	70	3.80	0.47	1.47	11	6	0.0	0	8.0	24	25	NW	7	6	14	11	6.0	65
YOUNGSTOWN	1178	973.6	1016.0	76	56	66.3	- 3.7	87	30+	45	14	0	0	55	70	3.20	- 0.30	1.15	14	8	0.0	0	8.8	24	22*	25	23	5	13	13	6.5	
OKLAHOMA																																
OKLAHOMA CITY	1280	969.8	1012.3	92	69	80.8	- 2.0	106	6+	59	23	21	0	64	61	4.91	2.39	1.89	10	11	0.0	0	12.8	16	40	N	7	12	12	7	4.6	74
TULSA	676	989.1	1013.2	92	70	80.7	- 0.9	110	5	55	12	19	0	65	63	6.14	3.10	2.12	13	13	0.0	0	10.1	18	33	S	20	13	9	9	5.0	60
OREGON																																
ASTORIA	8	1017.0	1017.5	67	51	59.3	- 1.7	86	24	43	31	0	0	55	85	2.21	0.72	0.56	14	0	0.0	0	7.7	34	21*	25	27+	6	6	19	7.0	
BURNS U	4151	873.1		81	46	63.0	- 4.2	93	11	32	29	7	1			1.21	0.92	0.76	3	2	0.0	0						23	6	2	2.6	
EUGENE	361	1003.6	1017.0	80	51	65.6	- 0.3	96	22	43	29	4	0	51	66	0.27	- 0.13	0.13	3	0	0.0	0	6.2	36	20*	2	20	13	6	12	5.1	
MEACHAM	4050			70	47	58.3	- 3.4	84	22+	36	31	0	0			0.95	0.42	0.41	7	2	0.0	0						13	8	10	4.6	
MEDFORD	1298	968.3	1015.4	88	51	69.6	- 1.1	103	22	41	29	17	0	48	52	0.10	- 0.08	0.16	2	1	0.0	0	5.9	29	23*	5	31	25	4	2	1.8	
PENDLETON	1482	961.7	1014.9	82	54	68.4	- 3.5	96	22	41	31	7	0	42	43	0.21	- 0.07	0.11	4	1	0.0	0	11.7	26	33*	26	12	15	6	10	4.1	
PORTLAND	21	1011.2	1016.8	75	52	63.7	- 2.9	94	24	46	31+	2	0	52	71	0.90	0.25	0.21	11	0	0.0	0	7.1	32	23	S	1	10	8	13	5.6	60
PORTLAND U	30			76	57	66.7	- 1.4	93	24	51	31+	3	0			1.03	0.34	0.33	11	0	0.0	0										
ROSEBURG	505	998.3		83	52	67.3	- 0.3	97	24+	44	19	7	0			0.14	- 0.17	0.05	4	0	0.0	0	5.2	N#	18	SW	3	13	10	8	4.2	69
SALEM	195	1010.1	1017.6	78	49	63.8	- 2.3	94	24	41	31	4	0	53	73	0.41	- 0.04	0.10	12	2	0.0	0	6.3	30	20*	29	18	12	6	13	5.3	
SEXTON SUMMIT R	3836	885.2		74	50	61.7	- 1.5	90	22	39	31+	1	0			0.01	- 0.24	T	1	0	0.0	0	10.7					24	5	2	2.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet		Average speed	Prevailing direction	Fastest mile			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max. 90 F. or above	Min. 32 F. or below						.01 inch or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
CANTON ISLAND	11	1009.3	1009.7	87	77	81.5	- 2.0	91	2	73	29+	1	0	71	72	0.69	- 1.81	0.38	9	1	0.0	0	16.4	10	26*	9	27	10	17	4	4.6	
ENIWETOK	16	1009.8		88	77	82.4	- 0.6	90	28+	74	28	3	0			5.05	- 1.76	0.68	26	2	0.0	0										
TAGUAC GUAM R	361	997.5		86	72	78.7	- 0.6	88	31+	68	13	0	0			8.92	- 3.92	2.02	26	11												36
JOHNSTON	7	1012.9	1013.5	84	77	80.5	- 1.0	86	13	73	28	0	0	71	74	0.96	- 1.30	0.56	7	0	0.0	0	14.8	9	25	E	30+	0	14	17	7.2	51
KOROR R	94	1006.3	1009.1	87	75	80.5	- 0.5	90	19+	72	21+	2	0	76	88	15.73	- 0.03	4.16	26	9	0.0	0	5.8	24	26	W	5	0	0	31	9.9	49
KWAJALEIN	8	1008.7	1009.6	86	76	81.0	- 0.9	88	31+	72	21	0	0	76	85	11.71	2.20	2.91	24	0	0.0	0	8.9	9	29*	6	21	1	10	20	8.1	
PONAPE R	123	1004.7	1009.2	87	72	79.7	0.3	90	29	70	24+	1	0	74	89	16.47	0.15	3.96	29	1	0.0	0	4.0	14	20	E	1	0	5	26	8.7	51
TRUK MOEN ISLAND	5	1008.4	1008.7	87	74	80.2	- 0.2	88	10+	72	31+	0	0	74	83	12.47	- 0.34	2.13	25	1	0.0	0	8.3	12	27	N	13	0	4	27	9.2	56
WAKE	11	1011.5	1011.9	87	77	82.1	- 0.3	89	7+	74	27+	0	0	73	75	5.85	- 1.23	1.61	21	3	0.0	0	8.9	7	26*	18	14	5	8	18	7.5	
YAP R	53	1006.8	1008.0	87	75	80.7	- 0.6	90	17+	71	19	3	0	75	86	16.72	2.02	2.89	23	1	0.0	0	5.3	22	21	SSW	4	0	2	29	9.6	31
PENNSYLVANIA																																
ALLENTOWN	376	1002.1	1016.2	81	58	69.6	- 2.4	91	22	48	15	2	0	57	69	1.26	- 3.21	0.60	7	3	0.0	0	8.3	22	28*	29	12+	7	14	10	6.0	
ERIE	732	989.4	1015.4	75	58	66.6	- 3.2	92	30	47	14	1	0	57	72	4.60	1.62	2.79	10	6	0.0	0	12.8	18	30*	17	11	11	10	10	5.5	
HARRISBURG	335	1002.4	1016.2	83	60	71.5	- 2.6	94	22	50	20	6	0	58	66	3.07	- 0.58	1.73	7	2	0.0	0	7.2	27	21	NW	12+	7	11	13	6.5	61
PHILADELPHIA	5	1011.6	1016.1	83	62	72.2	- 1.4	91	23+	50	15+	5	0	59	67	0.49	- 4.14	0.20	8	3	0.0	0	7.9	22	25	W	18	7	13	11	6.0	60
PITTSBURGH	1137	985.9	1015.9	78	56	67.1	- 3.7	88	28	43	15	0	0	55	67	1.79	- 1.52	1.15	9	3	0.0	0	7.8	31	30*	29	11	4	13	14	6.4	76
PITTSBURGH U	749			80	60	70.4	- 3.6	90	29	49	15	1	0			2.51	- 0.99	1.20	9		0.0	0										60
READING U	266	1003.7		82	61	71.4	- 3.4	91	22	52	15	2	0			2.00	- 2.05	1.07	9	4	0.0	0	8.7	S#	30	SE	21	7	14	10	6.0	58
SCRANTON	940	982.1	1016.0	79	57	68.2	- 1.8	90	30	48	10	1	0	56	69	2.85	- 0.73	1.83	11	3	0.0	0	7.5	23	29	NW	18	6	13	12	6.4	52
WILLIAMSPORT	527	997.4	1016.4	79	58	68.8	- 2.8	88	31+	49	15+	0	0	60	77	4.18	0.56	1.89	13	5	0.0	0	5.9	27	17*	31	13+	2	18	11	6.5	
RHODE ISLAND																																
BLOCK ISLAND	110	1011.1		73	60	66.7	- 2.9	82	30	53	10	0	0			0.26	- 3.60	0.15	6	3	0.0	0						6	13	12	6.3	
PROVIDENCE	55	1009.4	1015.4	77	57	66.6	- 3.9	86	30+	47	14+	0	0	56	71	2.38	- 1.58	0.75	12	3	0.0	0	8.5	18	25*	4	3	9	10	12	6.0	53
SOUTH CAROLINA																																
CHARLESTON	41	1013.9	1015.9	89	71	79.6	- 0.1	97	3	64	15+	14	0	71	80	7.67	1.06	5.77	15	14	0.0	0	7.7	18	42Y	SE	29	3	14	14	6.8	48
CHARLESTON U	9			86	74	80.0	- 1.0	94	3	68	5+	6	0			7.07	1.00	4.33	11		0.0	0	9.9		57	E	29					
COLUMBIA	217	1003.1	1015.7	88	69	78.4	- 2.1	96	3	61	14	16	0	69	77	9.97	4.23	4.20	10	6	0.0	0	6.6	23	30*	31	10	8	13	10	6.1	60
FLORENCE	146	1010.0	1015.7	87	68	77.8	- 2.1	97	3	59	14	12	0	69	80	5.49	0.92	1.82	14	6	0.0	0	7.4	18	21*	6	29	8	9	14	6.4	
GNVLE SPARTANBURG	957	979.5	1016.1	85	68	76.7	- 2.0	95	3	56	13	10	0	67	75	6.64	2.13	3.60	12	4	0.0	0	6.8	4	28	N	29	7	13	11	6.3	53
SOUTH DAKOTA																																
HURON	1282	965.2	1011.4	84	55	69.4	- 3.4	105	1	36	13	12	0	53	62	1.28	- 0.79	0.49	12	9	0.0	0	12.8	17	37	S	26	11	13	7	5.0	71
RAPID CITY	3165	899.9	1011.8	85	54	69.5	- 2.5	102	5+	42	25+	12	0	44	45	1.87	0.65	0.93	7	4	0.0	0	13.4	32	47	NW	21	14	13	4	4.0	79
SIOUX FALLS	1420	961.9	1012.7	81	56	68.3	- 3.5	100	1	37	13	7	0	57	69	3.87	0.28	1.40	8	6	0.0	0	11.5	18	28*	3	6	12	9	10	5.0	
TENNESSEE																																
BRISTOL	1507	962.5	1016.3	84	63	73.2	- 1.6	93	3	50	15	4	0	64	77	3.79	- 0.01	1.42	8	3	0.0	0	4.4	29	40*	36	3	3	16	12	6.5	
CHATTANOOGA	670	988.9	1016.1	87	67	76.7	- 3.1	96	3	53	13	10	0	69	82	4.87	1.11				0.0	0	4.1	18	30	N	4					
KNOXVILLE	950	981.5	1016.6	83	65	73.7	- 3.7	93	3	53	13	3	0	65	78	5.75	2.29	2.95	12	5	0.0	0	6.4	4	34	W	12	8	12	11	6.0	70
MEMPHIS	263	1000.7	1015.0	87	70	78.6	- 1.9	101	4	58	13	13	0	70	77	5.76	2.79	2.19	11	9	0.0	0	6.5	22	24	NE	4	7	17	7	5.5	66
MEMPHIS U				87	71	79.1	- 2.0	101	4	61	15	12	0			5.95	3.32	2.14	10		0.0	0										
NASHVILLE	577	995.3	1014.9	88	67	77.2	- 2.0	101	4	54	13	15	0	67	73	4.56	1.70	2.25	6	6	0.0	0	7.2	18	29	N	8	9	11	11	5.4	69
OAK RIDGE	905	983.8		84	64	74.3	- 1.8	96	3	52	13	5	0			5.05	0.43	2.38	12	6	0.0	0	6.3		53Y		12	12	8	11	5.6	
TEXAS																																
ABILENE	1759	951.7	1011.4	95	75	85.3	2.3	105	11+	69	23	26	0	62	51	5.87	4.40	3.16	9	10	0.0	0	10.9	18	46	NW	20	15	10	6	4.5	77
AMARILLO	3607	888.5	1010.9	90	66	78.1	- 1.4	104	6	54	23	18	0	56	50	5.69	3.11	3.94	9	6	0.0	0	11.8	21	36	E	7	18	10	3	3.3	79
AUSTIN	597	991.8	1013.4	97	75	86.0	1.3	102	5	72	16	29	0	70	65	2.09	0.15	0.96	7	6	0.0	0	9.6	18	24	SW	21	11	15	5	4.9	80
BROWNSVILLE	16	1010.6	1013.0	94	78	86.0	1.9	97	12	75	30+	31	0	74	72	0.11	- 2.66	0.11	1	0	0.0	0	14.5	16	31	SE	27	13	14	4	4.4	87
CORPUS CHRISTI	43	1012.3	1013.5	96	75	85.6	1.4	99	19+	70	30	31	0	75	75	0.50	- 2.27	0.30	3	3	0.0	0	13.6	15	32	SE	27	14	12	5	4.2	76
DALLAS	481	994.9	1013.0	96	77	86.2	1.2	107	5	70	16+	24	0	68	60	3.63	1.70	3.03	7	5	0.0	0	11.5	18	26	SE	27	9	14	8	5.2	68
DEL RIO	1026	977.4	1011.1	99	75	87.0		107	6	70	23	30	0	66	54	1.16		0.59	7	6	0.0	0	11.3	12	35	5	22	11	15	5	4.4	
EL PASO	3918	885.4	1009.7	95	71	82.6	2.2	100	11+	64	1	30	0	54	41	0.76	- 0.43	0.45	4	11	0.0	0	7.8	18	40	SW	19	15	13	3	3.9	85
FORT WORTH	544	992.6	1013.1	96	75	85.3	- 0.1	108	11	70	24+	24	0	67	59	2.43	0.75	2.05	7	6	0.0	0	9.3	18	25*	18	27	11	13	7	5.0	
GALVESTON U	7			88	80	83.8	0.5	95	5	68	23	3	0			5.67	1.28	3.92	9	2	0.0	0	10.3		47	E	5					81
HOUSTON U	41			94	78	86.2	2.1	103	5	74	24+	27	0			3.80	0.25	1.28	11		0.0	0										
HOUSTON	50	1011.5	1014.1	94	75	84.4	1.2	100	5	73	27	27	0	73	75	2.61	- 1.66	1.34	11	10	0.0	0	8.7	18	35*	7	5	10	14	7	5.4	77

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
LAREDO	500	996.2	1011.4	101	78	89.6	2.1	106	19+	70	23	30	0	67	52	3.33	1.63	3.08	2	2	0.0	0	13.0	14	29*	2	7	23	5	3	2.8	
LUBBOCK	3243	902.7	1011.6	93	67	79.9	1.1	101	6	56	23	24	0	61	55	1.14	- 0.54	1.08	5	5	0.0	0	12.2	17	30*	7	22	15	11	5	4.0	
MIDLAND	2854	913.6	1009.6	100	74	87.2	5.0	107	6	70	24+	30	0	57	41	0.58	- 0.90	0.46	3	2	0.0	0	11.2	16	35*	22	30	12	14	5	4.5	
PORT ARTHUR	16	1013.1	1014.5	92	75	83.4	1.1	98	5	71	31+	27	0	75	82	4.96	- 0.53	1.76	14	12	0.0	0	7.1	18	73	E	5	3	22	6	5.8	60
SAN ANGELO	1903	945.2	1010.5	99	75	86.6	1.5	107	6	67	23	29	0	62	48	1.35	0.08	1.21	4	4	0.0	0	10.3	16	29*	12	22	13	14	4	3.8	
SAN ANTONIO	792	988.8	1013.3	97	75	86.2	2.4	104	5	70	4	29	0	69	63	5.19	2.83	3.97	6	5	0.0	0	10.0	16	45	SE	6	14	14	3	4.3	83
VICTORIA	104	1009.1		94	76	84.5	1.1	100	5	72	23+	29	0			6.84	3.71	6.14	6	7	0.0	0	9.0		52Y		5	13	12	6	4.5	
WACO	500	991.9	1012.7	97	76	86.8	1.3	106	5	73	23+	27	0	68	60	2.30	0.62	0.94	6	5	0.0	0	11.8	18	35*	11	13	13	11	7	4.6	
WICHITA FALLS	994	975.8	1011.7	99	73	86.0	0.3	113	6	63	23	28	0	63	53	3.74	1.95	1.60	4	5	0.0	0	12.1	18	43*	36	18	20	6	5	3.8	
UTAH																																
MILFORD	5028	845.0		90	54	71.8	- 0.4	99	9	36	30	21	0			0.42	- 0.31	0.17	6	8	0.0	0						17	12	2	3.3	
SALT LAKE CITY	4220	867.3	1012.8	88	56	71.9	- 2.6	98	9+	37	29	19	0	40	35	0.17	- 0.70	0.07	4	8	0.0	0	10.2	14	36	NW	26	19	8	4	3.4	92
WENDOVER	4237	869.8		87	63	74.6	- 2.6	97	18	43	30	14	0			0.03	- 0.33	0.03	1	3	0.0	0						25	5	1	1.9	
VERMONT																																
BURLINGTON	331	999.6	1014.1	75	51	62.9	- 3.8	86	11	40	7	0	0	52	71	4.10	0.73	2.09	15	6	0.0	0	8.0	18	28	NW	8	2	13	16	7.2	56
VIRGINIA																																
LYNCHBURG	947	991.2		82	63	72.4	- 2.4	91	26	48	14	3	0			2.02	- 2.39	0.94	8	5	0.0	0	5.7		24	S	2	6	12	13	6.6	57
NORFOLK	26	1015.3	1016.7	82	66	74.4	- 3.1	94	22	55	15	6	0	67	79	10.58	4.61	11.40	11	7	0.0	0	9.4	20	34	E	3	4	12	15	6.7	55
RICHMOND	162	1010.0	1016.3	82	64	73.1	- 2.9	90	8	55	14	1	0	65	80	9.88	4.34	2.28	12	7	0.0	0	6.3	18	54	W	12	6	12	13	6.5	52
ROANOKE	1174	974.7	1016.4	85	63	74.0	- 1.4	95	3	44	15	7	0	61	69	3.54	- 1.09	2.59	10	5	0.0	0	5.9	16	23*	3	3	6	11	14	6.7	
WASHINGTON																																
OLYMPIA	190	1009.7	1017.0	72	48	60.1	- 3.3	87	24	38	31	0	0	52	77	1.47	0.58	0.70	9	0	0.0	0	7.9	20	26*	27	18	6	11	14	6.3	
SEATTLE TACOMA	400	1003.0	1017.1	71	54	62.6	- 1.5	85	24+	47	31	0	0	52	73	1.23	0.28	0.52	10	2	0.0	0	8.7	22	26*	23	25	9	6	16	6.4	
SEATTLE U	14			72	57	64.4	- 0.6	86	11+	52	31+	0	0			1.46	0.72	0.32	10	0	0.0	0			44	SW	25					63
SPOKANE	2356	946.0	1014.2	76	50	62.8	- 5.2	89	17	35	31	0	0	42	53	1.46	1.05	0.63	11	5	0.0	0	9.2	20	30	SW	25	13	5	13	5.1	64
STAMPEDE PASS R	3958	881.0		58	44	51.0	- 4.6	78	11	34	30	0	0			6.19	4.15	1.51	17	0	T	0						8	4	19	7.0	
TATOOSH ISLAND R	101	1013.9	1017.0	61	52	56.6	0.6	70	24	48	31	0	0	53	90	2.51	0.53	0.52	14	0	0.0	0	10.2	6	35	E	6	4	9	18	6.9	56
WALLA WALLA U	949			82	58	69.7	- 4.1	95	22	48	31	7	0			0.30	0.00		5	2	0.0	0										
YAKIMA	1061	975.9	1014.2	80	46	62.8	- 5.8	93	22	38	30	4	0	45	53	0.20	0.00	0.17	2	2	0.0	0	8.0	28	28*	28	18	15	8	8	4.2	
WEST INDIES																																
SAN JUAN P.R.	5	1012.5	1015.5	88	76	82.2	1.3	90	22+	74	26+	4	0	75	81	6.71	- 0.42	2.19	22	5	0.0	0	9.4	7	31	E	23	1	20	10	6.4	68
SWAN ISLAND	26	1011.5		87	78	82.6	- 0.5	89	25	73	2+	0	0			6.72	3.06	1.97	19	11	0.0	0						4	21	6	6.0	
WEST VIRGINIA																																
BECKLEY	2504	929.5	1016.4	78	56	67.3		87	3+	38	15	0	0	58	75	2.38		0.93	10	7	0.0	0	7.1	24	23*	32	12	3	11	17	7.2	
CHARLESTON	939	980.7	1015.8	85	61	73.1	- 0.7	95	3+	46	15	9	0	61	70	3.23	- 0.72	1.19	11	7	0.0	0	5.0	22	32*	2	3	4	18	9	6.5	
ELKINS	1970	948.4	1017.2	78	53	65.8	- 3.0	87	22	39	15	0	0	58	82	3.55	- 0.68	1.12	10	7	0.0	0	4.4	16	32*	33	3	1	14	16	7.5	
HUNTINGTON	827	985.8	1015.6	85	61	73.0	- 1.0	100	3	46	15	8	0	62	72	6.21	3.39	2.90	5	7	0.0	0	4.9	18	30*	35	3	4	21	6	5.8	
PARKERSBURG U	615			84	61	72.2	- 2.2	93	2	47	15	3	0			3.72	- 0.06	1.82	9	6	0.0	0	5.8		28	SW	11					65
WISCONSIN																																
GREEN BAY	682	991.2	1013.6	76	54	65.4	- 3.5	95	2	40	14	3	0	57	76	2.72	- 0.03	0.76	13	6	0.0	0	8.3	18	29	SW	28+	6	13	12	6.1	54
LA CROSSE	652	987.4	1013.4	80	60	69.7	- 1.9	101	2	43	14	5	0	57	68	3.34	- 0.29	1.17	9	6	0.0	0	10.4	16	37*	18	29	13	11	7	4.6	
MADISON	858	979.0	1013.8	79	54	66.9	- 2.6	95	3+	37	14	4	0	56	69	2.52	- 0.85	1.70	9	7	0.0	0	7.9	18	26	W	29	10	13	8	5.1	72
MILWAUKEE	672	989.4	1014.0	77	58	67.7	- 0.1	95	2	47	26+	4	0	58	71	2.62	- 0.44	1.69	8	4	0.0	0	9.3	21	39	W	11	12	13	6	4.6	75
WYOMING																																
CASPER	5319	837.5	1011.7	81	51	66.1	- 4.0	94	4	36	30+	7	0	37	39	0.47	- 0.25	0.24	3	2	T	0	11.6	25	40*	33	8	15	6	10	4.5	
CHEYENNE	6126	822.5	1013.2	79	50	64.3	- 3.4	89	9	39	30+	0	0	39	44	0.28	- 1.16	0.11	5	5	0.0	0	13.4	29	49	NW	21	12	12	7	4.8	68
LANDER	5563	835.4	1011.7	83	51	66.7	- 2.1	94	4	36	25	8	0	41	41	0.17	- 0.30	0.10	2	3	0.0	0	8.3	24	38	NW	8	17	10	4	3.8	87
SHERIDAN	3942	883.2	1012.3	82	50	65.9	- 3.6	100	4+	36	25	9	0	42	46	1.18	0.28	0.74	10	2	0.0	0	9.6	31	42	NW	29	16	4	11	4.5	75

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

A Maximum hourly average.

B Number of days maximum 70°F. or above for Alaskan Stations.

Y Peak Gust.

Wind direction to 8 compass points only.

+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	C.	°C.	C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	991.6	1016.4	31.1	20.0	25.6	-1.7	34.4	31+	13.3	13	13	0	20.6	76	71	- 53	26	10	7	0	0	2.4	9	13.4	N	25	5	17	9	6.2	66
HUNTSVILLE	184	993.3	1016.1	29.4	19.4	24.7	2.1	35.6	4	12.2	13	5	0	19.4	76	65	- 19	27	10	5	0	0	2.3	16	16.1*	6	4	9	13	9	5.5	
MOBILE	64	1013.2	1015.4	32.8	22.8	27.5	0.3	35.6	31	18.9	14	23	0	22.2	80	157	- 6	50	16	13	0	0	3.3	18	12.5*	26	22	5	11	15	6.7	
MONTGOMERY	59	1004.6	1015.9	31.7	21.7	26.8	0.8	35.0	31+	16.7	14	15	0	21.7	77	65	- 39	17	11	10	0	0	2.4	36	11.2	S	10	6	13	12	6.1	63
ALASKA												8																				
ANCHORAGE	27	1005.0	1009.9	16.1	8.9	12.6		20.6	26+	3.3	25	0	0	8.9	80	55		10	16	0	0	0	3.2	18	9.4*	16	23	2	7	22	8.0	31
ANNETTE	34	1010.7	1014.6	16.7	10.0	13.2	1.5	23.3	23	5.6	18	2	0	10.0	85	266	76	57	19	0	0	0	3.4	16	11.6*	16	24	1	4	26	8.6	
BARROW	7	1012.3	1012.9	3.9	0.6	1.6	1.7	14.4	10	- 2.8	7+	0	23	0.0	91	9	- 14	4	7	0	33	25	5.3	9	13.4*	9	14	2	6	23	8.4	
BARTER ISLAND	12	1010.3	1012.0	4.4	0.6	2.7	1.8	12.2	31	- 2.8	21	0	12	1.1	91	38	11	18	13	0	89	T	4.9	9	13.9*	9	13	0	8	23	8.7	
BETHEL	38	1006.8	1008.2	14.4	7.8	11.2	0.1	18.9	7	3.3	26	0	0	8.9	88	43	- 63	10	15	0	0	0	4.5	24	17.4*	17	30	0	0	31	9.5	
COLD BAY	29	1006.5	1010.2	11.7	6.7	9.2	1.5	16.1	30	3.9	10	0	0	6.7	87	90	- 18	23	21	0	0	0	6.6	28	20.6*	19	30	1	3	27	9.1	
CORDOVA	12	1009.1	1010.8	16.7	8.3	12.4	1.1	22.2	27	3.3	25	2	0	8.3	80	244	39	69	24	0	0	0	2.5	7	10.3*	7	13	2	1	28	9.0	
FAIRBANKS	133	991.8	1008.8	18.9	8.3	13.6	1.2	26.1	12	2.2	22	12	0	8.3	76	60	4	13	16	2	0	0	2.6	2	9.8*	22	3	2	6	23	8.0	
JUNEAU	5	1012.2	1013.1	15.6	8.3	12.0	0.3	20.6	11	3.3	30	0	0	9.4	88	88	- 39	26	18	0	0	0	3.8	36	14.3*	12	28	1	2	28	9.3	20
KING SALMON	13	1006.3	1008.3	15.6	7.8	11.6	0.9	21.7	2	3.3	29	2	0	7.8	81	88	1	17	22	1	0	0	4.9	20	20.6*	8	22	1	6	24	8.7	
KOTZEBUE	3	1006.8	1007.2	15.0	8.3	11.6	1.3	22.2	12	5.0	5	2	0	8.3	80	34	- 21	10	16	1	0	0	4.8	30	16.5*	11	30	7	6	18	7.1	
MC GRATH	102	995.7	1008.3	17.8	7.2	12.6	0.3	23.9	2	3.3	29+	10	0	8.3	77	45	- 51	11	17	2	0	0	2.6	21	15.6*	19	30	0	7	24	8.5	
NOME	4	1005.5	1005.8	14.4	8.3	11.2	1.7	27.2	13	2.8	28	2	0	8.3	80	54	- 43	18	15	0	0	0	6.0	23	17.9*	26	31	1	12	18	8.0	30
ST. PAUL ISLAND	7	1005.5	1006.4	10.0	6.7	8.2	0.5	11.1	12+	5.0	15	0	0	7.2	94	61	- 23	16	20	0	0	0	6.2	18	20.6*	18	30	0	0	31	9.9	
SHEMYA	37	1006.0	1009.7	10.0	7.2	8.4	1.4	15.0	11	5.6	16+	0	0	7.2	93	65	11	24	16	0	0	0	8.2	19	23.2*		31	1	3	27	9.2	
YAKUTAT	9	1012.0	1013.1	15.0	8.9	11.8	0.3	23.3	11	5.0	30+	2	0	9.4	86	246	- 31	53	19	0	0	0	3.1	9	12.5*	14	12	2	2	27	9.1	
ARIZONA																																
FLAGSTAFF	2131	793.8	1015.8	25.0	9.4	17.4	0.3	30.0	7	3.3	23	0	0	8.9	65	34	- 39	11	10	16	0	0	2.6	17	8.9*	20	29+	11	12	8	5.4	
PHOENIX	340	971.5	1009.6	37.2	23.3	30.1	0.7	42.2	7	19.4	27	29	0	16.1	47	33	4	14	5	6	0	0	3.0	12	20.6Y	NE	13	20	8	3	3.1	84
PRESCOTT	1528	849.2	1013.4	30.0	15.6	22.6	0.4	33.9	9+	10.6	22	7	0	12.2	58	85	18	28	12	15	0	0	3.2	18	14.8	E	8	11	13	7	4.7	78
TUCSON	788	924.8	1010.7	33.3	21.7	27.6	0.8	38.9	7	18.3	27	25	0	16.1	56	99	26	52	9	10	0	0	3.7	18	14.3	SW	27	12	13	6	4.5	77
WINSLOW	1487	852.9	1013.2	32.2	16.1	24.3	1.2	36.7	7	9.4	23	18	0	10.6	49	71	35	53	9	17	0	0	3.6	22	19.2*	29	12	12	12	7	4.5	
YUMA	61	1003.6	1008.6	38.9	26.7	33.0	0.6	43.3	23+	20.6	30	31	0	17.8	45	12		11	3	2	0	0	4.6	16	18.8	S	8	19	5	7	3.2	87
ARKANSAS																																
FORT SMITH	137	997.2	1013.7	34.4	19.4	27.0	0.9	43.3	4	13.9	13	21	0	17.8	64	143	69	68	8	10	0	0	3.4	7	18.8	N	28	10	10	11	5.6	57
LITTLE ROCK	78	1002.1	1015.0	32.2	20.6	26.3	1.1	42.2	4	14.4	13	16	0	20.6	76	94	23	31	11	6	0	0	2.7	24	17.9	NW	11	5	14	12	6.2	47
TEXARKANA	110	1001.0	1014.3	33.9	22.2	28.1	0.1	40.6	5	18.9	26+	21	0	22.2	77	114	36	30	14	9	0	0	2.7	18								
CALIFORNIA																																
BAKERSFIELD	151	993.7	1011.1	36.1	20.6	28.2	0.6	40.0	8+	14.4	31	27	0	10.6	36	4	4	4	2	0	0	0	3.1	31	13.0*	33	31	26	5	0	1.3	
BISHOP	1252	873.3		35.0	13.3	24.2	0.7	38.3	23+	8.9	28+	27	0			1	- 2	1	1	4	0	0						24	4	3	2.1	
BLUE CANYON	1609	840.4		24.4	13.9	19.1	0.2	28.3	24+	1.7	31	0	0			14	12	14	1	0	0	0	2.7		9.8*	18	30	26	4	1	1.2	
BURBANK	213	986.8	1012.4	30.6	17.2	23.7	0.3	37.2	8	12.2	16	12	0	15.6	69	T	- 1	T	0	0	0	0	3.4	18	9.4*	19	8	19	11	1	2.8	
EUREKA U	13	1014.9		16.7	11.1	13.9	0.2	23.9	20	8.9	31+	0	0			1	- 2	T	3	0	0	0	3.2	N#	14.8	NW	19	8	14	9	5.5	63
FRESNO	99	999.1	1010.8	36.1	16.1	26.1	0.0	40.6	8	12.2	31	29	0	11.7	44	6	6	6	1	0	0	0	3.4	31	10.3	NW	26	27	3	1	1.3	95
LONG BEACH	10	1011.5	1013.1	25.6	17.2	21.6	0.8	30.0	19	13.9	16	0	0	15.0	72	T	- 1	T	0	0	0	0	3.1	18	9.4*	16	8	16	14	1	3.8	
LOS ANGELES	30	1009.6	1013.4	23.9	17.8	20.8	0.2	27.2	8	15.6	23+	0	0	15.6	75	T	- 1	T	0	0	0	0	4.2	27	11.2Y	W	22+	12	15	4	4.2	
MT SHASTA R	1080	892.9		28.3	8.9	18.6	0.7	35.6	22	3.3	27	8	0			1	- 3	T	1	0	0	0						28	1	2	1.1	
OAKLAND	1	1013.7	1014.0	21.1	14.4	17.8	0.1	28.3	20+	12.8	19	0	0	12.8	75	1	0	1	1	0	0	0	4.5	30	13.0*	26	30	21	8	2	3.1	
RED BLUFF	104	998.7	1011.1	36.1	18.3	27.1	0.2	42.2	21	13.3	31	28	0	7.8	34	17	15		1	0	0	0	3.5	17	12.5	N	19	24	3	4	1.7	95
SACRAMENTO	5	1010.5	1012.0	33.9	14.4	24.3	0.9	38.9	20+	11.1	27	24	0	11.7	56	3	2	3	1	0	0	0	4.0	22	11.6	SW	30	29	1	1	0.7	97
SACRAMENTO U	7			32.8	15.0	23.8	1.1	37.2	20+	12.2	31	20	0			2	1	2	1		0	0										
SANDBERG R	1377	863.6		29.4	17.2	23.3	0.4	33.9	24+	6.7	31	9	0			T	- 2	T	0	0	0	0	4.8		14.3*	31	27+	24	5	2	1.9	
SAN DIEGO	4	1009.9	1013.0	24.4	18.3	21.5	0.6	28.3	19	16.7	1	0	0	16.1	75	T	- 2	T	0	0	0	0	3.1	20	9.8	S	8	12	10	9	5.3	56
SAN FRANCISCO	2	1013.7	1014.4	22.8	12.8	17.9	0.8	31.7	19+	11.1	9	0	0	11.7	74	T		T	1	0	0	0	5.7	30	15.2	W	12	25	4	2	2.5	
SAN FRANCISCO U	16			18.9	12.8	15.6	0.3	26.7	19	11.1	13	0	0			T	- 1	T	1	0	0	0	4.6	W#	14.8	SW	26					73
SANTA CATALINA	478	958.1		27.2	18.3	22.7	1.3	36.7	8	14.4	16	6	0			T	- 2	T	0	1	0	0						19	6	6	3.2	
SANTA MARIA	73	1005.9		22.8	11.1	16.8	0.1	28.9	6	8.3	19	0	0			3	2	3	1	0	0	0						16	12	3	3.8	
STOCKTON	9	1010.6	1012.3	33.9	16.1	25.0	0.4	38.9	5	11.7	31	22	0	10.0	45	7	7	7	1	0	0	0	4.0	27	9.4*	25	31+	28	2	1	0.9	
COLORADO																																
ALAMOSA	2297	777.5		26.1	7.2	16.6	0.6	30.6	10	- 1.7	21	0	4			19	- 6	9	10	12	0	0						11	17	3	4.1	
COLORADO SPRINGS	1882	813.4	1012.8	29.4	12.2	20.7	0.1	35.0	10	6.1	21	7	0	5.6	44	15	- 40	6	9	13	0	0	4.2	2	15.6*	30	19	9	11	11	5.3	
DENVER	1610	838.2	1011.2	30.0	12.8	21.3	0.6	35.0	10	5.0	23	11	0	3.9	36	7	- 26	5	6	8	0	0	3.7	19	15.6	W	19	10	17	4	4.9	82
GRAND JUNCTION	1478	859.5	1011.6	31.1	15.6	23.4	0.8	38.3	10	8.9	28+	16	0	6.1	38	29	2	18	8	5	0	0	4.0	14	21.9	W	26	15	10	6	4.3	77

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow, Sleet		Wind		Fastest mile (1.6 kilometers)			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1414	856.8	1011.9	32.2	13.9	23.0	0.7	37.2	24	5.6	28	17	0	8.9	48	69	22	21	9	11	0	0	4.0	12	23.2	N	16	13	14	4	4.2	77
CONNECTICUT																																
BRIDGEPORT	2	1015.2	1016.1	25.6	15.6	20.5	1.9	30.6	30	10.0	10	0	0	15.0	73	25	- 88	9	9	3	0	0	5.2	23	11.2*	32	9	8	13	10	5.7	
HARTFORD	52	1009.4	1015.5	26.7	13.3	20.1	1.7	33.3	30	7.2	10	2	0	13.9	70	62	- 39	29	8	7	0	0	3.1	17	11.6	NW	12	3	17	11	6.4	67
NEW HAVEN	2	1015.1		25.0	15.0	20.0	1.4	30.0	30	8.9	10	0	0			74	- 33	34	9	3	0	0	3.2		12.1	NW	18	7	14	10	5.7	67
DELAWARE																																
WILMINGTON	24	1012.7	1016.0	27.8	16.7	21.9	1.6	33.3	22	8.9	15	4	0	15.6	69	46	- 96	18	10	3	0	0	3.7	18	11.2*	33	18	6	15	10	6.0	
DIST.OF COLUMBIA																																
WASHINGTON U	22			28.9	18.3	23.7		34.4	23	12.2	15	7	0			52	- 62	40	5													
WASH NATL AP	4	1011.5	1015.5	29.4	18.9	24.2	0.6	34.4	22	11.7	15	9	0	16.1	64	48	- 76	32	3	2	0	0	4.0	18	11.6	SSE	30+	6	11	14	6.6	50
FLORIDA																																
APALACHICOLA U	4	1013.7		31.7	24.4	28.0	0.5	35.0	28	21.7	15	11	0			112	- 85	23	13	10	0	0	2.4					7	11	13	6.4	49
DAYTONA BEACH	9	1014.9	1016.6	31.7	22.8	27.1	0.1	34.4	4	20.6	3	10	0	22.8	81	275	113	94	15	16	0	0	3.4	20	17.9*	10	28	2	12	17	7.3	
FORT MYERS	4	1015.2		33.3	23.3	28.3	0.1	35.0	24+	21.7	22+	28	0			198	- 79	34	16	23	0	0	3.5		10.3*	31	27+	1	21	9	6.5	
JACKSONVILLE	7	1014.0	1015.7	31.7	22.8	27.3	0.6	35.0	31	21.1	16	16	0	22.8	81	143	- 31	66	14	14	0	0	3.8	24	19.2	NE	28	2	13	16	7.2	53
KEY WEST	2	1014.6	1015.9	31.7	26.7	29.4	0.7	32.2	29+	23.3	1	16	0	23.9	72	87	- 23	19	13	13	0	0	4.3	12	11.6		8	7	15	9	5.9	79
LAKELAND U	65			32.8	23.3	27.8	0.1	34.4	31+	20.6	7	21	0			250	71	92	17	22	0	0	2.7					2	15	14	6.8	54
MIAMI BEACH	3			31.1	26.1	28.4	0.2	33.3	19	23.3	27+	6	0			154	25	69	11		0	0	5.9					3	18	10	6.1	76
MIAMI	2	1014.6	1015.8	32.2	25.6	28.7	0.7	33.9	19	23.3	7+	18	0	23.3	76	250	73	176	19	18	0	0	3.5	12	33.1*	36	27	3	14	14	6.6	
ORLANDO	32	1011.8	1016.5	33.3	23.3	28.2	0.0	34.4	31+	21.7	21	28	0	23.3	82	229	52	76	14	16	0	0	3.4	18	14.3*	36	28	2	14	15	7.2	
PENSACOLA	4			31.7	22.8	27.3	0.2	35.6	31	20.0	14	14	0			238	61	61	18	12	0	0	2.7	35	14.3	N	4					
TALLAHASSEE	18	1013.6	1016.3	32.2	22.2	27.3	0.1	35.6	31+	18.3	14	18	0	22.8	81	237	61	42	17	18	0	0	3.0	36	13.9*	27	13	7	8	16	6.5	
TAMPA	6	1014.3	1016.0	31.7	23.3	27.5	0.3	33.9	24+	21.7	20	12	0	22.8	80	273	63	57	17	20	0	0	4.1	27	15.6*	3	8	2	14	15	7.1	57
WEST PALM BEACH	5	1015.0	1016.3	32.2	23.9	28.1	0.2	34.4	14+	21.7	19	23	0	23.9	81	186	15	102	18	12	0	0	3.8	12	38.4*	13	27	3	15	13	6.5	
GEORGIA																																
ATHENS	245	987.6	1016.2	30.0	19.4	24.7	1.4	34.4	31	13.3	13	8	0	20.0	80	96	4	48	11	7	0	0	3.0	24	10.7*	24	12	10	11	10	5.8	
ATLANTA	306	975.1	1016.4	28.9	20.0	24.4	1.3	32.8	31	13.3	13	2	0	20.0	81	104	13	39	10	6	0	0	2.9	29	12.1	N	11+	8	11	12	5.9	60
AUGUSTA	44	1008.8	1015.5	31.7	20.6	26.2	0.6	34.4	27+	15.6	14	19	0	20.6	76	252	153	152	7	9	0	0	2.5	24	13.4*	23	12	2	15	14	7.0	
COLUMBUS	117	1001.8		31.7	21.1	26.4	0.7	35.6	31	15.6	14	15	0			132	14	79	10	5	0	0	2.2		11.2*	25	11+	6	11	14	6.5	
MACON	109	1002.7	1016.1	31.7	20.0	25.9	1.4	36.1	31	13.3	14	17	0	21.1	82	71	- 35	31	9	6	0	0	2.9	30	11.6	N	29	6	13	12	6.4	61
ROME	194	993.4		31.1	18.3	24.5	1.3	34.4	31+	12.8	25+	14	0			76	- 20	28	8	7	0	0									5.2	
SAVANNAH	15	1013.3	1015.9	31.7	21.7	26.4	0.8	35.0	3	19.4	21+	16	0	21.7	80	213	44	147	12	10	0	0	3.6	22	15.2	NE	28	4	15	12	6.5	70
HAWAII																																
HILO	9	1015.1	1016.7	28.3	20.0	24.1	0.2	31.1	29+	17.8	25	0	0	19.4	77	186	-105	44	27	1	0	0	3.3	25	11.6*	14	28	5	11	15	6.7	40
HONOLULU	2	1015.6	1016.0	30.6	23.3	26.9	0.6	32.2	29	21.1	28+	1	0	16.7	57	12	- 11	5	10	0	0	0	4.7	6	11.2	NE	17+	8	17	6	5.1	79
KAHULUI	13	1012.9	1015.7	29.4	20.6	24.8	1.3	32.8	29	16.7	26	1	0	19.4	75	5	- 4	2	7	0	0	0	5.8	5	13.4	NE	22+	14	16	1	4.2	79
LIHUE	35	1011.9	1017.5	28.3	22.2	25.1	0.7	29.4	2	19.4	29	0	0	20.6	77	13	- 10	12	18	0	0	0	4.6	6	10.7	NE	12	3	20	8	6.1	61
IDAHO																																
BOISE	865	918.0	1012.6	29.4	12.2	20.7	1.6	38.3	17	3.3	29	14	0	5.0	40	13	9	12	4	2	0	0	3.4	31	12.1	NW	30+	21	8	2	2.7	87
IDAHO FALLS 42NW R	1460			28.9	7.2	17.8	1.3	35.6	9	- 1.1	30	12	1			17	5	9	3													
IDAHO FALLS 46W R	1504	848.1		27.8	7.2	17.6	1.7	33.9	4	- 1.1	30+	6	2			7	- 6	3	3	2	0	0	4.2		15.6A	WSW	26					
LEWISTON	431	962.3		27.8	12.8	20.3	1.7	35.6	17	8.3	31	6	0			17	6	9	9	3	0	0						14	6	11	4.6	
POCATELLO	1355	863.0	1012.8	29.4	10.0	19.7	1.4	36.7	4	1.1	30	12	0	2.8	36	6	- 8	4	4	1	0	0	4.7	21	16.5	SW	28	20	8	3	3.1	42
ILLINOIS																																
CAIRO U	96	1001.9		31.1	20.6	26.0	0.6	39.4	4+	13.9	13	14	0			81	2	34	9	6	0	0	3.2	S#	15.6	NW	4	16	6	9	4.6	74
CHICAGO O HARE	201	990.0	1014.4	27.2	12.8	19.8	2.0	35.6	3+	5.0	26+	4	0	13.9	68	50	- 32	38	6	4	0	0	4.2	24	13.0*	31	11	10	11	10	5.2	
CHICAGO MIDWAY	186	991.7	1014.5	27.8	16.1	22.1	1.4	36.7	3	8.9	14	4	0	14.4	63	56	- 25	26	6	6	0	0	4.1	21	12.1	W	11	11	10	10	5.1	66
MOLINE	177	992.5	1014.4	28.3	15.0	21.6	1.6	35.6	2	7.2	14	5	0	15.0	67	61	- 28	48	8	7	0	0	3.6	27	17.0	W	24	9	13	9	5.2	71
PEORIA	199	992.6	1014.7	29.4	15.6	22.4	1.1	37.2	2	8.9	26	8	0	14.4	65	52	- 21	38	6	6	0	0	4.1	18	13.0	W	30	10	10	11	5.6	72
ROCKFORD	222	986.5	1013.9	26.1	12.8	19.4	3.1	33.9	3+	6.1	26+	3	0	14.4	73	51	- 55	38	7	5	0	0	4.3	18	15.6*	27	30	10	13	8	5.0	
SPRINGFIELD	179	991.3	1014.3	30.6	16.7	23.6	0.4	39.4	3	6.1	13	13	0	15.0	60	56	- 14	30	4	3	0	0	4.1	17	13.9	W	25	11	10	10	4.9	80
INDIANA																																
EVANSVILLE	116	999.7	1015.4	31.7	16.7	24.2	0.9	38.9	3	7.8	13	17	0	17.2	67	30	- 48	21	5	4	0	0	3.1	18	11.6	S	28	16	5	10	4.4	82
FORT WAYNE	241	984.4	1015.2	28.3	14.4	21.4	1.1	36.7	2	5.0	14	9	0	13.9	66	52	- 25	15	7	6	0	0	3.6	22	15.2	NW	11	9	11	11	5.6	72

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No of days		Snow, Sleet				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	985.8	1015.3	28.9	16.1	22.5	0.7	36.1	3	8.9	15+	8	0	15.0	66	17	- 60	5	6	6	0	0	3.8	23	15.2	S	25	7	17	7	5.4	74
SOUTH BEND	234	986.8	1014.6	27.2	14.4	20.6	1.7	36.1	2	6.7	15+	6	0	13.3	64	87	- 3	28	11	2	0	0	4.0	23	10.3*	23	11	10	10	11	5.5	
IOWA																																
BURLINGTON	212	989.4	1014.8	28.3	15.6	22.1	1.6	36.7	2	7.8	13	8	0	15.0	66	41	- 51	18	8	7	0	0	4.0	16	15.6	NW	29	12	9	10	5.0	76
DES MOINES	289	983.6	1014.4	27.2	15.6	21.3	2.6	37.8	2	8.9	13+	6	0	13.9	67	100	7	26	10	7	0	0	4.5	13	17.0	W	29	13	8	10	4.9	68
DUBUQUE	325	988.9		25.6	14.4	19.9	1.4	33.9	2	6.7	26	2	0			102	8	45	10	8	0	0						10	7	14	5.5	
SIOUX CITY	334	972.6	1013.3	26.1	15.0	20.4	3.6	38.3	2	7.8	13+	4	0	15.6	77	136	68	49	11	8	0	0	4.6	16	19.2	S	31	11	10	10	5.1	60
WATERLOO	265	981.6	1013.2	26.7	13.3	20.1	1.9	36.1	2	3.9	14	4	0	15.0	75	123	37	71	10	6	0	0	4.0	18	15.6*	27	29	12	8	11	5.3	
KANSAS																																
CONCORDIA	448	963.7	1012.7	29.4	16.7	23.1	3.1	40.6	2	7.2	12	11	0	15.0	66	77	- 3	25	11	10	0	0	5.3	12	17.0	S	31	12	7	12	5.5	68
DODGE CITY	791	925.8	1012.0	32.2	18.3	25.2	1.0	41.7	10	12.2	23	16	0	14.4	59	76	16	71	6	8	0	0	5.9	19	25.0	W	19	11	12	8	4.9	76
GOODLAND	1111	887.5	1011.8	31.7	13.3	22.3	1.4	40.6	10	3.3	23	15	0	8.9	49	3	- 55	2	5	4	0	0	6.4	17	16.5*	17	19	13	14	4	4.2	
TOPEKA	267	978.3	1013.5	29.4	17.8	23.6	2.2	40.6	3+	10.0	12	11	0	16.7	68	209	100	83	11	11	0	0	4.6	18	25.0	SW	29	11	7	13	5.5	60
WICHITA	403	964.6	1012.4	30.6	19.4	24.9	2.2	43.3	6	11.1	12	13	0	17.2	68	155	82	50	13	15	0	0	5.4	18	21.0	NW	27	11	11	9	5.1	62
KENTUCKY																																
COVINGTON	265	983.6	1015.0	30.6	16.1	23.2	0.2	38.3	3	8.9	14+	12	0	16.1	69	57	- 9	18	8	6	0	0	3.3	21	13.0*	30	11	10	13	8	5.1	
LEXINGTON	298	980.3	1015.6	30.6	17.8	23.9	0.6	36.7	3	7.8	13	13	0	15.6	64	50	- 32	29	9	4	0	0	3.5	18	17.4*	22	11	10	18	3	4.8	
LOUISVILLE	144	995.8	1014.9	31.1	17.8	24.6	0.0	38.3	3	9.4	13	14	0	17.2	68	67	- 9	23	6	4	0	0	2.9	18	10.3	W	28	10	14	7	5.0	75
LOUISIANA																																
ALEXANDRIA	28	1010.7	1015.0	32.2	21.1	26.8	1.0	38.3	5	18.9	13	21	0	22.2	84	186	97	69	9	14	0	0	1.9	18	15.6*	4	5	7	10	14	6.3	
BATON ROUGE	20	1012.7	1015.6	32.2	23.3	27.8	0.2	36.1	5	21.1	27	23	0	23.3	80	113	- 21	31	10	14	0	0	2.1	18	13.9*	30	18	6	16	9	5.9	
LAKE CHARLES	4	1013.5	1015.3	32.2	23.9	28.2	0.3	36.1	5	22.8	26+	18	0	23.9	82	142	20	36	14	17	0	0	3.0	18	20.6*	11	5	4	16	11	6.1	
NEW ORLEANS	1	1013.5	1015.6	32.2	22.8	27.6	0.1	35.6	31	20.6	29+	19	0	24.4	85	99	- 37	50	15	12	0	0	2.5	22	10.3*	24	21	7	15	9	5.8	
NEW ORLEANS AUDUBON	2	1008.9		33.3	23.9	28.4	0.4	36.1	31	22.2	27+	26	0			143	- 26	55	14	17			1.4		6.3	SW	22	2	19	10	6.3	58
SHREVEPORT	77	1005.6	1015.0	34.4	23.3	28.9	0.1	40.6	5	19.4	13	23	0	22.2	74	120	55	52	7	8	0	0	4.3	18	11.6*	3	26	9	8	14	6.2	62
MAINE																																
CARIBOU	190	990.7		20.0	9.4	14.8	2.2	27.8	30	5.6	21+	0	0			86	- 7	26	17	4	0	0						1	12	18	7.5	
PORTLAND	19	1011.2	1015.3	22.8	9.4	16.2	3.2	27.8	31	4.4	14	0	0	11.7	77	45	- 17	25	9	1	0	0	3.7	18	12.5	S	17	6	12	13	6.3	61
MARYLAND																																
BALTIMORE	45	1011.1	1015.8	28.9	17.2	23.1	0.8	34.4	23+	9.4	15	6	0	15.6	67	50	- 82	20	7	2	0	0	3.5	18	12.1	NW	18	6	13	12	6.4	58
BALTIMORE U	4			29.4	20.0	24.7	0.4	34.4	23+	15.0	14	7	0			45	- 72	19	7													
MASSACHUSETTS																																
BLUE HILL OBS R	192	991.5		23.9	13.3	18.6	2.2	32.2	30	7.8	14	1	0			42	- 61	17	13		0	0	5.6	SSW								59
BOSTON	5	1010.8	1015.6	23.9	14.4	19.1	2.9	29.4	31+	11.1	15+	0	0	13.3	74	45	- 48	18	12	5	0	0	4.8	30	13.0*	N	20	7	13	11	5.9	60
NANTUCKET	13	1015.6	1016.2	22.2	15.6	18.7	1.3	26.1	24	10.0	10	0	0	15.6	83	52	- 42	26	11	0	0	0	5.1	21	13.4	NE	3	11	5	15	6.4	56
PITTSFIELD	357			23.3	9.4	16.4	2.6	29.4	30	3.3	20	0	0			100	1	39	8		0	0										
WORCESTER	301	979.2	1015.7	22.8	12.2	17.4	2.7	30.0	30	7.2	14	0	0	11.7	73	74	- 33	27	9	3	0	0	3.8	28	13.9*	10	27	8	10	13	6.0	
MICHIGAN																																
ALPENA	210	991.5		22.2	10.6	16.3	1.7	30.6	30	4.4	9	0	0			77	0	44	13	4	0	0	3.1	24	13.0	N	2	3	11	17	6.9	59
DETROIT	189	988.5	1014.9	25.6	15.6	20.6	2.1	33.3	2	8.9	14	2	0	13.3	66	149	76	52	9	5	0	0	4.2	22	14.3	SW	17	7	14	10	6.0	57
DETROIT M WAYNE CO	193	991.2	1015.4	25.0	12.2	18.5	3.7	36.1	2	4.4	14	2	0	12.8	71	196	123	82	9	7	0	0	3.9	24				7	13	11	6.0	
DETROIT WILLOW RUN	217	986.9	1015.0	25.6	12.8	19.1	3.4	37.2	2	6.1	14	3	0	13.9	76	144	72	52	9	7	0	0	3.8	24	15.6*	35	11	8	12	11	5.8	
FLINT	233	987.1	1015.4	25.0	12.2	18.5	1.6	36.1	2	3.9	9	2	0	11.1	64	67	- 13	20	10	5	0	0	3.7	24	14.3*	27	28	7	13	11	6.1	
GRAND RAPIDS	210	988.8	1014.5	26.1	12.8	19.6	1.8	37.8	3	5.0	14	4	0	13.3	72	81	12	31	10	4	0	0	4.1	25	14.3	W	11	8	13	10	5.9	63
LANSING	260	983.0	1014.6	26.1	12.2	19.3	1.9	37.8	2	3.3	9	5	0	13.9	74	100	23	32	8	6	0	0	4.0	29	20.1	SW	28	7	15	9	5.7	57
MARQUETTE U	206	986.2		21.1	12.8	16.8	2.0	33.3	2	7.8	9	1	0			128	51	41	16	4	0	0	3.9	W#	13.0	SW	28	4	14	13	6.6	56
MUSKEGON	191	991.8	1014.7	25.6	13.9	19.9	1.3	37.2	3	4.4	9	3	0	13.3	68	61	- 13	29	8	5	0	0	4.4	22	11.2*	19	28	9	11	11	5.7	
SAULT STE MARIE	220	990.7	1013.3	19.4	11.1	15.2	2.6	26.1	30	6.7	26	0	0	11.7	80	92	19	30	16	5	0	0	4.6	31	13.4*	29	7	2	12	17	7.6	41
MINNESOTA																																
DULUTH	435	971.8	1013.2	20.0	10.6	15.1	2.6	29.4	4+	2.2	14	0	0	10.0	76	167	70	45	16	9	0	0	5.1	8	17.0	E	21	4	10	17	7.2	53
INTERNATIONAL FALLS	359	970.5	1011.5	21.7	9.4	15.4	1.8	33.3	5+	1.7	14+	3	0	12.2	82	124	32	44	14	6	0	0	4.8	27	12.5*	34	11+	5	7	19	7.4	
MINNEAPOLIS	250	979.3	1012.4	26.1	14.4	20.3	0.8	36.7	1	6.1	14	5	0	13.3	68	138	57	52	10	7	0	0	4.5	18	16.1	N	22	13	10	8	5.0	64
ROCHESTER	395	976.6	1013.7	25.0	12.2	18.8	2.2	35.6	2	2.8	14	5	0	12.2	69	53	- 44	25	10	7	0	0	5.4	18	12.5*	19	27	13	9	9	4.9	
ST CLOUD	315	974.6		25.0	12.8	18.8	1.6	37.2	1	5.0	14	5	0			169	74	51	12	9	0	0						12	8	11	5.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
JACKSON	93	1003.8	1015.7	32.8	22.2	27.6		37.2	4	17.2	14	21	0	21.7	75	163		42	12	11	0	0	3.0	21	15.2*	SE	7	7	10	14	6.3	
MERIDIAN	89	1002.6	1016.1	32.2	20.6	26.5	0.8	36.1	4	15.6	14	20	0	21.7	81	79	- 11	25	14	10	0	0	2.2	18	11.2*	24	22	4	15	12	6.5	
VICKSBURG U	71	1006.0		31.7	22.2	26.9	0.7	36.1	4	18.3	13	16	0			53	- 24	37	9	7	0	0	3.0		10.7	SW	22	9	18	4	5.3	64
MISSOURI																																
COLUMBIA	237	985.6	1013.6	30.6	18.3	24.6	0.6	39.4	3	8.3	13	13	0	14.4	57	20	- 77	14	4	5	0	0	4.3	16	13.4	NW	11	13	10	8	4.7	75
KANSAS CITY	226	979.2	1013.2	30.0	18.9	24.4	2.1	40.0	3	11.7	12	12	0	15.6	61	96	1	55	9	8	0	0	4.0	18	13.4	S	27+	13	7	11	5.0	71
ST JOSEPH	247	979.8		28.9	16.1	22.4	2.8	38.3	3	7.8	13+	7	0			129	22	57	10	11	0	0	3.0	18	13.0*	27	29	14	10	7	4.6	
ST LOUIS	163	994.2	1014.7	31.1	18.3	24.7	0.2	40.0	3	10.0	13	16	0	17.2	67	61	- 16	45	5	3	0	0	4.5	18	10.3	W	22+	14	9	8	5.0	75
ST LOUIS RFC	142			30.6	20.0	25.3	0.9	40.0	3	13.9	13	13	0			65	- 27	33	4		0	0										
SPRINGFIELD	386	967.8	1014.5	30.0	17.8	23.8	1.7	38.9	4+	8.9	13+	12	0	16.7	69	125	41	48	11	7	0	0	4.1	16	11.6	NW	21	11	11	9	5.2	60
MONTANA																																
BILLINGS	1087	889.6	1011.5	27.8	12.2	20.1	2.1	39.4	4	6.7	30	9	0	5.6	44	53	30	27	6	0	0	0	4.7	22	17.4	W	19	11	15	5	4.9	68
GLASGOW	694	937.3		27.8	12.2	20.0	0.1	38.9	18+	5.6	25	9	0			22	- 16	13	5	0	0	0						10	8	13	5.7	
GREAT FALLS	1116	887.5	1012.7	25.6	11.1	18.6	0.8	38.3	18	7.2	24+	7	0	5.0	46	42	10	16	7	2	0	0	5.2	24	16.1	W	9	9	12	10	5.5	70
HAVRE	787	924.0		26.7	10.6	18.4	1.1	38.9	18	3.9	25	8	0			47	19	23	8	4	0	0	4.3	W#	19.2	W	9	10	8	13	5.6	67
HELENA	1187	873.2	1013.7	25.6	9.4	17.4	1.6	35.0	18+	4.4	25	5	0	5.0	47	49	26	22	8	5	0	0	4.0	28	15.2	W	12	12	10	9	4.9	70
KALISPELL	904	911.6	1015.7	22.8	6.7	14.7	2.6	31.1	17	1.1	25	0	0	6.7	64	45	17	10	14	2	0	0	2.8	18	11.2	2	22+	11	7	13	5.8	
MILES CITY	801		1010.9	28.9	12.2	20.6	2.0	40.6	4	6.1	25	11	0	6.7	47	59	28	24	6	2	0	0	4.4	30	14.3*	29	19					
MISSOULA	972	902.0	1015.4	25.0	7.2	16.0	2.2	33.3	17+	2.2	25	3	0	7.2	61	47	28	19	12	2	0	0	3.6	32	15.2	NW	18	15	5	11	4.9	53
NEBRASKA																																
GRAND ISLAND	561	947.7	1013.2	27.8	13.9	20.8	3.2	41.1	2	5.6	12	7	0	13.9	70	87	28	37	9	10	0	0	5.4	16	20.6*	32	10	11	11	9	5.0	
LINCOLN U	351			28.3	16.1	22.2	3.2	41.7	2	8.3	12	5	0			92	6	28	9	10	0	0	4.5		17.0	S	9	13	8	10	5.2	62
NORFOLK	471	958.1		26.1	13.9	20.0	4.0	38.9	2	6.1	12	3	0			106	40	38	10	9	0	0						11	11	9	5.2	
NORTH PLATTE	847	914.3	1011.6	28.9	13.3	21.0	2.6	38.3	1	3.3	12	11	0	12.2	63	67	13	28	7	7	0	0	4.8	11	24.1	NW	21	12	10	9	5.2	74
OMAHA	298	974.1	1013.4	27.8	15.0	21.4	3.2	41.7	2	6.7	12	5	0	15.0	70	105	4	39	9	9	0	0	3.4	16	15.6	N	4	13	9	9	5.2	63
OMAHA N OMAHA AP	403	965.9		26.1	15.0	20.5	3.1	38.3	2	7.2	12	3	0			94	- 11	33	11	10	0	0						13	8	10	5.5	
SCOTTSBLUFF	1204	878.3	1011.9	29.4	11.7	20.5	2.1	35.6	9+	2.8	30	10	0	9.4	53	5	- 21	3	3	3	0	0	5.2	12	19.7*	25	29	13	10	8	4.7	
VALENTINE	789	922.3		28.3	12.8	20.4	2.3	38.9	1	2.8	12	11	0			17	- 41	6	6	3	0	0	5.6	S#	25.5	W	29	13	11	7	4.4	66
NEVADA																																
ELKO	1547	845.3	1013.2	30.6	6.7	18.5	0.9	35.0	10+	- 2.8	30	14	4	- 1.1	29	3	- 5	2	4	2	0	0	3.1	25	13.4*	29	26	19	9	3	2.7	
ELY	1907	811.0	1012.4	28.9	7.8	18.2	0.8	33.3	9	- 3.3	29	2	3	2.2	39	15	2	7	7	6	0	0	3.9	19	18.8	SE	31	17	12	2	3.1	84
LAS VEGAS	659	945.3	1009.8	38.3	23.9	30.9	0.2	42.8	8	18.9	21	31	0	6.7	25	1	- 11	1	1	2	0	0	4.7	18	15.2*	44	12	21	4	6	3.0	88
RENO	1342	863.1	1014.3	31.7	7.2	19.4	0.8	36.1	23	1.7	29	19	0	3.9	40	1	- 4	1	1	0	0	0	3.3	29	15.6	SW	31	26	3	2	1.5	99
WINNEMUCCA	1310	867.9		31.1	7.2	19.0	0.8	36.1	11	- 0.6	30	21	1			13	9	11	2	2	0	0	3.8	29	14.3	W	7	25	5	1	2.1	88
NEW HAMPSHIRE																																
CONCORD	103	1004.5	1015.4	24.4	9.4	17.1	2.6	32.2	30	4.4	16	1	0	11.7	73	70	- 6	46	13	2	0	0	2.3	32	8.5*	30	24	7	16	8	5.7	58
MT WASHINGTON OBS	1909	807.3		8.9	2.2	5.7	3.1	17.8	29	- 2.2	14+	0	6			210	41	60	18	0	30	T	11.9	W#	32.6Y	W	9+	1	8	22	8.4	27
NEW JERSEY																																
ATLANTIC CITY	18	1014.4	1 16.7	27.8	17.2	22.3	0.8	33.3	23	10.0	15	2	0	15.6	70	41	- 83	27	7	1	0	0	3.0	20	11.2*	29	18	7	9	15	6.2	59
ATLANTIC CITY U	3			25.6	19.4	22.4	0.7	31.7	24	12.8	15	0	0			24	-107	14	7				5.6		15.6*	NW	18					
NEWARK	3	1014.6	1016.0	28.3	17.8	23.3	0.8	34.4	22	12.2	15	5	0	14.4	61	13	-100	10	4	1	0	0	4.6	23	11.2*	23	25	6	15	10	5.5	
TRENTON U	17	1007.9		27.8	16.7	22.2	1.1	33.9	22	11.7	15+	3	0			12	-109	6	5	3	0	0	3.6	S#	11.2	S	25	8	13	10	5.7	63
NEW MEXICO																																
ALBUQUERQUE	1618	854.4	1011.5	32.2	17.8	24.9	0.3	36.7	6	12.2	22	19	0	9.4	44	25	- 9	15	9	9	0	0	2.9	36	20.1	NW	19	15	9	7	4.2	78
CLAYTON	1515	846.0		30.6	15.6	23.0	0.1	37.2	6	7.2	28	12	0			59	6	37	8	13	0	0						17	8	6	3.8	
RATON	1944	808.5		28.9	11.7	20.3	0.2	33.3	3	5.6	21	4	0			56	- 11	22	14	11	0	0						12	13	6	4.4	
ROSWELL	1123	892.5		35.6	18.3	26.9	2.1	38.9	6+	14.4	29	27	0			14	- 27	9	5	6	0	0	3.8		13.9	NW	7	16	11	4	3.8	76
SILVER CITY	1638	836.8		31.1	16.1	23.7	0.2	36.1	7	13.9	23	10	0			63	2	29	9	9	0	0						14	11	6	4.5	
NEW YORK																																
ALBANY	84	1011.7	1015.6	25.6	12.2	19.0	2.1	32.8	30	7.2	27+	1	0	12.2	67	65	- 13	20	11	3	0	0	3.3	17	13.0	W	8	4	11	16	6.7	49
BINGHAMTON	485	957.4	1015.9	24.4	12.8	18.4	0.7	31.1	30	7.2	27	0	0	12.2	70	47	- 44	15	11	3	0	0	4.2	22	10.7	NW	14+	2	11	18	7.2	54
BUFFALO	215	987.0	1014.8	23.3	13.3	18.3	1.9	32.2	11	7.2	14	1	0	12.8	73	128	50	44	13	6	0	0	4.4	24	14.3	SW	25	4	13	14	6.9	50
NEW YORK U	40	1005.1		28.3	17.2	22.7	1.2	33.3	22	12.2	15+	4	0			6	-107	3	4	1	0	0	3.4	W#	9.4	SW	8	11	16	4	4.6	65
NEW YORK LA GUARDIA	6	1013.3	1015.6	27.2	18.9	23.2	0.9	32.2	24	15.0	15+	1	0	15.0	64	6	-123	4	4	1	0	0	5.0	18	12.1	NE	2	4	18	9	5.8	
ROCHESTER	166	996.1	1015.3	25.6	12.8	19.0	1.9	32.2	30	7.2	9	1	0	12.8	71	70	1	30	12	2	0	0	3.8	20	12.1	W	12	2	16	13	6.5	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Date	Temperature: Lowest	Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
SCHENECTADY	66			25.0	12.8	18.7	2.8	30.6	30	7.8	16	0	0			51	- 31	29	7		0	0	1.4		8.9*	SW	11	17	9	5	3.7	
SYRACUSE	127	993.0	1014.6	26.1	13.3	19.7	1.5	33.3	7	9.4	21+	2	0	12.8	67	78	- 4	30	13	7	0	0	4.1	27	18.8	SW	30	5	17	9	6.1	55
NORTH CAROLINA																																
ASHEVILLE U	671	938.4		27.2	16.7	22.1	1.0	31.7	3+	10.0	13	0	0			226	133	72	11	6	0	0	3.0	NW#	13.9	NW	3	4	13	14	6.8	54
CAPE HATTERAS R	2	1015.3	1016.0	27.8	21.1	24.5	0.8	31.1	3	13.9	14	0	0	20.6	80	270	107	83	12	12	0	0	3.7	24	20.1	S	31	6	8	17	6.8	74
CHARLOTTE	224	988.3	1016.1	28.9	19.4	23.9	2.1	33.9	3	12.8	15	3	0	19.4	80	123	15	65			0	0	3.0	18	14.8	NE	3					
GREENSBORO	272	986.7	1016.6	27.8	18.9	23.3	1.2	33.9	3	11.7	15	1	0	18.9	81	171	54	71	10	8	0	0	2.9	18	16.1	NW	12	6	11	14	6.5	50
RALEIGH	132	1002.1	1015.8	28.9	18.9	23.8	1.1	33.9	3	10.6	15	5	0	19.4	81	144	12	77	14	9	0	0	3.2	18	10.3*	33	3	3	15	13	6.6	48
WILMINGTON	9	1013.6	1016.4	30.0	21.1	25.6	0.7	34.4	24+	16.7	15+	6	0	21.7	82	94	- 81	33	17	7	0	0	2.6	22	10.7	S	31+	5	10	16	7.0	54
WINSTON SALEM	295	981.6	1016.2	28.3	19.4	24.0	0.9	34.4	3	12.8	15	2	0	19.4	78	133	23	51	13	9	0	0	2.7	5	7.6*	26	12+	7	12	12	6.3	
NORTH DAKOTA																																
BISMARCK	502	951.5	1011.2	26.7	9.4	18.3	2.4	40.0	5	0.6	12	7	0	8.3	58	19	- 25	12	8	7	0	0	5.2	18	16.1	NW	10	11	9	11	5.2	74
FARGO	274	977.2	1011.2	25.0	11.1	18.3	2.6	35.6	5	0.6	13	5	0	11.7	71	72	- 3	47	10	5	0	0	4.8	16	19.7	N	30	9	8	14	5.9	67
WILLISTON	579	943.8		27.2	11.1	19.1	1.1	39.4	4	2.2	25+	6	0			29	- 9	23	7	2	0	0	5.6	SE#	20.1	NW	10	12	9	10	5.3	65
OHIO																																
AKRON	369	978.2	1016.0	25.6	13.3	19.5	2.4	31.1	11	7.2	14	0	0	13.9	72	144	65	70	11	4	0	0	3.3	21	13.0*	28	11	6	13	12	6.0	
CINCINNATI OBS	232			30.6	17.2	23.9	0.4	38.3	3	10.0	13	12	0			51	- 33	16	7	4	0	0	2.1	N#	7.2	W	28					74
CINCINNATI U	169	992.2		31.1	18.3	24.7	0.5	38.3	3	11.1	13	13	0			72	- 4	35	9	3	0	0										
CLEVELAND	237	987.5	1015.2	24.4	15.0	19.7	1.3	32.2	11	7.8	14	1	0	14.4	74	97	14	32	11	7	0	0	4.0	18	19.2	W	3	11	6	14	5.9	65
COLUMBUS	247	986.3	1015.9	28.3	15.0	21.8	1.1	36.7	2	6.1	15	7	0	15.6	70	81	8	62	5	7	0	0	3.3	36	15.2	E	2	8	16	7	5.3	69
COLUMBUS U	221			28.3	17.2	22.9	0.8	35.6	2	10.0	14	7	0			47	- 24	28	6	7	0	0										
DAYTON	304	983.2	1015.4	29.4	15.6	22.7	0.5	37.8	3	6.7	14+	10	0	14.4	64	28	- 45	11	7	5	0	0	4.1	20	15.2	W	3	10	14	7	4.9	84
MANSFIELD	395			26.1	14.4	20.2	1.1	35.0	2	7.2	14	2	0			62	- 20	17	8	4	0	0						8	10	13	5.9	
TOLEDO	206	992.3	1015.0	26.7	12.8	19.9	1.7	36.7	2	3.9	14	6	0	13.3	70	97	12	37	11	6	0	0	3.6	24	11.2	NW	7	6	14	11	6.0	65
YOUNGSTOWN	359	973.6	1016.0	24.4	13.3	19.1	2.1	30.6	30+	7.2	14	0	0	12.8	70	81	- 8	29	14	8	0	0	3.9	24	9.8*	25	23	5	13	13	6.5	
OKLAHOMA																																
OKLAHOMA CITY	390	969.8	1012.3	33.3	20.6	27.1	1.1	41.1	6+	15.0	23	21	0	17.8	61	125	61	48	10	11	0	0	5.7	16	17.9	N	7	12	12	7	4.6	74
TULSA	206	989.1	1013.2	33.3	21.1	27.1	0.5	43.3	5	12.8	12	18	0	18.3	63	156	79	54	13	13	0	0	4.5	18	14.8	S	20	13	9	9	5.0	60
OREGON																																
ASTORIA	2	1017.0	1017.5	19.4	10.6	15.2	0.9	30.0	24	6.1	31	0	0	12.8	85	56	18	14	14	0	0	0	3.4	34	9.4*	25	27+	6	6	19	7.0	
BURNS U	1265	873.1		27.2	7.8	17.2	2.3	33.9	11	0.0	29	7	1			31	23	19	3	2	0	0						23	6	2	2.6	
EUGENE	110	1003.6	1017.0	26.7	10.6	18.7	0.2	35.6	22	6.1	29	4	0	10.6	66	7	- 3	3	3	0	0	0	2.8	36	8.9*	2	20	13	6	12	5.1	
MEACHAM	1234			21.1	8.3	14.6	1.9	28.9	22+	2.2	31	0	0			24	11	10	7	2	0	0						13	8	10	4.6	
MEDFORD	396	968.3	1015.4	31.1	10.6	20.9	0.6	39.4	22	5.0	29	17	0	8.9	52	3	- 2	4	2	1	0	0	2.6	29	10.3*	5	31	25	4	2	1.8	
PENDLETON	452	961.7	1014.9	27.8	12.2	20.2	1.9	35.6	22	5.0	31	7	0	5.6	43	5	- 2	3	4	1	0	0	5.2	26	14.8*	26	12	15	6	10	4.1	
PORTLAND	6	1011.2	1016.8	23.9	11.1	17.6	1.6	34.4	24	7.8	31+	2	0	11.1	71	23	6	5	11	0	0	0	3.2	32	10.3	S	1	10	8	13	5.6	60
PORTLAND U	9			24.4	13.9	19.3	0.8	33.9	24	10.6	31+	3	0			26	9	8	11	0	0	0										
ROSEBURG	154	998.3		28.3	11.1	19.6	0.2	36.1	24+	6.7	19	7	0			4	- 4	1	4	0	0	0	2.3	N#	8.0	SW	3	13	10	8	4.2	69
SALEM	59	1010.1	1017.6	25.6	9.4	17.7	1.3	34.4	24	5.0	31	4	0	11.7	73	10	- 1	3	12	2	0	0	2.8	30	8.9*	29	18	12	6	13	5.3	
SEXTON SUMMIT R	1169	885.2		23.3	10.0	16.5	0.8	32.2	22	3.9	31+	1	0			T	- 6	T	1	0	0	0	4.8					24	5	2	2.0	
PACIFIC AREA																																
CANTON ISLAND	3	1009.3	1009.7	30.6	25.0	27.5	1.1	32.8	2	22.8	29+	1	0	21.7	72	18	- 46	10	9	1	0	0	7.3	10	11.6*	9	27	10	17	4	4.6	
ENIWETOK	5	1009.8		31.1	25.0	28.0	0.3	32.2	28+	23.3	28	3	0			128	- 45	17	26	2	0	0										
TAGUAC GUAM R	110	997.5		30.0	22.2	25.9	0.3	31.1	31+	20.0	13	0	0			227	-100	51	26	11												36
JOHNSTON	2	1012.9	1013.5	28.9	25.0	26.9	0.6	30.0	13	22.8	28	0	0	21.7	74	24	- 33	14	7	0	0	0	6.6	9	11.2	E	30+	0	14	17	7.2	51
KOROR R	29	1006.3	1009.1	30.6	23.9	26.9	0.3	32.2	19+	22.2	21+	2	0	24.4	88	400	- 1	106	26	9	0	0	2.6	24	11.6	W	5	0	0	31	9.9	49
KWAJALEIN	2	1008.7	1009.6	30.0	24.4	27.2	0.5	31.1	31+	22.2	21	0	0	24.4	85	297	56	74	24	0	0	0	4.0	9	13.0*	6	21	1	10	20	8.1	
PONAPE R	37	1004.7	1009.2	30.6	22.2	26.5	0.2	32.2	29	21.1	24+	1	0	23.3	89	418	4	101	29	1	0	0	1.8	14	8.9	E	1	0	5	26	8.7	51
TRUK MOEN ISLAND	2	1008.4	1008.7	30.6	23.3	26.8	0.1	31.1	10+	22.2	31+	0	0	23.3	83	317	- 9	54	25	1	0	0	3.7	12	12.1	N	13	0	4	27	9.2	56
WAKE	3	1011.5	1011.9	30.6	25.0	27.8	0.2	31.7	7+	23.3	27+	0	0	22.8	75	149	- 31	41	21	3	0	0	4.0	7	11.6*	18	14	5	8	18	7.5	
YAP R	16	1006.8	1008.0	30.6	23.9	27.1	0.3	32.2	17+	21.7	19	3	0	23.9	86	425	51	73	23	1	0	0	2.4	22	9.4	SSW	4	0	2	29	9.6	31
PENNSYLVANIA																																
ALLENTOWN	115	1002.1	1016.2	27.2	14.4	20.9	1.3	32.8	22	8.9	15	2	0	13.9	69	32	- 82	15	7	3	0	0	3.7	22	12.5*	29	12+	7	14	10	6.0	
ERIE	223	989.4	1015.4	23.9	14.4	19.2	1.8	33.3	30	8.3	14	1	0	13.9	72	117	41	71	10	6	0	0	5.7	18	13.4*	17	11	11	10	10	5.5	
HARRISBURG	102	1002.4	1016.2	28.3	15.6	21.9	1.4	34.4	22	10.0	20	6	0	14.4	66	78	- 15	44	7	2	0	0	3.2	27	9.4	NW	12+	7	11	13	6.5	61
PHILADELPHIA	2	1011.6	1016.1	28.3	16.7	22.3	0.8	32.8	23+	10.0	15+	5	0	15.0	67	12	-105	5	8	3	0	0	3.5	22	11.2	W	18	7	13	11	6.0	60

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
PENNSYLVANIA	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PITTSBURGH	347	985.9	1015.9	25.6	13.3	19.5	2.1	31.1	28	6.1	15	0	0	12.8	67	45	- 39	29	9	3	0	0	3.5	31	13.4*	29	11	4	13	14	6.4	76
PITTSBURGH U	228			26.7	15.6	21.3	2.0	32.2	29	9.4	15	1	0			64	- 25	30	9		0	0										60
READING U	81	1003.7		27.8	16.1	21.9	1.9	32.8	22	11.1	15	2	0			51	- 52	27	9	4	0	0	3.9	S#	13.4	SE	21	7	14	10	6.0	58
SCRANTON	287	982.1	1016.0	26.1	13.9	20.1	1.0	32.2	30	8.9	10	1	0	13.3	69	72	- 19	46	11	3	0	0	3.4	23	13.0	NW	18	6	13	12	6.4	52
WILLIAMSPORT	161	997.4	1016.4	26.1	14.4	20.4	1.6	31.1	31+	9.4	15+	0	0	15.6	77	106	14	48	13	5	0	0	2.6	27	7.6*	31	13+	2	18	11	6.5	
RHODE ISLAND																																
BLOCK ISLAND	34	1011.1		22.8	15.6	19.3	1.6	27.8	30	11.7	10	0	0			7	- 91	4	6	3	0	0						6	13	12	6.3	
PROVIDENCE	17	1009.4	1015.4	25.0	13.9	19.2	2.2	30.0	30+	8.3	14+	0	0	13.3	71	60	- 40	19	12	3	0	0	3.8	18	11.2*	4	3	9	10	12	6.0	53
SOUTH CAROLINA																																
CHARLESTON	12	1013.9	1015.9	31.7	21.7	26.4	0.1	36.1	3	17.8	15+	14	0	21.7	80	195	27	147	15	14	0	0	3.4	18	18.8Y	SE	29	3	14	14	6.8	48
CHARLESTON U	3			30.0	23.3	26.7	0.6	34.4	3	20.0	5+	6	0			180	25	110	11		0	0	4.4		25.5	E	29					
COLUMBIA	66	1003.1	1015.7	31.1	20.6	25.8	1.2	35.6	3	16.1	14	16	0	20.6	77	253	107	107	10	6	0	0	3.0	23	13.4*	31	10	8	13	10	6.1	60
FLORENCE	45	1010.0	1015.7	30.6	20.0	25.4	1.2	36.1	3	15.0	14	12	0	20.6	80	139	23	46	14	6	0	0	3.3	18	9.4*	6	29	8	9	14	6.4	
GNVLE SPARTANBURG	292	979.5	1016.1	29.4	20.0	24.8	1.1	35.0	3	13.3	13	10	0	19.4	75	169	54	91	12	4	0	0	3.0	4	12.5	N	29	7	13	11	6.3	53
SOUTH DAKOTA																																
HURON	391	965.2	1011.4	28.9	12.8	20.8	1.9	40.6	1	2.2	13	12	0	11.7	62	33	- 20	12	12	9	0	0	5.7	17	16.5	S	26	11	13	7	5.0	71
RAPID CITY	965	899.9	1011.8	29.4	12.2	20.8	1.4	38.9	5+	5.6	25+	12	0	6.7	45	47	17	24	7	4	0	0	6.0	32	21.0	NW	21	14	13	4	4.0	79
SIOUX FALLS	433	961.9	1012.7	27.2	13.3	20.2	1.9	37.8	1	2.8	13	7	0	13.9	69	98	7	36	8	6	0	0	5.1	18	12.5*	3	6	12	9	10	5.0	
TENNESSEE																																
BRISTOL	459	962.5	1016.3	28.9	17.2	22.9	0.9	33.9	3	10.0	15	4	0	17.8	77	96		36	8	3	0	0	2.0	29	17.9*	36	3	3	16	12	6.5	
CHATTANOOGA	204	988.9	1016.1	30.6	19.4	24.8	1.7	35.6	3	11.7	13	10	0	20.6	82	124	28	0			0	0	1.8	18	13.4	N	4					
KNOXVILLE	290	981.5	1016.6	28.3	18.3	23.2	2.1	33.9	3	11.7	13	3	0	18.3	78	146	58	75	12	5	0	0	2.9	4	15.2	W	12	8	12	11	6.0	70
MEMPHIS	80	1000.7	1015.0	30.6	21.1	25.9	1.1	38.3	4	14.4	13	13	0	21.1	77	146	71	56	11	9	0	0	2.9	22	10.7	NE	4	7	17	7	5.5	66
MEMPHIS U				30.6	21.7	26.2	1.1	38.3	4	16.1	15	12	0			151	84	54	10		0	0										
NASHVILLE	176	995.3	1014.9	31.1	19.4	25.1	1.1	38.3	4	12.2	13	15	0	19.4	73	116	43	57	6	6	0	0	3.2	18	13.0	N	8	9	11	11	5.4	69
OAK RIDGE	276	983.8		28.9	17.8	23.5	1.0	35.6	3	11.1	13	5	0			128	11	60	12	6	0	0	2.8		23.7Y		12	12	8	11	5.6	
TEXAS																																
ABILENE	536	95..7	1011.4	35.0	23.9	29.6	1.3	40.6	11+	20.6	23	26	0	16.7	51	149	112	80	9	10	0	0	4.9	18	20.6	NW	20	15	10	6	4.5	77
AMARILLO	1099	888.5	1010.9	32.2	18.9	25.6	0.8	40.0	6	12.2	23	18	0	13.3	50	145	79	100	9	6	0	0	5.3	21	16.1	E	7	18	10	3	3.3	79
AUSTIN	182	991.8	1013.4	36.1	23.9	30.0	0.7	38.9	5	22.2	16	29	0	21.1	65	53	4	24	7	6	0	0	4.3	18	10.7	SW	21	11	15	5	4.9	80
BROWNSVILLE	5	1010.6	1013.0	34.4	25.6	30.0	1.1	36.1	12	23.9	30+	31	0	23.3	72	3	- 68	3	1	0	0	0	6.5	16	13.9	SE	27	13	14	4	4.4	87
CORPUS CHRISTI	13	1012.3	1013.5	35.6	23.9	29.8	0.8	37.2	19+	21.1	30	31	0	23.9	75	13	- 58	8	3	3	0	0	6.1	15	14.3	SE	27	14	12	5	4.2	76
DALLAS	147	994.9	1013.0	35.6	25.0	30.1	0.7	41.7	5	21.1	16+	24	0	20.0	60	92	43	77	7	5	0	0	5.1	18	11.6	SE	27	9	14	8	5.2	68
DEL RIO	313	977.4	1011.1	37.2	23.9	30.6		41.7	6	21.1	23	30	0	18.9	54	29		15	7	6	0	0	5.1	12	15.6	5	22	11	15	5	4.4	
EL PASO	1194	885.4	1009.7	35.0	21.7	28.1	1.2	37.8	11+	17.8	1	30	0	12.2	41	19	- 11	11	4	11	0	0	3.5	18	17.9	SW	19	15	13	3	3.9	85
FORT WORTH	166	992.6	1013.1	35.6	23.9	29.6	0.1	42.2	11	21.1	24+	24	0	19.4	59	62	19	52	7	6	0	0	4.2	18	11.2*	18	27	11	13	7	5.0	
GALVESTON U	2			31.1	26.7	28.8	0.3	35.0	5	20.0	23	3	0			144	33	100	9	2	0	0	4.6		21.0	E	5					81
HOUSTON U	12			34.4	25.6	30.1	1.2	39.4	5	23.3	24+	27	0			97	6	33	11		0	0										
HOUSTON	15	1011.5	1014.1	34.4	23.9	29.1	0.7	37.8	5	22.8	27	27	0	22.8	75	66	- 42	34	11	10	0	0	3.9	18	15.6*	7	5	10	14	7	5.4	77
LAREDO	152	996.2	1011.4	38.3	25.6	32.0	1.2	41.1	19+	21.1	23	30	0	19.4	52	85	41	78	2	2	0	0	5.8	14	13.0*	2	7	23	5	3	2.8	
LUBBOCK	988	902.7	1011.6	33.9	19.4	26.6	0.6	38.3	6	13.3	23	24	0	16.1	55	29	- 14	27	5	5	0	0	5.5	17	13.4*	7	22	15	11	5	4.0	
MIDLAND	870	913.6	1009.6	37.8	23.3	30.7	2.8	41.7	6	21.1	24+	30	0	13.9	41	15	- 23	12	3	2	0	0	5.0	16	15.6*	22	30	12	14	5	4.5	
PORT ARTHUR	5	1013.1	1014.5	33.3	23.9	28.6	0.6	36.7	5	21.7	31+	27	0	23.9	82	126	- 13	45	14	12	0	0	3.2	18	32.6	E	5	3	22	6	5.8	60
SAN ANGELO	580	945.2	1010.5	37.2	23.9	30.3	0.8	41.7	6	19.4	23	29	0	16.7	48	34	2	31	4	4	0	0	4.6	16	13.0*	12	22	13	14	4	3.8	
SAN ANTONIO	241	988.8	1013.3	36.1	23.9	30.1	1.3	40.0	5	21.1	4	29	0	20.6	63	132	72	101	6	5	0	0	4.5	16	20.1	SE	6	14	14	3	4.3	83
VICTORIA	32	1009.1		34.4	24.4	29.2	0.6	37.8	5	22.2	23+	29	0			174	94	156	6	7	0	0	4.0		23.2Y		5	13	12	6	4.5	
WACO	152	991.9	1012.7	36.1	24.4	30.4	0.7	41.1	5	22.8	23+	27	0	20.0	60	58	16	24	6	5	0	0	5.3	18	15.6*	11	13	13	11	7	4.6	
WICHITA FALLS	303	975.8	1011.7	37.2	22.8	30.0	0.2	45.0	6	17.2	23	28	0	17.2	53	95	50	41	4	5	0	0	5.4	18	19.2*	36	18	20	6	5	3.8	
UTAH																																
MILFORD	1533	845.0		32.2	12.2	22.1	0.2	37.2	9	2.2	30	21	0			11	- 8	4	6	8	0	0						17	12	2	3.3	
SALT LAKE CITY	1286	867.3	1012.8	31.1	13.3	22.2	1.4	36.7	9+	2.8	29	19	0	4.4	35	4	- 18	2	4	8	0	0	4.6	14	16.1	NW	26	19	8	4	3.4	92
WENDOVER	1291	869.8		30.6	17.2	23.7	1.4	36.1	18	6.1	30	14	0			1	- 8	1	1	3	0	0						25	5	1	1.9	
VERMONT																																
BURLINGTON	101	999.6	1014.1	23.9	10.6	17.2	2.1	30.0	11	4.4	7	0	0	11.1	71	104	19	53	15	6	0	0	3.6	18	12.5	NW	8	2	13	16	7.2	56

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
VIRGINIA																																
LYNCHBURG	289	991.2		27.8	17.2	22.4	1.3	32.8	26	8.9	14	3	0			51	- 61	24	8	5	0	0	2.5		10.7	S	2	6	12	13	6.6	57
NORFOLK	8	1015.3	1016.7	27.8	18.9	23.6	1.7	34.4	22	12.8	15	6	0	19.4	79	269	117	290	11	7	0	0	4.2	20	15.2	E	3	4	12	15	6.7	55
RICHMOND	49	1010.0	1016.3	27.8	17.8	22.8	1.6	32.2	8	12.8	14	1	0	18.3	80	251	110	58	12	7	0	0	2.8	18	24.1	W	12	6	12	13	6.5	52
ROANOKE	358	974.7	1016.4	29.4	17.2	23.3	0.8	35.0	3	6.7	15	7	0	16.1	69	90	- 28	66	10	5	0	0	2.6	16	10.3*	3	3	6	11	14	6.7	
WASHINGTON																																
OLYMPIA	58	1009.7	1017.0	22.2	8.9	15.6	1.8	30.6	24	3.3	31	0	0	11.1	77	37	15	13	9	0	0	0	3.5	20	11.6*	27	18	6	11	14	6.3	
SEATTLE TACOMA	122	1003.0	1017.1	21.7	12.2	17.0	0.8	29.4	24+	8.3	31	0	0	11.1	73	31	7	13	10	2	0	0	3.9	22	11.6*	23	25	9	6	16	6.4	
SEATTLE U	4			22.2	13.9	18.0	0.3	30.0	11+	11.1	31+	0	0			37	18	8	10	0	0	0			19.7	SW	25					63
SPOKANE	718	946.0	1014.2	24.4	10.0	17.1	2.9	31.7	17	1.7	31	0	0	5.6	53	37	27	16	11	5	0	0	4.1	20	13.4	SW	25	13	5	13	5.1	64
STAMPEDE PASS R	1206	881.0		14.4	6.7	10.6	2.6	25.6	11	1.1	30	0	0			157	105	38	17	0	T	0						8	4	19	7.0	
TATOOSH ISLAND R	31	1013.9	1017.0	16.1	11.1	13.7	0.3	21.1	24	8.9	31	0	0	11.7	90	64	13	13	14	0	0	0	4.6	6	15.6	E	6	4	9	18	6.9	56
WALLA WALLA U	289			27.8	14.4	20.9	2.3	35.0	22	8.9	31	7	0			8	0		5	2	0	0										
YAKIMA	323	975.9	1014.2	26.7	7.8	17.1	3.2	33.9	22	3.3	30	4	0	7.2	53	5	0	4	2	2	0	0	3.6	28	12.5*	28	18	15	8	8	4.2	
WEST INDIES																																
SAN JUAN P.R.	2	1012.5	1015.5	31.1	24.4	27.9	0.7	32.2	22+	23.3	26+	4	0	23.9	81	170	- 11	56	22	5	0	0	4.2	7	13.9	E	23	1	20	10	6.4	68
SWAN ISLAND	9	1011.5		30.6	25.6	28.1	0.3	31.7	25	22.8	2+	0	0			171	78	50	19	11	0	0						4	21	6	6.0	
WEST VIRGINIA																																
BECKLEY	763	929.5	1016.4	25.6	13.3	19.6		30.6	3+	3.3	15	0	0	14.4	75	60		24	10	7	0	0	3.2	24	10.3*	32	12	3	11	17	7.2	
CHARLESTON	286	980.7	1015.8	29.4	16.1	22.8	0.4	35.0	3+	7.8	15	9	0	16.1	70	82	- 18	30	11	7	0	0	2.2	22	14.3*	2	3	4	18	9	6.5	
ELKINS	600	948.4	1017.2	25.6	11.7	18.8	1.7	30.6	22	3.9	15	0	0	14.4	82	90	- 17	28	10	7	0	0	2.0	16	14.3*	33	3	1	14	16	7.5	
HUNTINGTON	252	985.8	1015.6	29.4	16.1	22.8	0.6	37.8	3	7.8	15	8	0	16.7	72	158	86	74	5	7	0	0	2.2	18	13.4*	35	3	4	21	6	5.8	
PARKERSBURG U	187			28.9	16.1	22.3	1.2	33.9	2	8.3	15	3	0			94	- 2	46	9	6	0	0	2.6		12.5	SW	11					65
WISCONSIN																																
GREEN BAY	208	991.2	1013.6	24.4	12.2	18.6	1.9	35.0	2	4.4	14	3	0	13.9	76	69	- 1	19	13	6	0	0	3.7	18	13.0	SW	28+	6	13	12	6.1	54
LA CROSSE	199	987.4	1013.4	26.7	15.6	20.9	1.1	38.3	2	6.1	14	5	0	13.9	68	85	- 7	30	9	6	0	0	4.6	16	16.5*	18	29	13	11	7	4.6	
MADISON	262	979.0	1013.8	26.1	12.2	19.4	1.4	35.0	3+	2.8	14	4	0	13.3	69	64	- 22	43	9	7	0	0	3.5	18	11.6	W	29	10	13	8	5.1	72
MILWAUKEE	205	989.4	1014.0	25.0	14.4	19.8	0.1	35.0	2	8.3	26+	4	0	14.4	71	67	- 11	43	8	4	0	0	4.2	21	17.4	W	11	12	13	6	4.6	75
WYOMING																																
CASPER	1621	837.5	1011.7	27.2	10.6	18.9	2.2	34.4	4	2.2	30+	7	0	2.8	39	12	- 6	6	3	2	T	0	5.2	25	17.9*	33	8	15	6	10	4.5	
CHEYENNE	1867	822.5	1013.2	26.1	10.0	17.9	1.9	31.7	9	3.9	30+	0	0	3.9	44	7	- 29	3	5	5	0	0	6.0	29	21.9	NW	21	12	12	7	4.8	68
LANDER	1696	835.4	1011.7	28.3	10.6	19.3	1.2	34.4	4	2.2	25	8	0	5.0	41	4	- 8	3	2	3	0	0	3.7	24	17.0	NW	8	17	10	4	3.8	87
SHERIDAN	1202	883.2	1012.3	27.8	10.0	18.8	2.0	37.8	4+	2.2	25	9	0	5.6	46	30	7	19	10	2	0	0	4.3	31	18.8	NW	29	16	4	11	4.5	75

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	0	0	0
Huntsville	0	0	0
Mobile	0	0	0
Montgomery	0	0	0
ALASKA			
Anchorage	316	556	536
Annette	282	567	450
Barrow	926	1757	1643
Barter Island	866	1680	1510
Bethel	394	648	713
Cold Bay	501	1023	899
Cordova	328	681	757
Fairbanks	256	421	503
Juneau	347	671	639
King Salmon	364	693	635
Kotzebue	366	817	827
McGrath	316	468	546
Nome	396	780	977
St. Paul Is.	562	1177	1144
Shemya	544	1182	1052
Yakutat	360	724	685
ARIZONA			
Flagstaff	72	81	114
Phoenix (U)	0	0	
Phoenix	0	0	0
Prescott	0	0	0
Tucson	0	0	0
Winslow	0	0	0
Yuma	0	0	0
ARKANSAS			
Ft. Smith	0	0	0
Little Rock	0	0	0
Texarkana	0	0	0
CALIFORNIA			
Bakersfield	0	0	0
Bishop	0	0	0
Blue Canyon	47	94	84
Burbank	1	1	0
Eureka (U)	243	499	527
Fresno	3	3	0
Long Beach	0	1	0
Los Angeles (U)	0	0	0
Los Angeles	0	9	35
Mt. Shasta (R)	58	94	59
Oakland	44	140	103
Red Bluff	2	2	0
Sacramento (U)	5	5	0
Sacramento	4	4	0
Sandberg (R)	23	24	0
San Diego	0	0	0
San Francisco (U)	152	338	366
San Francisco	46	122	159
San Jose (U)	7	25	
Santa Catalina	2	6	16
Santa Maria	90	217	192
Stockton	6	6	
COLORADO			
Alamosa	107	115	164
Colorado Springs	22	22	47
Denver	16	16	9
Grand Junction	2	2	0
Pueblo	2	2	0
CONNECTICUT			
Bridgeport	9	15	0
Hartford	16	18	6
Middletown	59	77	
New Haven	11	16	12
DELAWARE			
Wilmington	9	9	0
DIST. OF COLUMBIA			
Washington (U)	0	0	
Washington	0	0	0
FLORIDA			
Apalachicola (U)	0	0	0
Daytona Beach	0	0	0
Fort Myers	0	0	0
Jacksonville	0	0	0
Key West	0	0	0
Lakeland (U)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	0	0	0
Pensacola	0	0	0
Tallahassee	0	0	0
Tampa	0	0	0
West Palm Beach	0	0	0
GEORGIA			
Athens	0	0	0
Atlanta	0	0	0
Augusta	0	0	0
Columbus	0	0	0
Macon	0	0	0
Rome	0	0	0
Savannah	0	0	0
IDAHO			
Boise	62	62	0
Idaho Falls 46W (R)	106	110	50
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	84	87	56
Lewiston	30	33	0
Pocatello	68	68	0
ILLINOIS			
Cairo (U)	1	1	0
Chicago (Midway)	17	18	0
Chicago (O'Hare)	52	62	12
Moline	24	27	9
Peoria	8	10	6
Rockford	51	60	15
Springfield	10	10	0
INDIANA			
Evansville	8	8	0
Ft. Wayne	31	34	9
Indianapolis	16	18	0
South Bend	40	45	6
IOWA			
Burlington	11	12	0
Des Moines	28	28	6
Dubuque	43	50	43
Sioux City	41	41	9
Waterloo	53	53	31
KANSAS			
Concordia	12	12	0
Dodge City	3	3	0
Goodland	29	29	6
Topeka	9	9	0
Wichita	1	1	0
KENTUCKY			
Lexington	11	11	0
Louisville	5	5	0
LOUISIANA			
Alexandria	0	0	0
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (Audubon Park)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	0
MAINE			
Caribou	199	245	193
Greenville (U)	246	291	
Portland	134	162	65
MARYLAND			
Baltimore (U)	0	0	0
Baltimore	0	0	0
MASSACHUSETTS			
Blue Hill Obs. (R)	47	75	22
Boston	26	40	9
Nantucket	32	52	44
Pittsfield	131	153	84
Worcester	80	116	40
MICHIGAN			
Alpena	155	195	173
Detroit (City AP)	25	25	0
Detroit (M. Wayne Co.)	82	86	0
Detroit (Willow Run)	62	63	0
Escanaba (U)	132	157	146
Flint	83	94	56
Grand Rapids	54	66	37
Lansing	69	79	28
Marquette (U)	137	180	140
Muskegon	50	61	40
S. Ste. Marie	177	228	201
MINNESOTA			
Duluth	215	265	180
Internat. Falls	207	225	183
Minneapolis	63	63	53
Rochester	92	97	59
St. Cloud	92	92	75
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (U)	0	0	0
MISSOURI			
Columbia	6	6	0
Kansas City	2	2	0
St. Joseph	12	12	6
St. Louis (RFC)	0	0	0
St. Louis	2	2	0
Springfield	10	11	0
MONTANA			
Billings	67	67	21
Butte	220	261	
Glasgow	52	52	78
Great Falls	93	93	81
Havre	85	89	81
Helena	101	102	90
Kalispell	199	268	149
Miles City	66	66	12
Missoula	153	183	108
NEBRASKA			
Grand Island	44	44	6
Lincoln (U)	14	14	6
Norfolk	48	48	9
North Platte	43	43	6
Omaha	24	24	6
Omaha N. Omaha AP	31	31	12
Scottsbluff	52	52	0
Valentine	74	74	21
NEVADA			
Elko	85	92	43
Ely	74	91	71
Las Vegas	0	0	0
Reno	28	34	130
Tonopah	9	9	
Winnemucca	69	76	34
NEW HAMPSHIRE			
Concord	106	114	56
Mt. Washington Obs. (R)	699	1130	1029
NEW JERSEY			
Atlantic City	1	1	0
Atlantic City (U)	0	0	
Newark	0	1	0
Trenton (U)	4	5	0
NEW MEXICO			
Albuquerque	0	2	0
Clayton	2	2	0
Raton	10	13	37
Roswell	0	0	0
Silver City	0	0	0
NEW YORK			
Albany	48	49	19
Binghamton	61	70	87
Buffalo	68	73	56
New York (U)	0	3	0
New York (LaGuardia)	0	2	0
Rochester	48	51	40
Schenectady	52	53	22
Syracuse	30	32	34
NORTH CAROLINA			
Asheville (U)	20	20	0
Cape Hatteras (R)	0	0	0
Charlotte	5	5	0
Greensboro	2	2	0
Raleigh	1	1	0
Wilmington	0	0	0
Winston-Salem	2	2	0
NORTH DAKOTA			
Bismarck	108	113	62
Devils Lake (U)	141	148	93
Fargo	94	99	65
Grand Forks FAA	76	78	
Pembina	119	124	
Williston	86	86	74
OHIO			
Akron	46	48	9
Cincinnati (U)	4	4	0
Cincinnati	14	14	0
Cincinnati Obs.	12	12	0
Cleveland	46	49	34
Columbus	28	28	6
Columbus (U)	12	12	0
Dayton	24	24	[illegible]
Mansfield	37	39	31
Toledo	55	55	16
Youngstown	57	65	25
OKLAHOMA			
Oklahoma City	0	0	0
Tulsa	0	0	0
OREGON			
Astoria	179	353	276
Burns (U)	121	161	49
Eugene	45	85	68
Meacham	222	371	208
Medford	23	31	0
Pendleton	30	36	0
Portland (U)	35	62	28
Portland	81	148	53
Roseburg	27	55	38
Salem	79	120	68
Sexton Summit (R)	165	327	162
PENNSYLVANIA			
Allentown	15	16	0
Erie	53	56	25
Harrisburg	4	4	0
Philadelphia (U)	0	0	0
Philadelphia	2	2	0
Pittsburgh (U)	15	15	0
Pittsburgh	51	52	9
Reading (U)	5	5	0
Scranton	31	31	19
Williamsport	20	20	9
RHODE ISLAND			
Block Island	14	23	16
Providence	24	33	16
SOUTH CAROLINA			
Charleston (U)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville - Spartanburg	2	2	0
SOUTH DAKOTA			
Huron	55	56	21
Pierre	35	35	
Rapid City	64	64	34
Sioux Falls	55	55	44
TENNESSEE			
Bristol	12	12	0
Chattanooga	1	1	0
Knoxville	8	8	0
Memphis (U)	0	0	0
Memphis	0	0	0
Nashville	3	3	0
Oak Ridge	6	6	0
TEXAS			
Abilene	0	0	0
Amarillo	0	0	0
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio (U)	0	0	
El Paso	0	0	0
Fort Worth	0	0	0
Galveston (U)	0	0	0
Houston (U)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	0	0	0
Midland	0	0	0
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	0	0	0
UTAH			
Milford	29	29	0
Salt Lake City	44	44	0
Wendover	21	21	0
VERMONT			
Burlington	102	114	59
VIRGINIA			
Lynchburg	5	5	0
Norfolk	0	0	0
Richmond	0	0	0
Roanoke	9	9	0
WASHINGTON			
Olympia	150	280	139
Seattle (U)	53	92	97
Seattle	49	77	74
Seattle-Tacoma	91	167	118
Spokane	118	149	34
Stampede Pass (R)	431	753	564
Tatoosh Island (R)	252	557	574
Walla Walla	23	29	
Walla Walla (U)	22	25	0
Yakima	94	126	12
WEST VIRGINIA			
Beckley	48	56	
Charleston	13	13	0
Elkins	55	78	34
Huntington	17	17	0
Parkersburg (U)	12	12	0
WISCONSIN			
Green Bay	74	89	78
La Crosse	37	37	31
Madison	68	81	65
Milwaukee	47	54	90
WYOMING			
Casper	101	101	22
Cheyenne	95	97	50
Lander	84	84	25
Sheridan	101	101	56

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

HURRICANE CLEO

AUGUST 20-SEPTEMBER 5, 1964

Cleo, the first hurricane of the 1964 season, was located in its early stages of development by a Navy reconnaissance plane during the afternoon of August 20 near 13.2°N., 44.5°W., with minimum pressure 29.71 in. and a few squalls of 35 m.p.h.

The initial disturbance in which Cleo finally developed probably moved off the African coast south of Dakar on the 15th. TIROS VIII photographs on the 18th showed a cloud mass about 300 mi. in diameter centered near 10°N., 34°W. A ship report early on the 20th indicated the existence of a closed circulation about 12 hr. before reconnaissance located the storm.

Cleo intensified rapidly, with central pressure dropping to 29.32 in. and winds reaching hurricane intensity by the morning of the 21st. Moving west-northwestward at about 20 to 25 m.p.h. (unusually fast for these latitudes), the center of hurricane Cleo reached the Lesser Antilles during the early afternoon of the 22d, crossing Marie Galante and the southern tip of Guadeloupe, F.W.I. At Raizet Airport, some 15 mi. north of the eye, lowest pressure was 29.62 in. and highest wind was 44 m.p.h., with gusts of 81 m.p.h. Reports from Guadeloupe indicated 14 dead, 40 injured, 1,000 homes destroyed, the banana crop ruined, and extensive damage to roofs, roads, and communications.

Cleo's center passed 80 to 90 mi. south of the Virgin Islands and Puerto Rico during the 23d with gale winds and heavy rains extending into those areas. Maximum observed winds were 50 m.p.h. on St. Croix and 52 m.p.h. at Point Tuna, P.R. Although the hurricane had intensified rapidly, with central pressure 28.05 in., surface winds estimated at 140 m.p.h., and winds measured at flight level by Weather Bureau research aircraft at 152 m.p.h., the circulation was small and these extreme winds were confined to a small area near the center.

During the 24th Cleo moved westward just south of the Dominican Republic and Haiti. A turn toward the northwest began during the day, and the hurricane entered the southern Haitian Peninsula just east of Les Cayes. There was extensive destruction of buildings and houses from about 20 mi. east of Les Cayes to some 18 mi. inland toward the northwest from that town. At least 7 persons perished in the Dominican Republic and 132 persons were killed in Haiti. Preliminary damage estimates were near $7 million.

The mountains of southern Haiti distorted the surface circulation, and the path of Cleo's diffused center over the area is somewhat obscured. However, it continued northwestward, passed over the southern peninsula of Cuba, east of Cabo Cruz, and into the Golfo de Guacanayabo and the Golfo de Ana Maria. During this period Cleo was probably of only minimal hurricane force and was only a tropical storm as it crossed Cuba near longitude 79°W. No observing stations reported near the storm path. Highest observed winds were only about 15 to 20 m.p.h. Damage was apparently not heavy (about $2 million) and only one casualty was reported.

Shortly after emerging from the north coast of Cuba east of Caibarien around 0700 e.s.t. on the 27th, Cleo regained hurricane force, but the area covered by hurricane winds remained small. Moving on a north to north-northwest track the hurricane headed for the lower east coast of Florida. The center was tracked by radar at Miami and Key West. Reconnaissance aircraft reports showed Cleo had intensified at midday with maximum winds 85 m.p.h. and minimum pressure near 29.06 in. Throughout the afternoon and evening research aircraft remained in Cleo, finding no winds of hurricane force in the western half of the storm and central pressure steady at 29.06 in.

The edge of the central eye reached Key Biscayne, just off Miami about 0200 e.s.t. on the 27th, and the center of the eye, which continually expanded and contracted from a minimum diameter of 8 mi. to a maximum of 16 mi., passed over northeastern sections of Miami.

Rapid intensification had evidently occurred over the extremely warm water (86° to 90°F.) just off the coast. The lowest pressure in Florida was 28.57 in. at North Miami, about 0.50 in. lower than the series of observations from aircraft a few hours earlier. Maximum sustained winds were estimated at 100 to 105 m.p.h. with gusts to 135 m.p.h. in parts of Miami, some 25 to 30 m.p.h. higher than estimated from the aircraft.

The storm moved north-northwestward to northward during the 27th and 28th with the center remaining some 10 to 20 mi. inland, and closely paralleling the coastline. With much of the circulation on land, a gradual decrease of intensity occurred. At West Palm Beach WBAS maximum sustained winds were 86 m.p.h. with gusts to 104 m.p.h. At Daytona Beach WBAS, about 210 mi. north of Miami, sustained winds were only 40 m.p.h., with gusts to 60 m.p.h.

Major damage from Cleo was confined to a narrow belt 20 to 35 mi. wide along the Florida East Coast from Miami to near Melbourne. Although wind gusts were above 100 m.p.h. over a considerable area, the duration of extreme winds at any point was short due to Cleo's small size. Little structural damage to buildings resulted. In Dade and Broward Counties, principal damage was glass breakage, and consequent water damage. Other principal damage was uprooted trees, disrupted communications, power failures in southern sections of the state, sand blasted automobiles, and overturned aircraft. Overall direct and indirect damages have been estimated at about $125 million.

Agricultural losses included blow-off of about 10 percent of the oranges and 20 to 30 percent of the grapefruit in the Indian River citrus area, with little tree damage. Some early truck crops sustained wind damage. Sugarcane east of Lake Okeechobee was flattened, increasing harvest costs. Avocado losses were estimated at below 5 percent of the crop.

Rainfall associated with Cleo in Florida was relatively light. Storm totals varied from 5 to 8 in. in coastal areas of north Dade, Broward, and Palm Beach Counties to 3 to 5 in. along the coast farther north. Most places in the middle and western portions of the peninsula had under 1 in. No significant flooding occurred. Tides were less than 4 ft. above normal in the Miami area, about 5 ft. at Fort Lauderdale, and 5 to 6 ft. above normal at Pompano Beach. No serious tidal damage was reported.

No fatalities or serious injuries occurred, although many persons suffered cuts from breaking windows in the Miami area. American Red Cross surveys indicate 269 dwellings destroyed or with major damage and 18,621 with minor damage in Florida.

Cleo left Florida between St. Augustine and Jacksonville on the afternoon of the 28th, but moved back inland near Savannah a few hours later. Winds had diminished to less than tropical storm intensity as the circulation moved slowly through eastern Georgia on the 29th, into South Carolina on the 30th, and across central North Carolina on the 31st. As the cyclone moved off the North Carolina coast during

HURRICANE CLEO

AUGUST 20-SEPTEMBER 5, 1964

the early morning hours of September 1, its intensity increased. Cleo regained tropical storm force that afternoon, and was again a hurricane on the 2d. Curving northeastward, then northward, Cleo moved east of Newfoundland as it acquired predominant extratropical features on the 4th.

Cleo's major effects from northern Florida northward were due to precipitation and scattered tornadoes. Winds reached gale force only at Charleston, S. C., and in connection with severe local storms.

Rainfall amounts in Georgia ranged from 6 to 9 in. along the coast and the eastern border as far north as Augusta. Very little rain fell in central Georgia and none in the west. Extensive damage to roads, streets, and farmland resulted. Floodwaters entered homes in Savannah, Augusta, and many smaller communities. One man drowned attempting to secure a boat near Brunswick.

In South Carolina storm rains ranging from 3 to over 8 in. were widespread, and some flooding occurred on streams in western parts of the state. Total amounts in North Carolina varied from 2 to more than 8 in., and 3- to 6-in. totals were reported in south-central Virginia and in lower Eastern Shore areas of Maryland. Flash-flooding of small streams caused scattered damage.

Very heavy rainfall developed in extreme southeastern Virginia during the night of Aug. 31-Sept. 1 as Cleo moved offshore to the south and a frontal system approached the area from the north. Totals at several points broke all time 24-hr. records. Norfolk WBAS had 10.40 in. between 1100 e.s.t. Aug. 31 and 1100 e.s.t., Sept. 1. The previous record was 6.87 in. on June 2-3, 1963. The greatest storm amount was 14.09 in. at Back Bay Wildlife Refuge. At the Naval Air Station, Oceana 13.70 in. fell, with 11.88 in. during 12 hr. Diamond Springs also reported 13.70 in., while 13.32 in. fell at Norfolk Navy, 10.41 in. at Cape Henry and Norfolk co-op. Two persons perished due to carbon monoxide poisoning in a stranded vehicle. Damage from flooding was estimated at $3 million.

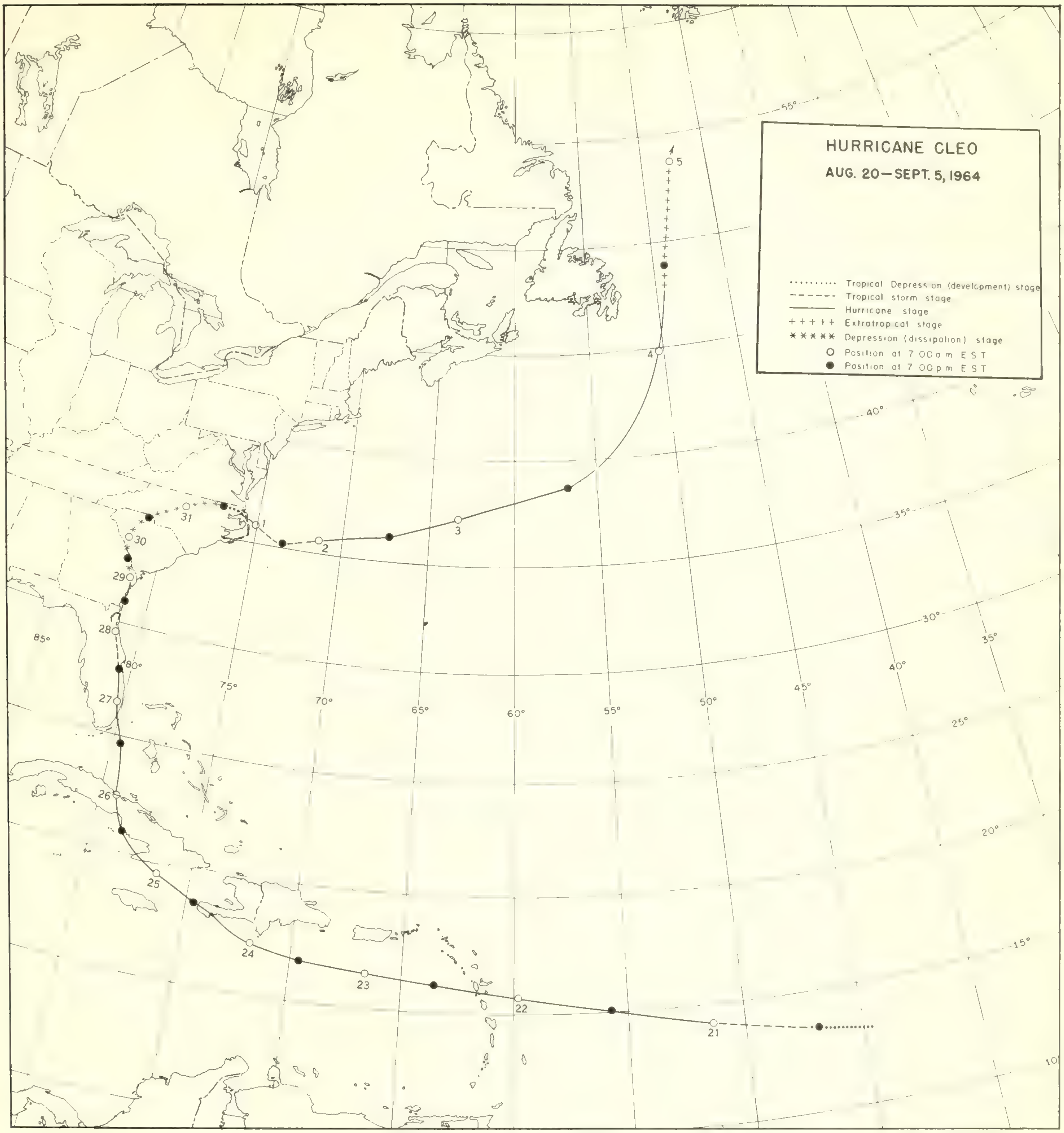
Several tornadoes were reported within Cleo's circulation in Florida and the Carolinas. These occurred near Titusville, New Smyrna Beach, and Davie in Florida; Lawton Bluff, Betherea, Lake Murray, Cassat, Darlington, and Timmonsville in South Carolina; and at Laurinburg (2 storms), and in Pitt and Martin Counties (3 storms) in North Carolina. At least 22 injuries and more than $400,000 in property damage resulted from these storms.

HURRICANE CLEO

PRELIMINARY DATA
AUGUST 20-SEPTEMBER 5, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #		Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+		Time+		
FLORIDA	Aug.										
Daytona Beach WBAS	28	29.43	0430	E 40†	0359	E 60		1.0		3.82	Property damage slight.
Ft. Myers WBAS	27	29.73	0430,1530	WNW 23†	1446	WNW 32				T	No significant property damage. Wind gusts at Sanibel Island, 52 mph.
Gainesville FAA	28	29.72	0600,0700	NW 23	1214	N 28				0.38	Rainfall from cooperative station.
Jacksonville WBAS	28	29.58	1730	NE 43	0805	ENE 44		3 to 4	1200	2.71	Storm damages negligible.
Key West WBAS	27	29.72	0258	NE 22	1236-26	NE 28				0.15	Winds at Plantation Key, 40 mph; Ocean Reef (Key Largo) est. 50 mph.
Lakeland WBO	28	29.66	0100	NE 26	1342-27	NE 40				0.30	
Miami WBO	27	28.74	0306	110 est.		135 est.		3.3			Extensive damage in Dade and Broward Counties. About 175 persons injured in Lower East Coast area.
Miami WBAS	27	28.71	0308	N 74†	0311	NW 100				6.80	
Orlando WBAS	28	29.43	0130	N 32†	0055	NNE 46				3.20	Minor damage.
Tampa WBAS	28	29.73	0255	NNE 28†	1729-27	NW 33		1.3		0.05	
West Palm Beach WBAS	27	29.14	0842	SE 86†	0840	SE 104				3.99	Extensive damage in Palm Beach County.
GEORGIA											
Augusta WBAS	29	29.69		N 21†						7.56	Rainfall total for August 28-30.
Brunswick	28	29.65	1630	NE 35 est	1400					5.66	
Savannah WBAS	29	29.66	0856	NE 34	2120-28	NE 44	2047-28	2.3		6.26	Rainfall: Isle of Hope, 9.59 in.
Sapelo Island	29	29.53		NNE 42	1600-28	50					
SOUTH CAROLINA											
Charleston WBAS	29	29.78	0449	SE 42			1635			5.84	Rainfall: Sullivans Island USCG, 8.41 in.; Mt. Pleasant, 6.65.
Charleston WBO	29			E 57	0109			2.6	0415	4.46	Tornado on James Island,29-0106. Beach erosion on exposed areas; flooding in poorly drained areas.
Columbia WBAS	29	29.78	1705	NNE 21†	0700	NNE 28				5.13	Tornado at Lake Murray, 29-1600, $50,000 damage.
Florence WBAS	30	29.80	1750	ENE 21†	1002					2.53	Tornado at Darlington 29-2130.
Greenville WBAS	30	29.80	1657	N 28	2249-29	N 33				4.34	Minor lowland flooding.
NORTH CAROLINA											
Raleigh WBAS	31	29.72	1400,1600	ESE 17†						3.10	Tornado at Laurinburg, 29-1400 to north of Rockingham, 29-1600. Another small tornado at Laurinburg, 30-0400. One or more tornadoes at two places in Pitt County, one place in Martin County about 31-1600. Heavy rainfall northwest of Winston-Salem with unofficial measurements 7-8 in. on 30-31 caused some flooding on Yadkin River.
Hatteras WBO	Sept. 1	29.56	1100	S 45-31						5.14	
VIRGINIA											
Norfolk WBAS	1	29.66	0340	E 28-31		E 40	0035	1.0		11.40	Record rainfall over much of Hampton Roads area, on Aug. 31-Sept. 1. Almost all rain fell within a 24-hr. period. Totals included Back Bay Wildlife Refuge, 14.09 in., Diamond Springs, 13.70 in., Norfolk Navy, 13.32 in., Cape Henry WBO and Norfolk Co-op., 10.41 in., Langley Field, 6.59 in.
Oceana NAS	1					ESE 42	0002			13.70	

+ Eastern Standard Time
# Above Normal
† Fastest observed 1-minute wind speed.


HURRICANE CLEO
AUG. 20—SEPT. 5, 1964
Tropical Depression (development) stage
Tropical storm stage
Hurricane stage
Extratropical stage
Depression (dissipation) stage
Position at 7:00 a m EST
Position at 7:00 p m EST
55°
40°
35°
30°
25°
20°
15°
10
85°
80°
75°
70°
65°
60°
55°
50°
45°
40°
35°
21
22
23
24
25
26
27
28
29
30
31
1
2
3
4
5

STORM SUMMARY

AUGUST 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE		DEATHS	INJURIES	†DAMAGE	
								PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS			PROP-ERTY	CROPS
Alabama										0	0	5	0	0	1	4	0									0	0	4	0
Alaska *																													
Arizona	1	1	2	9	4	0	0	3	5	0	1	5	0	0	0	4	0									0	0	°5	C
Arkansas	3	2	0	0	3	0	0	0	4	0	2	6	5	0	5	4	0												
California *																													
Colorado						0	0	4	4					1	9	0	0									0	0	F 6	5
Connecticut *																													
Delaware																										0	0	R 4	0
Florida	6	4	0	1	4					0	H ?	8	6	3	8	0	0												
Georgia										0	0	5	0	0	0	4	0									0	0	L 5	4
Hawaii *																													
Idaho	1	1	0	0	0						1					5													
Illinois *																													
Indiana	1	1	0	0	0	0	0	0	3	1	1	4	2													T 1	0	0	0
Iowa	10	3	0	0	6	0	0	0	4	0	1	5	5	1	1	4	0												
Kansas	7	3		3	5			5	5		2	5	4	1	5	4												5	
Kentucky								?	5			4	C		1	5	C											R ?	?
Louisiana	1	1	0	0	0					0	0	4	4	1	3	0	0									0	0	4	C
Maine						0	0	0	1																				
Maryland																										0	0	R 4	0
Massachusetts										0	0	3	0	0	0	4	0									0	0	R 4	0
Michigan	4	1	0	5	5	0	0	4	E C	0	7	6	E C	2	4	5	0												
Minnesota	2	2	0	0	5	0	0	4	5					0	1	0	0												
Mississippi										0	0	4	C	0	0	4	0									0	0	4	C
Missouri	1	1	0	0	4	0	0	4	0	0	5	4	0																
Montana	1	1	0	0	0	0	0	0	5					1	1	2	4												
Nebraska	2	2	0	0	5	0	0	4	5	0	0	5	4	1	1	5	0												
Nevada N																													
New Hampshire										0	0	3	3	0	0	3	0												
New Jersey *																													
New Mexico														1	0	0	0												
New York								4	5			5			1	5													
North Carolina	4	4	0	17	5	0	0	0	5	0	0	5	3	2	2	5	0									0	0	5	5
North Dakota	3	2	0	0	4	0	0	3	4																				
Ohio	3	1	0	0	5									1	0	0	0												
Oklahoma	4	4	0	0	4	0	0	5	5	0	1	5	0	0	4	5	0									0	0	4	4
Oregon *																													
Pacific Area *																													
Pennsylvania										0	0	5	0																
Puerto Rico N																													
Rhode Island																										0	0	5	0
South Carolina	7	2	0	2	4					0	0	5	5																
South Dakota	1	1	0	0	4	0	0	4	5	0	0	4	4																
Tennessee	1	1	0	6	4	0	0	0	3	0	3	4	0	0	1	0	0												
Texas	7	7	0	6	5	0	0	0	5	0	5	5	0	2	1	4	0									0	0	5	6
Utah	1	1	0	0	3																								
Vermont *																													
U. S. Virgin Is.N.																													
Virginia						0	0	?	4	0	0	4	?	1	0	4	0									3	?	6	0
Washington	1	1	0	0	0																								
West Virginia										0	2	5		0	1	4													
Wisconsin	7	2	0	32	6	0	0	3	3																				
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
N No report received by printing deadline.
° Includes crop damage.
C Crop damage.
F Flooding
R Rain
H Hurricane Cleo - total injuries not known, probably 150-200.
L Heavy rains and flash flooding from Hurricane Cleo.
T Heat.
E Damage estimate unknown at this time.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

AUGUST 1964

The most important flooding during August occurred from excessive rains associated with the movement of hurricane Cleo through Florida, Georgia, and the Carolinas. In Florida, serious flooding occurred in the upper St. John River. Flash floods were reported on tributary streams in Georgia with minor damage to highways. The North Fork of the Edisto in South Carolina reached its highest stage at Orangeburg since September 1945 and the South Fork of the Edisto at Denmark since 1936. Low bottom lands were flooded in the upper Catawba and upper Yadkin River Basins in North Carolina. Extreme flooding occurred in Surry County on the Mitchell, Fisher, and Ararat Rivers damaging some crops. The Hampton Roads area in Virginia was flooded on September 1 from extremely heavy rains of as much as 13.70 inches in 24 hours at Virginia Beach. Two persons lost their lives indirectly as a result of the flooding. Property damage was widespread.

ATLANTIC SLOPE DRAINAGE

Rainfall in eastern North Carolina during most of August was below normal. Due to the dry conditions, two river gaging stations reached new low records during the month. Enfield, N. C., on Fishing Creek, recorded a record low stage of 0.0 foot on the 17th. The previous low stage was 0.1 foot in 1957. At Danville, Va., on the Dan River, a stage of 1.1 feet was recorded on the 24th to establish a new low record. The prior lowest stage of record at this point was 2.1 feet in 1944. Heavy rains from tropical storm Cleo towards the end of the month caused the Cape Fear River at Moncure, N. C., to exceed flood stage on the 31st. All rivers in eastern North Carolina were rising at the end of the month. The rainfall ranged from 3 to 8 inches over the Dan and Upper Roanoke Basins with some stations measuring between 8 and 10 inches. The rainfall tapered off to 1 to 3 inches over the Cape Fear, Neuse, Tar, and the Lower Roanoke Basins. A few localities in the Upper Cape Fear Basin received amounts of around 5 to 6 inches.

Rainfall was above normal at most stations in South Carolina during August. Amounts varied from 4 to 5 inches over the lower Yadkin to in excess of 10 inches over the central portion of the upper Yadkin, the upper Edisto, and most of the Black River Basins. Ten to 11 inches occurred along the immediate coast from Charleston to McClellanville, S. C. Rainfall associated with tropical storm Cleo towards the end of the month accounted for 50 to 75 percent of the monthly totals. The Yadkin River at Yadkin College, N. C., exceeded flood stage on the 31st, cresting on September 1, 3.6 feet above flood stage. The Saluda River at Chappells, S. C., exceeded flood stage on the 20th, cresting 7.1 feet above flood stage on the 31st. The Broad River went out of its banks at Blair, S. C., on the 30th, cresting 3.1 feet above flood stage. The North Fork of the Edisto at Orangeburg, S. C., exceeded bankfull stage on the 29th, cresting on the 31st, 3.2 feet above flood stage. This crest was slightly higher than the big flood in July and the first since September 1945 when a near record flood of 14.3 feet occurred. Losses along the Saluda and Broad Rivers in South Carolina were due to flooded pastures and croplands and disruption of lumbering operations.

Minor flooding occurred along the Savannah and Ogeechee Rivers in Georgia during August. Some damages were reported to marine and farming interests along the Savannah River between Augusta and Millhaven, Ga.

The minor flooding on the Altamaha and Satilla Rivers in the beginning of the month was due to heavy rains during the latter part of July. Heavy rains toward the end of the month caused additional flooding on the Satilla River at Atkinson, Ga. The heaviest 24-hour total was 4.35 inches on the 29th at Doctortown, Ga.

EAST GULF OF MEXICO DRAINAGE

The Apalachicola River at Blountstown, Fla., receded within its banks on August 2. Additional rain on the 1st was sufficient to raise the river level at Blountstown again to slightly over flood stage on the 6th. Rainfall occurred very frequently during the month. Intervals between showers were brief. The most important rains of the month occurred from the 11th through the 13th with heavy rain of 2 to 4 inches occurring over a small area from West Point to Columbus, Ga. These rains were effective enough to raise the river level at Blountstown, Fla., above flood stage for about a week beginning on the 15th. The flooding extended only into lower-lying areas near the river which are wooded and unpopulated. No damages resulted.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The August average river stages in the Upper Mississippi Basin range from near the long-term mean at Fort Ripley, Minn., and La Crosse, Wis., on the Mississippi River to 2.6 feet below the long-term mean at Mankato, Minn., on the Minnesota River. Mankato's average of 1.6 feet was the lowest August average stage since 1921 when an average stage of 0.7 foot (lowest of record)was recorded.

The lowest summer flow was reported in the Mississippi River at Lock and Dam No. 15 near Rock Island, Ill., on August 17. The flow on this date was 10,600 c.f.s. compared to a normal flow of 58,500 c.f.s. for this time of year. The previous record summer flow was 10,800 c.f.s. in mid-August 1936. The record low flow of 6,500 c.f.s. occurred on December 25-27, 1933.

Ohio Basin.--Moderate to heavy thundershowers on the 3d resulted in flash flooding on McKnight Road, just north of Pittsburgh, Pa., and in Turtle Creek, east of Pittsburgh. A section of a 6-foot sewer pipe broke on McKnight Road due to the heavy runoff, flooding several businesses in the area. Thompson Run in Turtle Creek spilled over its banks due to debris clogging the channel and flooded the intersection of Penn and Brown Avenues and basements of several business buildings. No flood stages were reached along the main stem of the Ohio or major tributaries.

Heavy rain occurred in upper New River Basin in northwestern North Carolina and western Virginia as the remnants of hurricane Cleo moved northward during the latter part of the month. The most intense rain occurred at Sparta, N. C., during the afternoon and night of the 30th with a total of 7.10 inches during the 24-hour period of the 31st. Small streams in Allegheny County, N. C., and in Flood County, Va., overflowed on the morning of the 31st. Considerable damage resulted to highways and bridges in Allegheny County, N. C., mostly in the eastern section of the county.

Missouri Basin .--The Saline River at Russell, Kans., which went above flood stage on the 31st crested at a record stage of 19.7 feet on September 1. Flood stage at this point is 18 feet. The principal flooding, however, occurred on tributary creeks in the area. Considerable flooding from heavy rainfall of relatively short duration occurred on Salt Creek and Paradise Creek downstream to the Saline River. Heavy overflow on Walker Creek and Big Creek extended to the

Smoky Hill River. Elsewhere minor flooding developed on the Little Blue River at Fairbury, Nebr. Comparatively heavy losses occurred on tributary streams with little damage along the main channels. The record flooding on the Saline was due to torrential rains on the 31st which ranged from 2 to 4 inches at Waldo, Kans., up to 11 inches in the Gorham, Kans., area. Very heavy local rainfall of 3 to 6 inches occurred in the Topeka, Kans., area on the 31st. The rainfall was unusually intense over northern and western parts of the city during a 3-hour period. Storm sewers failed to carry runoff with overflow on Ward-Martin Creek. Widespread surface water accumulation made many streets impassible and flooded numerous homes.

White Basin.--The Cache River at Patterson, Ark., rose to bankfull stage on the 14th and remained at bankfull stage into the 15th. Heavy rain during the night of the 21st (1.5 to 2 inches) caused the Cache River to rise again above flood stage on the 23d. Additional thundershowers on the 28th and 29th ranging from 1 to 2 inches caused the stream to rise to another crest of 7.6 feet on the 31st.

Arkansas Basin .--Heavy showers on the 14th and 15th caused the Cimarron River at Waynoka, Okla., to rise to within 0.05 foot of flood stage on the 18th. Additional heavy thundershowers caused brief flash flooding on creeks near Blackwell, Okla., on the 26th.

WEST GULF OF MEXICO DRAINAGE

Minor flooding occurred in the upper Atascosa Basin in Texas during the night of the 7th due to 3- to 5-inch rains. Heavy rains of 2 to 6 inches, ranging up to 9 inches in a small area, caused considerable flooding on tributary creeks along the middle Nueces on the 23d and 24th. Minor flooding occurred on the middle Nueces from below Crystal City to below Cotulla, Tex., from the 24th to the 26th and at and below Tilden, Tex., on September 2 and 3. Heavy showers of 3 to 5 inches over a small area east of Utopia, Tex., on the 24th caused limited minor flooding on the upper Seco Creek.

GULF OF CALIFORNIA DRAINAGE

Colorado Basin.--Local flash flooding from heavy thundershowers (2 to 3 inches) occurred on the 12th at Casa Grande, Florence, Eloy, and Winslow, Ariz. Major damage occurred in south Winslow suburbs located on low ground when flash flood water backed up along railroad track.

Great Basin .--Flash floods were reported in southeast Utah in Dry Wash through Antimony, Utah, on the 3d. There was some road and property damage. In Hog Canyon, north of Kanab, Utah, flash floods caused damage to crops and property on the 11th. Additional nuisance flash floods were reported on Cottonwood Wash, near Castle Dale, Utah, Big Springs Wash, near Carbon-Emery County line, and numerous washes and creeks near Price, Utah.

PACIFIC SLOPE DRAINAGE

Severe thunderstorm on the 18th caused localized minor flooding in south Spokane, Wash., on that date. An unofficial report of 2.14 inches of rainfall occurred in 30 minutes.

FLOOD STAGE DATA

(All dates in August unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			*Ft.*	
ATLANTIC SLOPE DRAINAGE					
Cape Fear: Moncure, N. C.	20	31	1/	21.1	31
Yadkin: Yadkin College, N. C.	18	31	Sept. 1	21.6	Sept. 1
Saluda: Chappells, S. C.	13	20	Sept. 1	20.1	31
Broad: Blair, S. C.	14	30	Sept. 1	17.1	30
North Fork Edisto: Orangeburg, S. C.	8	July 31	4	9.6	2
		29	Sept. 7	11.2	31
Edisto: Givhans Ferry State Park, S. C.	10	July 22	8	15.1	July 29
		29	1/	15.0	Sept. 5
Savannah: Butler Creek, Ga.	21	31	31	21.2	31
Milhaven, Ga.	15	30	5	15.8	2
Clyo, Ga.	11	July 25	18	13.6	6
Ogeechee: Dover, Ga.	7	31	Sept. 3	8.3	Sept. 1
Eden, Ga.	9	July 26	6	9.9	1
		31	Sept. 8	11.6	Sept. 1
Altamaha: Charlotte, Ga.	15	July 29	2	15.6	July 29-30
Satilla: Atkinson, Ga.	13	July 24	16	16.5	1
		30	31		
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	July 23	Aug. 2	16.5	July 30
		6	6		
		15	20	16.1	18
MISSISSIPPI SYSTEM					
Missouri Basin					
Saline: Russell, Kans.	18	31	Sept. 1	19.7	Sept. 1
Little Blue: Fairbury, Nebr.	10	20	20	10.2	20
White Basin					
Cache: Patterson, Ark.	7	14	15	7.0	15
		23	1/	7.6	24-27
				7.6	31
WEST GULF OF MEXICO DRAINAGE					
Nueces: Asherton, Tex.	20	24	24	22.9	24
Cotulla, Tex.	15	25	26	15.75	25
Tilden, Tex.	14	Sept. 2	Sept. 3	14.9	Sept. 3

* Provisional

1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

AUGUST 1964

ALBANY, N. Y.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	14.4	87	198	2.7
1000	31	135	14.8	83	213	2.9
950	31	571	15.0	72	256	7.2
900	31	1,027	12.5	69	271	11.5
850	31	1,505	9.7	69	274	13.4
800	31	2,007	7.5	62	275	16.3
750	31	2,534	5.3	54	272	19.4
700	31	3,099	2.7	52	273	22.0
650	31	3,690	- .4	47	273	25.6
600	31	4,333	- 3.8	42	272	28.7
550	31	5,010	- 7.9	37	274	31.9
500	31	5,751	-12.2		275	35.2
450	31	6,545	-17.0		275	37.5
400	31	7,425	-22.9		276	40.0
350	31	8,391	-30.0		276	44.7
300	31	9,472	-37.8		277	49.0
250	30	10,700	-46.2		282	50.9
200	30	12,160	-53.0		289	55.2
175	30	13,014	-55.9		286	49.0
150	29	13,982	-57.6		281	44.9
125	29	15,131	-58.2		279	37.1
100	29	16,533	-58.1		278	24.9
80	29	17,946	-55.8		290	12.4
70	29	18,797	-54.8		290	7.0
60	29	19,787	-53.3		323	1.6
50	29	20,963	-52.2		77	5.2
40	27	22,412	-50.8		87	8.5
30	27	24,294	-48.6		80	11.3
25	26	25,499	-46.9		85	13.8
20	20	26,991	-44.9		80	16.1
15	11	28,914	-42.0			
10						
7						
5						

ALBUQUERQUE, N. MEX.
840 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,619	18.9	59	143	2.7
1000	31	86				
950	31	533				
900	31	1,013				
850	31	1,514				
800	31	2,036	18.3	51	170	1.4
750	31	2,583	15.2	51	254	3.5
700	31	3,169	11.2	54	267	6.6
650	31	3,777	6.6	57	269	8.5
600	31	4,435	1.6	64	266	8.5
550	31	5,124	- 3.3	58	262	8.7
500	31	5,880	- 7.8	50	270	9.7
450	31	6,688	-12.7	41	272	11.1
400	31	7,583	-18.6	33	266	12.6
350	31	8,564	-25.6	33	268	15.2
300	31	9,663	-33.9		267	17.5
250	31	10,914	-43.7		262	21.2
200	31	12,377	-55.0		256	24.9
175	31	13,219	-60.7		259	26.8
150	31	14,166	-66.1		262	22.3
125	30	15,262	-70.9		265	16.7
100	30	16,579	-71.3		258	8.7
80	29	17,917	-65.1		132	1.6
70	29	18,742	-62.2		101	6.6
60	28	19,695	-59.3		92	10.3
50	28	20,844	-57.0		92	16.3
40	28	22,266	-54.3		92	18.3
30	28	24,121	-51.7		88	23.3
25	26	25,306	-50.1		91	26.4
20	24	26,769	-47.6		86	26.6
15	19	28,682	-44.0		87	32.1
10						
7						
5						

AMARILLO, TEXAS
892 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	20.1	66	221	3.3
1000	31	92				
950	31	545				
900	31	1,025				
850	31	1,510	20.8	54	227	12.4
800	31	2,033	18.7	48	236	12.6
750	31	2,583	15.3	51	252	11.3
700	31	3,165	11.2	54	261	8.9
650	31	3,778	6.6	57	267	6.2
600	31	4,431	1.7	55	276	5.4
550	31	5,121	- 3.0	51	253	5.6
500	31	5,876	- 7.5	40	259	9.1
450	31	6,682	-12.6	36	269	11.8
400	31	7,578	-18.6		272	13.8
350	31	8,561	-25.2		270	16.9
300	31	9,661	-33.5		276	19.6
250	31	10,915	-43.2		275	22.0
200	31	12,382	-54.3		274	25.3
175	31	13,226	-60.1		274	25.4
150	31	14,175	-65.9		276	22.9
125	31	15,270	-70.1		275	17.5
100	31	16,593	-70.4		275	10.7
80	31	17,937	-64.5		135	2.5
70	31	18,757	-62.0		106	8.0
60	31	19,718	-58.6		97	10.9
50	31	20,871	-56.3		100	15.7
40	31	22,296	-53.9		96	17.9
30	31	24,156	-51.3		93	23.1
25	31	25,345	-49.5		97	24.7
20	31	26,814	-47.3		95	25.3
15	25	28,732	-44.7		90	30.5
10	7	31,437	-42.0			
7						
5						

ANCHORAGE, ALASKA
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	29	10.9	87	175	3.3
1000	30	88			154	5.6
950	30	515	10.0	70	136	3.3
900	30	963	7.3	69	136	2.7
850	30	1,431	4.1	72	111	3.5
800	30	1,922	.6	77	125	4.9
750	30	2,437	- 2.5	78	134	6.8
700	30	2,983	- 5.5	78	147	6.8
650	30	3,558	- 8.7	74	154	5.8
600	29	4,180	-12.4	70	166	5.8
550	29	4,838	-16.3	64	179	5.8
500	29	5,552	-20.6	56	196	5.4
450	29	6,316	-25.6	53	222	7.6
400	29	7,170	-31.4	51	225	10.3
350	29	8,103	-37.9		231	11.5
300	29	9,148	-45.2		246	14.8
250	29	10,350	-50.0		254	17.1
200	28	11,807	-49.0		265	17.1
175	28	12,684	-48.7		269	14.2
150	28	13,695	-49.3		266	13.4
125	28	14,888	-49.9		261	12.2
100	28	16,346	-50.0		258	11.7
80	28	17,805	-49.8		268	7.8
70	28	18,680	-49.7		266	5.4
60	27	19,688	-49.3		267	3.5
50	27	20,882	-49.4		291	2.1
40	27	22,345	-49.2		29	1.4
30	27	24,235	-48.2		70	2.9
25	27	25,438	-47.4		58	4.7
20	27	26,917	-45.8		81	5.1
15	23	28,850	-43.0		76	5.6
10	12	31,597	-38.8			
7						
5						

* ANNETTE, ALASKA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	11.0	90	139	2.1
1000	31	124	11.2	86	141	2.3
950	31	549	9.3	83	168	6.8
900	31	999	6.9	83	179	8.4
850	31	1,466	4.4	81	188	8.5
800	31	1,958	2.0	79	204	7.8
750	31	2,473	- .3	76	222	8.0
700	31	3,027	- 3.0	68	230	8.9
650	31	3,608	- 6.0	63	243	9.5
600	31	4,234	- 9.5	64	245	10.5
550	31	4,896	-13.5	61	249	11.8
500	31	5,621	-18.0	56	259	14.4
450	31	6,394	-23.2	53	265	16.3
400	31	7,255	-29.0	51	270	18.3
350	31	8,196	-36.0	50	278	22.9
300	31	9,250	-43.5		282	22.9
250	31	10,457	-50.1		287	27.6
200	30	11,908	-52.6		282	21.8
175	30	12,771	-52.2		280	20.6
150	30	13,769	-52.5		276	19.6
125	30	14,945	-52.9		273	22.3
100	30	16,385	-52.7		279	12.6
80	30	17,826	-52.5		275	7.8
70	29	18,689	-52.3		275	6.2
60	29	19,687	-52.0		292	3.9
50	29	20,869	-51.7		346	1.4
40	28	22,324	-51.0		72	2.7
30	28	24,200	-49.8		72	3.5
25	28	25,395	-48.5		85	5.2
20	27	26,871	-46.7		77	4.5
15	27	28,790	-44.2		70	5.6
10	24	31,543	-39.5		81	8.2
7	13	34,045	-33.7		88	14.2
5	6	36,528	-28.2			

ATHENS, GA.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	20.2	94	319	1.0
1000	31	141				
950	31	586	21.5	78	320	1.9
900	31	1,055	19.3	75	288	3.1
850	31	1,546	16.7	72	276	3.7
800	31	2,061	13.9	68	265	5.1
750	31	2,599	11.2	63	275	7.0
700	31	3,178	8.2	54	277	8.9
650	31	3,781	4.6	55	280	10.7
600	31	4,435	.8	59	282	11.1
550	31	5,125	- 3.1	54	274	9.9
500	31	5,879	- 7.2	46	279	11.5
450	31	6,688	-11.9	39	282	11.8
400	31	7,588	-17.3		289	12.4
350	31	8,574	-24.4		288	14.4
300	31	9,679	-32.5		288	16.9
250	31	10,938	-42.4		287	17.5
200	31	12,407	-54.0		286	21.4
175	31	13,252	-60.0		284	23.5
150	31	14,200	-65.9		294	23.3
125	31	15,295	-69.5		300	14.4
100	31	16,624	-69.5		298	6.2
80	31	17,968	-64.8		46	4.9
70	31	18,789	-62.0		73	8.9
60	31	19,749	-59.1		83	14.8
50	31	20,898	-56.3		89	19.0
40	30	22,324	-53.4		92	20.4
30	30	24,188	-50.4		92	23.3
25	29	25,379	-48.9		91	24.9
20	29	26,849	-47.2		87	27.4
15	24	28,760	-45.1		84	31.7
10	5	31,522	-40.1			
7						
5						
4						

* BARROW, ALASKA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	.3	94	83	7.2
1000	31	103	.6	92	86	7.4
950	31	517	1.9	83	92	8.4
900	31	952	1.1	80	88	7.2
850	31	1,411	- .5	75	91	4.9
800	31	1,894	- 2.8	68	99	4.9
750	31	2,400	- 5.4	62	108	4.1
700	31	2,942	- 8.4	59	133	2.5
650	31	3,509	-11.6	58	112	3.5
600	31	4,124	-15.0	53	110	2.5
550	31	4,772	-19.2	50	129	1.7
500	31	5,479	-24.0	49	141	1.7
450	31	6,236	-29.2	47	188	1.2
400	31	7,073	-34.5	46	138	.6
350	31	7,995	-40.1		272	2.3
300	31	9,033	-46.2		264	5.4
250	31	10,233	-49.7		253	6.0
200	30	11,705	-47.0		247	4.1
175	30	12,590	-47.0		252	4.1
150	30	13,610	-47.4		258	3.1
125	30	14,815	-47.4		233	2.9
100	29	16,291	-47.6		192	2.1
80	29	17,766	-47.3		163	2.9
70	29	18,649	-47.0		129	1.9
60	29	19,669	-47.0		115	1.9
50	29	20,877	-46.9		96	3.3
40	29	22,355	-47.0		89	4.1
30	29	24,262	-46.6		88	5.1
25	29	25,473	-46.1		86	6.8
20	28	26,954	-45.1		99	6.8
15	28	28,884	-42.8		97	6.0
10	27	31,632	-39.0		80	8.0
7	24	34,116	-34.1		76	9.7
5	17	36,517	-28.8		93	8.7
4	7	38,043	-26.2			

BARTER IS., ALASKA
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	1.8	93	79	5.4
1000	31	98	1.9	90	84	5.6
950	31	518	4.3	81	108	6.6
900	31	956	4.4	76	132	4.5
850	31	1,420	2.8	67	186	3.9
800	31	1,909	.2	65	219	4.9
750	31	2,420	- 2.8	64	213	8.4
700	31	2,968	- 6.2	61	211	9.3
650	31	3,540	- 9.6	51	213	8.9
600	31	4,158	-13.3	46	218	9.5
550	31	4,813	-17.5	43	216	12.0
500	31	5,523	-22.5	43	219	12.2
450	31	6,282	-27.9	41	225	15.2
400	31	7,124	-34.0	41	228	16.5
350	31	8,046	-40.7		221	16.7
300	30	9,084	-47.7		219	17.7
250	30	10,274	-51.4		223	13.2
200	30	11,735	-47.8		241	9.7
175	30	12,617	-47.5		243	7.2
150	30	13,636	-47.3		253	5.6
125	30	14,842	-47.3		253	2.7
100	30	16,317	-47.4		231	1.2
80	29	17,797	-47.0		91	2.3
70	29	18,685	-46.9		91	3.1
60	29	19,703	-46.8		105	3.1
50	28	20,909	-46.6		97	4.1
40	27	22,386	-46.4		87	5.2
30	27	24,298	-45.9		80	6.6
25	26	25,519	-45.2		79	8.4
20	25	27,016	-43.9		87	8.7
15	21	28,944	-41.1		93	9.7
10	10	31,633	-38.4			
7						
5						
4						

BETHEL, ALASKA
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	9.3	96	228	2.3
1000	30	67			245	3.7
950	30	495	7.8	86	191	5.6
900	30	937	5.2	85	181	8.4
850	30	1,402	2.9	81	177	8.9
800	30	1,891	.3	79	171	10.1
750	30	2,408	- 2.4	74	172	9.1
700	30	2,951	- 5.1	65	177	7.6
650	30	3,528	- 8.3	59	181	5.8
600	30	4,148	-11.8	55	191	6.2
550	30	4,808	-15.7	52	186	6.4
500	30	5,521	-20.0	52	184	5.8
450	30	6,294	-24.9	54	203	6.0
400	30	7,141	-30.7	53	215	6.0
350	30	8,076	-37.6		233	6.0
300	30	9,123	-44.5		259	7.8
250	30	10,330	-48.6		268	14.8
200	30	11,798	-48.1		262	18.3
175	30	12,677	-48.3		265	17.1
150	30	13,692	-48.6		263	15.7
125	30	14,888	-49.1		257	13.2
100	30	16,351	-49.3		258	10.5
80	30	17,814	-49.3		255	7.8
70	30	18,689	-49.3		255	6.6
60	29	19,700	-49.0		246	5.2
50	29	20,896	-48.9		239	2.3
40	28	22,362	-48.5		195	.4
30	26	24,262	-47.4		91	2.1
25	26	25,470	-46.5		67	1.9
20	26	26,955	-45.1		73	3.7
15	23	28,894	-42.7		75	3.5
10	6	31,634	-39.3			
7						
5						
4						

BISMARCK, N. DAK.
953 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	505	11.6	81	347	1.4
1000	31	95				
950	31	533			350	1.7
900	31	987	15.9	56	290	4.7
850	31	1,473	14.2	50	299	6.8
800	31	1,983	11.6	48	287	10.7
750	31	2,515	8.1	50	288	14.6
700	31	3,086	4.7	49	291	15.3
650	31	3,683	.7	50	293	17.7
600	31	4,325	- 3.4	49	294	19.8
550	31	5,002	- 7.9	44	292	21.0
500	31	5,744	-12.2	42	285	23.3
450	31	6,539	-17.3	38	283	26.2
400	31	7,417	-23.3	37	280	29.5
350	31	8,380	-30.5		278	34.4
300	31	9,456	-39.0		277	38.1
250	31	10,681	-48.3		275	44.5
200	31	12,126	-54.3		277	49.3
175	31	12,979	-56.0		274	45.3
150	31	13,953	-58.4		278	41.0
125	31	15,096	-59.3		279	30.7
100	31	16,496	-58.3		281	18.3
80	31	17,907	-56.4		283	8.4
70	31	18,757	-54.9		293	5.4
60	31	19,747	-53.5		324	1.7
50	31	20,923	-52.4		80	2.1
40	31	22,371	-50.6		64	5.1
30	31	24,257	-48.4		80	8.2
25	30	25,455	-47.0		90	7.2
20	29	26,944	-44.7		89	9.5
15	23	28,888	-42.4		90	12.0
10	9	31,647	-38.1			
7						
5						
4						

BOISE, IDAHO
915 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	15.0	54	152	2.5
1000	31	103				
950	31	547				
900	31	1,008	17.7	44	320	1.0
850	31	1,497	17.8	35	315	7.8
800	31	2,012	14.4	37	305	9.1
750	31	2,550	10.4	38	285	10.3
700	31	3,123	6.5	39	267	15.7
650	31	3,724	2.8	34	261	20.4
600	31	4,371	- 1.3	30	263	23.5
550	31	5,053	- 5.9		259	26.4
500	31	5,799	-11.0		259	26.2
450	31	6,595	-16.1		263	28.7
400	31	7,478	-22.4		266	32.4
350	31	8,445	-29.6		264	34.6
300	31	9,527	-37.8		261	39.2
250	31	10,759	-47.0		261	42.7
200	31	12,210	-54.9		266	44.5
175	31	13,059	-57.5		268	42.5
150	30	14,031	-60.2		261	39.4
125	30	15,162	-62.2		264	30.3
100	30	16,542	-61.8		266	15.0
80	30	17,928	-59.7		269	6.6
70	30	18,766	-57.6		297	1.6
60	29	19,742	-55.8		88	3.3
50	29	20,909	-53.9		96	6.2
40	27	22,347	-52.2		82	7.8
30	25	24,213	-49.8		86	11.1
25	25	25,409	-48.5		86	12.8
20	21	26,883	-46.4		85	12.0
15	14	28,799	-43.1		89	13.8
10						
7						

* BROWNSVILLE, TEXAS
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	25.6	90	155	6.2
1000	31	119	25.8	88	162	11.5
950	31	573	23.1	85	172	23.3
900	31	1,042	21.2	64	170	22.1
850	31	1,536	19.1	51	170	19.2
800	31	2,056	16.6	46	161	13.0
750	31	2,598	13.6	41	151	9.3
700	31	3,181	10.2	38	124	7.0
650	31	3,789	6.4	35	114	7.0
600	31	4,445	2.3	36	106	6.6
550	31	5,135	- 1.9	32	94	6.4
500	31	5,896	- 6.6	32	84	7.4
450	31	6,704	-11.8	31	89	8.5
400	31	7,605	-17.6	27	91	8.7
350	31	8,591	-24.3	25	92	11.3
300	31	9,697	-32.6	25	85	13.0
250	31	10,955	-42.5		76	13.4
200	31	12,425	-54.1		82	13.4
175	31	13,269	-60.5		84	14.0
150	31	14,215	-66.6		85	15.3
125	31	15,301	-72.6		84	15.3
100	31	16,605	-73.3		82	16.1
80	31	17,927	-67.8		89	20.0
70	31	18,736	-64.8		94	20.6
60	31	19,682	-61.7		89	23.1
50	31	20,818	-58.8		85	29.1
40	31	22,229	-55.4		88	30.7
30	31	24,075	-52.4		88	34.0
25	31	25,259	-50.1		86	36.7
20	31	26,721	-48.4		87	38.3
15	29	28,628	-46.0		88	41.0
10	18	31,353	-41.8		93	44.5
7	6	33,807	-36.5			

BUFFALO, N. Y.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	218	15.1	85	228	3.9
1000	31	130				
950	31	568	15.7	73	251	9.1
900	31	1,024	13.1	71	261	12.6
850	31	1,503	10.3	68	266	15.2
800	31	2,006	7.8	62	270	17.9
750	31	2,532	5.3	56	272	20.4
700	31	3,097	2.7	46	274	21.6
650	31	3,690	- .1	38	275	22.3
600	31	4,331	- 3.4	36	276	26.6
550	31	5,010	- 7.2	36	278	29.5
500	31	5,752	-11.6		275	31.9
450	31	6,546	-16.8		277	34.0
400	31	7,426	-23.0		278	37.3
350	31	8,391	-29.9		281	39.2
300	31	9,471	-37.7		281	45.1
250	31	10,705	-46.1		284	49.3
200	31	12,164	-52.9		284	50.9
175	31	13,020	-55.9		284	47.8
150	31	13,993	-58.6		282	43.9
125	31	15,133	-60.2		281	38.1
100	31	16,530	-58.6		280	33.2
80	30	17,942	-57.0		293	20.0
70	30	18,794	-55.2		299	15.2
60	30	19,777	-53.7		309	9.3
50	30	20,954	-52.1		344	3.9
40	30	22,403	-50.8		70	7.0
30	29	24,287	-48.5		86	11.1
25	27	25,490	-46.8		92	13.0
20	25	26,977	-44.6		95	14.0
15	15	28,903	-41.7		84	14.4
10						
7						

* BURRWOOD, LA.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	27.4	82	248	2.7
1000	31	137	26.8	80	238	3.7
950	31	590	23.3	85	226	4.9
900	31	1,061	20.7	72	209	5.4
850	31	1,554	17.9	66	202	5.4
800	31	2,072	15.2	63	203	5.2
750	31	2,611	12.2	58	209	3.3
700	31	3,192	8.9	56	238	1.7
650	31	3,798	5.2	52	315	1.6
600	31	4,452	1.4	52	314	3.5
550	31	5,144	- 2.5	48	333	2.9
500	31	5,900	- 6.5	43	10	3.7
450	31	6,710	-11.5	40	15	4.5
400	31	7,611	-17.1	35	17	6.0
350	31	8,599	-23.7	29	22	6.0
300	31	9,707	-31.8	28	37	4.3
250	31	10,969	-41.7		64	3.9
200	31	12,443	-53.5		45	5.4
175	31	13,289	-59.9		40	5.1
150	31	14,238	-65.9		21	5.8
125	31	15,328	-71.2		39	9.3
100	31	16,641	-71.8		81	10.7
80	31	17,977	-66.5		87	12.6
70	31	18,795	-63.8		82	15.2
60	31	19,745	-60.6		83	21.4
50	31	20,890	-57.3		89	26.2
40	30	22,311	-54.1		89	28.2
30	30	24,168	-51.7		87	31.3
25	30	25,356	-50.2		89	32.8
20	29	26,822	-47.9		87	32.6
15	29	28,734	-44.9		85	36.5
10	22	31,477	-40.0		88	44.7
7	5	33,935	-38.4			

*CANTON IS., PACIFIC AREA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	26.2	77	93	12.6
1000	31	93	25.5	79	95	15.9
950	31	543	21.8	88	96	21.4
900	31	1,012	18.5	83	93	22.3
850	31	1,501	15.8	69	93	25.3
800	31	2,015	14.6	53	89	24.7
750	31	2,559	12.3	44	87	23.9
700	31	3,134	9.3	38	86	21.2
650	31	3,745	6.3	31	94	18.3
600	31	4,398	2.7	31	98	17.5
550	31	5,093	- 1.5	32	96	15.7
500	31	5,849	- 5.7	31	94	16.9
450	31	6,665	-10.6	31	109	19.8
400	31	7,564	-16.4	30	120	17.7
350	31	8,555	-23.6	31	91	7.8
300	31	9,663	-32.0	31	32	3.7
250	31	10,924	-42.3		338	6.4
200	31	12,393	-54.7		326	13.8
175	31	13,235	-61.4		319	13.2
150	31	14,176	-68.6		293	15.3
125	31	15,250	-75.5		281	9.3
100	30	16,537	-75.1		131	4.5
80	30	17,853	-68.2		268	8.5
70	30	18,658	-65.7		271	18.1
60	28	19,597	-63.8		274	27.6
50	28	20,721	-61.5		271	35.0
40	26	22,106	-60.3		273	36.7
30	25	23,909	-57.4		283	3.5
25	23	25,063	-55.8		89	28.2
20	21	26,495	-53.2		90	51.5
15	19	28,365	-49.7		90	58.9
10	18	31,050	-44.9		90	62.4
7	8	33,456	-41.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1964

CAPE HATTERAS, N. C. 1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	22.8	88	101	.6
1000	31	136	23.3	81	181	.4
950	31	582	21.1	74	261	2.9
900	31	1,050	18.2	74	259	5.8
850	31	1,539	15.4	72	261	8.5
800	31	2,051	12.5	70	259	10.3
750	31	2,587	10.0	62	259	13.2
700	31	3,162	7.2	55	261	15.7
650	31	3,765	4.4	51	265	17.1
600	31	4,417	.9	49	262	18.3
550	31	5,105	- 2.5	41	259	19.2
500	31	5,862	- 6.6	35	259	19.4
450	31	6,673	-11.6		264	20.2
400	31	7,571	-17.6		268	20.6
350	31	8,557	-24.2		273	22.7
300	31	9,663	-32.3		271	26.0
250	31	10,923	-42.2		273	30.3
200	31	12,394	-53.7		280	32.8
175	30	13,244	-59.7		281	30.7
150	30	14,196	-64.7		288	28.0
125	30	15,298	-68.2		289	21.6
100	30	16,642	-66.6		291	12.8
80	30	18,004	-62.5		327	6.0
70	30	18,840	-59.6		55	6.2
60	30	19,804	-57.1		82	10.7
50	30	20,965	-54.5		86	15.7
40	30	22,403	-51.9		93	20.6
30	30	24,279	-49.0		92	23.3
25	30	25,481	-46.9		88	24.1
20	29	26,968	-44.5		89	28.2
15	26	28,905	-41.5		91	29.5
10	11	31,646	-38.0			
7						
5						

CARIBOU, ME. 991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	11.0	95	199	3.1
1000	31	118				
950	31	549	11.9	78	247	6.8
900	31	1,000	9.8	72	265	9.1
850	31	1,473	7.2	70	270	9.5
800	31	1,969	4.4	66	267	11.8
750	31	2,491	1.6	60	258	13.6
700	31	3,047	- .7	50	256	16.9
650	31	3,632	- 3.7	48	256	18.3
600	31	4,265	- 7.2	41	258	19.6
550	31	4,934	-11.3	38	260	21.0
500	31	5,663	-15.7	36	260	22.3
450	31	6,447	-20.8		261	25.6
400	31	7,311	-27.0		261	29.3
350	31	8,261	-33.7		262	33.0
300	31	9,325	-41.1		265	36.5
250	31	10,546	-47.4		270	40.2
200	31	12,009	-50.9		274	39.4
175	30	12,875	-52.6		269	38.3
150	30	13,867	-54.1		267	33.4
125	30	15,035	-54.4		269	25.1
100	30	16,466	-53.4		272	17.1
80	30	17,905	-52.5		264	10.7
70	29	18,768	-51.8		262	4.9
60	29	19,769	-51.1		236	1.0
50	29	20,957	-50.3		98	3.1
40	29	22,416	-49.4		82	4.3
30	29	24,311	-47.6		89	8.4
25	28	25,521	-45.9		90	10.7
20	27	27,013	-43.3		85	12.2
15	22	28,977	-39.4		91	14.8
10	13	31,796	-35.0		90	17.9
7	6	34,305	-30.2			
5	6	36,717	-25.9			

CHARLESTON, S. C. 1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	13	22.5	91	243	.6
1000	31	138	23.5	85	196	1.2
950	31	586	22.0	75	233	3.7
900	31	1,055	19.3	71	237	5.8
850	31	1,546	16.4	69	241	7.0
800	31	2,061	14.1	61	237	8.5
750	31	2,603	11.4	59	245	9.5
700	31	3,178	8.3	58	249	11.1
650	31	3,783	4.8	56	256	11.7
600	31	4,435	1.1	54	255	12.4
550	31	5,126	- 2.7	52	256	13.2
500	31	5,881	- 6.9	46	259	12.8
450	31	6,694	-11.5	38	256	11.5
400	31	7,591	-17.3		271	10.7
350	31	8,579	-24.1		270	11.5
300	31	9,685	-32.2		271	13.0
250	31	10,945	-42.2		280	14.6
200	31	12,416	-53.8		287	16.5
175	31	13,261	-60.0		293	16.9
150	31	14,210	-65.7		302	17.5
125	31	15,304	-69.9		307	12.6
100	31	16,631	-68.8		323	5.4
80	31	17,978	-65.0		44	5.8
70	31	18,799	-61.7		60	10.3
60	31	19,759	-58.8		81	16.7
50	30	20,910	-56.2		87	21.8
40	29	22,338	-52.9		93	24.9
30	28	24,207	-49.8		92	26.4
25	26	25,402	-47.7		91	28.0
20	22	26,888	-45.5		93	29.3
15	8	28,817	-42.6			

CHIHUAHUA, MEXICO 857 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	19	1,428	20.4	61	327	1.9
1000	19	76				
950	19	519				
900	19	1,001				
850	19	1,505	20.4	59	334	.8
800	19	2,029	19.1	53	[illegible]	1.7
750	19	2,573	15.5	55	76	2.3
700	19	3,163	11.0	64	[illegible]	3.3
650	19	3,769	6.5	68	129	4.7
600	19	4,431	1.6	[illegible]	145	2.1
550	19	5,116	- 2.6		174	2.9
500	18	5,879	- 6.5		200	3.1
450	18	6,686	-11.1		226	4.5
400	18	7,591	-16.6		231	5.8
350	18	8,581	-23.4		242	11.3
300	17	9,691	-31.7		250	16.1
250	16	10,952	-41.9		247	18.5
200	15	12,427	-53.6			
175	15	13,273	-60.0			
150	14	14,221	-66.6			
125	13	[illegible]	-71.9			
100	11	16,617	-73.8			
80	9	17,937	-66.9			
70	8	18,750	-64.3			
60	7	19,698	-61.4			
50	6	20,841	-58.7			
40	5	22,254	-55.3			
30	5	24,103	-51.8			

* COLD BAY, ALASKA 1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	8.0	89	256	5.2
1000	31	90			262	5.8
950	31	514	5.9	88	267	8.7
900	31	954	4.0	88	266	8.9
850	31	1,418	2.7	77	261	10.1
800	31	1,909	1.6	72	267	10.5
750	31	2,427	- .6	63	256	16.9
700	31	2,977	- 2.9	55	259	20.0
650	31	3,562	- 5.4	50	262	23.1
600	31	4,187	- 8.7	48	260	26.8
550	31	4,855	-12.4	48	261	29.5
500	31	5,581	-16.5	52	271	34.2
450	31	6,263	-21.5	52	270	36.7
400	31	7,227	-27.6	49	266	41.0
350	31	8,174	-34.4	50	269	47.8
300	31	9,237	-41.1		267	58.3
250	31	10,459	-47.2		267	51.5
200	31	11,925	-50.2		268	41.4
175	31	12,795	-51.1		261	37.1
150	31	13,796	-51.9		263	31.1
125	31	14,977	-52.3		262	22.3
100	31	16,420	-52.1		260	16.7
80	31	17,864	-52.0		273	10.9
70	31	18,729	-51.5		278	6.2
60	31	19,729	-51.3		262	2.9
50	31	20,915	-50.9		27	1.2
40	31	22,368	-50.3		41	1.6
30	31	24,250	-49.2		85	2.7
25	30	25,451	-47.9		68	3.1
20	30	26,928	-46.4		66	2.1
15	29	28,853	-44.2		71	3.3
10	26	31,592	-40.4		62	4.9
7	9	34,064	-36.3			

COLUMBIA, MO. 986 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	238	19.4	78	148	2.7
1000	31	117				
950	31	563	20.7	65	196	6.2
900	31	1,029	18.8	61	233	7.4
850	31	1,518	16.3	60	254	9.7
800	31	2,032	13.5	60	265	11.8
750	31	2,566	10.4	58	274	12.6
700	31	3,145	7.2	51	275	13.2
650	31	3,748	3.8	43	281	15.7
600	31	4,397	- .2	38	277	18.6
550	31	5,083	- 4.0		278	19.0
500	31	5,835	- 8.3		277	21.8
450	31	6,640	-13.3		277	24.1
400	31	7,533	-19.1		277	27.0
350	31	8,512	-26.2		276	31.1
300	30	9,605	-34.2		274	35.7
250	30	10,855	-43.6		275	41.0
200	30	12,320	-54.2		275	46.4
175	30	13,165	-59.6		277	45.6
150	30	14,118	-64.0		283	37.1
125	30	15,227	-66.5		280	27.4
100	30	16,578	-65.1		284	15.3
80	30	17,948	-61.6		288	6.4
70	30	18,784	-59.0		2	2.3
60	30	19,752	-56.6		75	6.0
50	30	20,915	-54.2		86	10.1
40	30	22,353	-52.0		88	12.2
30	30	24,225	-49.7		91	15.0
25	27	25,423	-48.2		87	17.1
20	26	26,901	-46.2		86	20.0
15	19	28,802	-44.0		85	22.1
10	9	31,550	-39.4			
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CORPUS CHRISTI, TEXAS 1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	6	26.4	87	175	6.6
1000	29	111	25.9	88	174	11.8
950	29	557	22.3	88	176	16.7
900	29	1,032	20.5	71	177	18.8
850	29	1,525	18.3	61	166	14.2
800	29	2,043	16.0	54	165	10.5
750	29	2,586	13.1	48	158	8.4
700	29	3,166	9.5	49	138	8.0
650	29	3,775	5.8	47	133	7.2
600	29	4,428	1.9	45	125	6.4
550	29	5,120	- 2.1	44	105	5.8
500	29	5,877	- 6.5	38	104	5.4
450	29	6,688	-11.4	36	91	6.0
400	29	7,588	-17.3	35	99	6.6
350	29	8,575	-24.0	35	91	8.4
300	29	9,680	-32.7	35	82	8.5
250	29	10,936	-42.8		79	9.1
200	27	12,409	-54.2		87	10.1
175	27	13,253	-60.4		88	10.1
150	27	14,199	-66.5		81	10.7
125	26	15,288	-71.9		73	9.9
100	24	16,599	-72.4		74	10.3
80	20	17,917	-68.1		84	15.0
70	20	18,723	-65.0		85	17.9
60	18	19,672	-61.8		84	23.9
50	18	20,809	-59.1		90	24.5
40	18	22,217	-56.4		89	27.0
30	15	24,072	-52.9		85	28.6
25	14	25,263	-51.2		92	30.3
20	14	26,724	-48.3		91	31.5
15	13	28,629	-45.6			
10	9	31,354	-42.2			

DAYTON, OHIO 981 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	16.1	86	118	.6
1000	31	133				
950	31	575	18.8	68	231	5.6
900	31	1,037	16.7	62	263	9.5
850	31	1,522	13.6	59	271	11.5
800	31	2,031	10.9	55	274	14.6
750	31	2,565	8.5	45	274	17.3
700	31	3,136	5.5	39	274	19.6
650	31	3,736	2.4	34	271	21.2
600	31	4,383	- 1.1	33	270	22.7
550	31	5,065	- 4.8		271	24.3
500	31	5,817	- 9.3		271	27.6
450	31	6,619	-14.4		269	28.7
400	31	7,508	-20.5		272	31.1
350	31	8,483	-27.3		277	36.5
300	31	9,575	-35.5		278	42.0
250	31	10,819	-45.0		278	48.8
200	31	12,279	-54.3		284	53.2
175	31	13,126	-58.9		282	49.5
150	31	14,086	-62.2		277	45.3
125	31	15,203	-64.9		280	33.4
100	31	16,567	-63.3		281	22.0
80	31	17,948	-60.4		289	9.3
70	31	18,783	-58.2		337	3.9
60	31	19,758	-56.0		66	6.6
50	31	20,925	-53.8		80	10.7
40	31	22,364	-52.0		79	13.0
30	30	24,237	-49.4		82	18.1
25	29	25,435	-47.8		83	18.1
20	26	26,920	-45.5		82	19.8
15	13	28,863	-43.3		79	21.4

DEL RIO, TEXAS 976 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	314	25.5	71	110	9.1
1000	31	102				
950	31	556	24.3	69	132	15.5
900	31	1,027	21.8	69	166	18.6
850	30	1,523	20.4	62	170	17.3
800	30	2,045	17.3	60	166	12.6
750	30	2,587	14.1	56	168	8.0
700	30	3,173	10.6	50	151	4.1
650	30	3,782	6.5	45	95	2.5
600	30	4,439	1.8	47	99	2.7
550	30	5,130	- 2.6	44	92	3.3
500	30	5,887	- 6.7	39	109	3.5
450	30	6,697	-11.6	35	94	4.5
400	30	7,598	-17.4		88	4.7
350	30	8,586	-24.1		100	3.5
300	30	9,693	-32.4		114	4.1
250	30	10,953	-42.5		74	2.7
200	30	12,424	-54.2		73	3.3
175	30	13,268	-60.6		71	3.1
150	30	14,214	-66.7		95	3.9
125	30	15,301	-72.1		86	5.1
100	30	16,609	-73.3		83	6.4
80	29	17,933	-67.8		88	10.1
70	29	18,741	-64.2		93	14.0
60	29	19,691	-61.0		87	17.5
50	29	20,830	-58.5		86	24.5
40	29	22,243	-55.4		91	27.8
30	29	24,094	-51.6		88	28.9
25	29	25,282	-49.6		88	31.7
20	27	26,749	-47.5		89	32.6
15	26	28,666	-43.9		86	35.4
10	17	31,390	-40.3			

DENVER, COLO. 839 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	14.6	53	[illegible]	3.9
1000	31	96				
950	31	543				
900	31	1,010				
850	31	1,501				
800	31	2,017	17.4	42	248	5.4
750	31	2,565	14.8	40	274	5.6
700	31	3,146	10.7	43	286	7.2
650	31	3,754	5.9	50	280	9.9
600	31	4,408	1.1	57	280	12.6
550	31	5,098	- 4.3	57	276	17.9
500	31	5,846	- 9.3	49	273	19.6
450	31	6,650	-14.1	39	265	20.8
400	31	7,539	-19.8	34	267	22.5
350	31	8,516	-27.2	38	269	26.6
300	31	9,608	-35.4		266	31.1
250	31	10,853	-44.5		267	36.7
200	31	12,310	-55.0		267	40.8
175	31	13,155	-59.2		271	38.3
150	31	14,111	-63.7		273	33.4
125	31	15,221	-66.6		271	24.1
100	31	16,570	-66.4		267	13.2
80	31	17,935	-61.7		256	4.7
70	31	18,773	-59.1		134	.4
60	30	19,742	-56.3		96	5.1
50	29	20,905	-54.8		97	7.6
40	29	22,341	-52.1		85	11.5
30	29	24,211	-50.1		84	15.3
25	29	25,406	-48.5		86	18.3
20	28	26,882	-46.4		[illegible]	18.6
15	22	28,801	-44.0		85	[illegible]
10	12	31,529	-40.3			
7	5	33,945	-38.3			

DODGE CITY, KANS. 924 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	19.2	79	169	4.1
1000	31	101				
950	31	548				
900	31	1,016	20.1	68	183	9.5
850	31	1,509	19.4	55	220	12.8
800	31	2,030	17.2	49	243	12.6
750	31	2,576	14.1	46	261	12.4
700	31	3,157	10.5	49	267	12.6
650	31	3,765	5.8	52	259	10.7
600	31	4,420	1.1	51	263	11.3
550	31	5,108	- 3.9	48	263	11.3
500	31	5,860	- 8.5	41	263	13.6
450	31	6,668	-13.0		268	16.9
400	31	7,561	-19.1		269	20.6
350	31	8,540	-26.4		273	24.1
300	31	9,636	-34.8		275	27.6
250	31	10,884	-44.3		277	33.0
200	31	12,346	-54.6		271	35.9
175	31	13,190	-59.9		273	36.5
150	30	14,138	-64.6		271	32.1
125	30	15,240	-68.3		272	24.3
100	30	16,575	-68.3		271	14.4
80	30	17,932	-62.8		253	3.3
70	30	18,764	-60.5		97	2.7
60	30	19,725	-57.7		91	7.8
50	30	20,882	-55.3		94	11.3
40	30	22,313	-53.1		94	14.6
30	30	24,177	-50.6		83	20.0
25	30	25,372	-48.4		88	21.8
20	29	26,844	-46.3		85	23.3
15	24	28,760	-44.1		85	25.4
10	11	31,514	-40.1			
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EL PASO, TEXAS 882 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,193	22.5	57	313	1.9
1000	31	87				
950	31	541				
900	31	1,023				
850	31	1,519	22.1	47	247	1.2
800	31	2,043	19.3	46	190	1.7
750	31	2,591	15.6	47	202	1.6
700	31	3,177	11.2	49	286	.8
650	31	3,785	6.4	52	63	.4
600	31	4,444	1.7	49	62	1.4
550	31	5,132	- 2.9	41	125	2.5
500	31	5,889	- 7.2	36	155	2.7
450	31	6,700	-12.0		202	2.9
400	31	7,597	-17.9		184	3.7
350	31	8,582	-24.9		217	5.6
300	31	9,685	-33.1		223	9.1
250	31	10,942	-42.8		241	9.1
200	31	12,412	-54.4		248	9.9
175	31	13,255	-60.7		242	11.3
150	31	14,201	-66.7		248	9.7
125	31	15,290	-71.3		245	7.8
100	31	16,601	-71.9		238	1.9
80	30	17,932	-66.4		97	7.8
70	29	18,750	-63.2		97	10.5
60	29	19,702	-60.4		87	14.0
50	29	20,846	-57.2		90	20.8
40	29	22,267	-54.4		88	22.9
30	28	24,123	-51.0		87	27.0
25	28	25,313	-49.6		86	28.2
20	25	26,785	-47.0		90	29.7
15	18	28,705	-43.6		89	31.3

ELY, NEV. 811 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,908	10.3	55	192	6.0
1000	30	123				
950	30	567				
900	30	1,031				
850	30	1,514				
800	30	2,025	14.9	42	193	6.2
750	30	2,573	14.3	35	208	5.4
700	30	3,151	10.3	34	246	8.7
650	30	3,759	5.9	37	248	9.5
600	30	4,413	1.1	40	251	10.1
550	30	5,101	- 3.9	42	260	13.6
500	30	5,852	- 8.3		267	15.7
450	30	6,658	-13.8		276	19.0
400	30	7,547	-20.1		270	22.9
350	30	8,522	-27.4		262	23.5
300	30	9,613	-35.9		258	27.4
250	30	10,855	-45.3		244	32.4
200	30	12,313	-54.7		243	40.0
175	30	13,158	-59.5		243	35.9
150	30	14,113	-63.3		247	30.5
125	30	15,225	-66.1		254	20.6
100	30	16,578	-65.9		251	8.7
80	30	17,943	-62.2		255	3.7
70	30	18,785	-59.8		101	1.7
60	29	19,741	-56.8		90	5.2
50	29	20,902	-54.8		88	8.7
40	28	22,331	-53.2		90	12.4
30	28	24,196	-50.4		87	16.1
25	28	25,390	-48.8		90	16.9
20	28	26,863	-46.7		86	20.4
15	25	28,787	-43.6		91	25.1
10	9	31,523	-39.7			

* FAIRBANKS, ALASKA 992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	135	10.3	84	326	2.3
1000	31	71				
950	31	497	10.9	73	186	2.3
900	31	949	8.4	68	229	4.3
850	31	1,419	5.2	74	228	4.5
800	31	1,911	1.8	78	213	4.7
750	31	2,425	- 1.4	80	218	4.9
700	31	2,976	- 4.8	79	220	5.1
650	31	3,549	- 8.3	77	214	5.1
600	31	4,173	-12.2	70	219	5.6
550	31	4,829	-16.6	66	214	5.8
500	31	5,543	-21.1	61	212	6.8
450	31	6,309	-26.5	62	224	7.6
400	31	7,156	-32.4	52	228	8.7
350	31	8,085	-39.0	52	243	9.5
300	31	9,125	-46.6		241	11.3
250	31	10,316	-52.3		240	17.7
200	31	11,767	-49.5		248	11.1
175	31	12,642	-49.1		258	10.1
150	31	13,654	-48.8		259	8.9
125	31	14,851	-48.9		258	8.0
100	31	16,316	-48.8		248	5.4
80	30	17,784	-48.7		262	3.3
70	30	18,662	-48.5		265	3.1
60	30	19,677	-48.4		290	1.2
50	30	20,877	-48.4		73	1.7
40	29	22,350	-48.1		85	5.1
30	27	24,246	-47.5		76	4.7
25	26	25,452	-46.8		69	6.4
20	24	26,945	-45.7		91	6.0
15	22	28,872	-43.1		87	7.2
10	14	31,705	-37.4		101	8.9
7	6	34,208	-33.1			

FLINT, MICH. 988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	[illegible]	76	[illegible]	3.9
1000	31	132				
950	31	569	15.5	70	247	[illegible]
900	31	1,025	13.5	67	271	13.2
850	31	1,505	10.9	66	275	16.1
800	31	2,009	8.7	57	274	18.6
750	31	2,541	6.3	50	278	19.8
700	31	3,105	3.7	46	275	20.6
650	31	3,700	.4	42	279	22.5
600	31	4,342	- 3.0	36	280	25.6
550	31	5,021	- 6.7	32	279	28.9
500	31	5,766	-11.2		279	33.8
450	31	6,559	-16.7		279	35.9
400	31	7,442	-22.8		277	38.7
350	31	8,408	-29.6		280	44.5
300	31	9,489	-37.7		280	48.8
250	30	10,713	-46.6		283	54.8
200	29	12,163	-53.7		284	62.5
175	29	13,014	-56.6		285	56.7
150	29	13,986	-58.8		284	46.0
125	29	15,124	-60.3		284	36.1
100	29	16,516	-59.6		283	22.9
80	29	17,920	-57.0		290	10.7
70	29	18,767	-55.8		303	5.8
60	29	19,752	-54.3		35	3.3
50	28	20,926	-52.3		83	7.6
40	27	22,373	-51.0		87	9.9
30	24	24,253	-48.5		86	13.4
25	23	25,457	-46.7		91	14.2
20	15	26,950	-44.3		91	17.3
15	6	28,886	-43.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1964

FORT WORTH, TEXAS
993 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	180	25.1	76	173	4.9
1000	31	116				
950	31	569	24.2	71	201	15.3
900	31	1,042	23.1	62	209	15.9
850	31	1,539	20.2	64	218	12.2
800	31	2,060	16.9	64	225	8.2
750	31	2,609	13.4	62	224	5.1
700	31	3,187	9.6	58	225	2.7
650	31	3,796	5.5	56	229	1.7
600	30	4,450	1.2	52	223	1.6
550	30	5,141	- 2.7	44	310	1.0
500	30	5,898	- 6.7	37	283	3.1
450	30	6,712	-11.6	37	267	5.1
400	30	7,609	-17.0		263	7.0
350	30	8,597	-24.0		279	8.0
300	30	9,703	-32.3		278	9.9
250	30	10,962	-42.4		279	12.0
200	30	12,431	-54.1		273	12.0
175	30	13,276	-60.3		273	12.4
150	30	14,222	-66.6		285	11.7
125	30	15,312	-71.0		292	7.8
100	30	16,627	-71.3		255	1.7
80	30	17,966	-65.4		83	6.4
70	30	18,784	-62.4		87	11.3
60	30	19,743	-59.4		89	14.6
50	30	20,892	-56.8		94	19.4
40	30	22,316	-53.8		90	21.4
30	29	24,174	-51.3		89	25.6
25	29	25,362	-49.7		90	27.0
20	28	26,833	-46.9		87	30.5
15	26	28,751	-43.5		89	32.6
10	13	31,477	-40.8		90	34.2
7						
5						

GLASGOW, MONT.
931 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	696	13.8	57	17	3.3
1000	31	86				
950	31	521				
900	31	984	15.6	51	328	5.6
850	31	1,468	14.1	48	303	9.9
800	31	1,977	11.3	47	290	10.7
750	31	2,507	7.7	50	280	11.8
700	31	3,079	4.0	47	275	16.1
650	31	3,670	.1	45	279	20.0
600	31	4,315	- 4.1	46	282	23.3
550	31	4,989	- 8.6	47	282	25.1
500	31	5,728	-13.4	44	279	26.8
450	31	6,515	-18.6	40	276	29.9
400	31	7,391	-24.9	37	272	30.5
350	31	8,348	-32.1		270	34.0
300	31	9,418	-40.5		273	38.9
250	31	10,637	-49.0		270	41.2
200	31	12,080	-54.5		273	49.3
175	31	12,933	-55.4		276	49.1
150	31	13,914	-56.7		276	41.2
125	31	15,065	-58.0		278	28.7
100	31	16,472	-57.3		280	17.9
80	30	17,891	-56.1		290	6.4
70	30	18,741	-54.9		287	3.7
60	30	19,727	-53.7		2	1.7
50	30	20,903	-52.4		65	3.3
40	30	22,350	-50.8		82	5.1
30	30	24,235	-48.3		91	6.8
25	29	25,436	-46.9		90	5.8
20	29	26,921	-44.8		80	6.8
15	25	28,855	-42.1		90	8.9
10	6	31,617	-39.1			
7						
5						

GRAND JUNCTION, COLO.
853 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,474	17.5	52	134	5.8
1000	31	85				
950	31	535				
900	31	1,006				
850	31	1,504			132	6.2
800	31	2,024	17.8	42	139	7.2
750	31	2,568	14.7	42	207	4.1
700	31	3,153	10.6	47	256	8.0
650	31	3,761	5.8	55	263	11.3
600	31	4,416	.8	60	268	13.4
550	31	5,102	- 4.0	59	269	15.0
500	31	5,856	- 8.9	54	272	17.3
450	31	6,656	-14.1	49	272	19.6
400	31	7,549	-20.1	36	270	21.0
350	31	8,526	-26.9		266	23.9
300	31	9,620	-34.8		265	28.6
250	31	10,867	-44.3		263	34.2
200	31	12,326	-55.1		261	35.5
175	31	13,170	-59.3		265	35.2
150	31	14,125	-63.5		271	31.7
125	31	15,234	-67.1		270	22.0
100	31	16,576	-67.4		261	12.4
80	31	17,934	-62.7		262	4.1
70	31	18,772	-59.9		128	1.6
60	31	19,732	-57.4		90	4.3
50	31	20,889	-55.5		87	8.4
40	31	22,318	-53.4		93	10.1
30	31	24,180	-50.7		89	15.0
25	31	25,372	-48.9		88	17.3
20	30	26,841	-47.1		89	19.8
15	28	28,757	-44.3		94	20.8
10	26	31,492	-40.4		88	24.3
7	18	33,918	-37.5		94	22.7
5	8	36,242	-34.4			

GREAT FALLS, MONT.
887 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,123	13.0	59	239	6.8
1000	31	97				
950	31	535				
900	31	998				
850	31	1,481	14.1	47	257	9.3
800	31	1,990	10.9	50	280	9.1
750	31	2,523	7.0	54	274	11.7
700	31	3,089	3.5	55	264	15.0
650	31	3,682	- .2	54	261	19.4
600	31	4,323	- 4.2	50	260	24.3
550	31	4,999	- 8.3	44	261	27.6
500	31	5,739	-12.9	41	264	29.7
450	31	6,531	-18.3	43	265	34.0
400	31	7,406	-24.3	39	266	36.9
350	31	8,365	-31.6		266	38.7
300	31	9,436	-40.1		266	43.1
250	31	10,657	-48.6		267	48.4
200	31	12,103	-54.5		264	48.6
175	31	12,956	-55.5		264	48.8
150	31	13,935	-56.8		268	40.8
125	31	15,086	-58.0		265	23.9
100	31	16,493	-57.7		266	16.3
80	31	17,903	-56.5		274	8.2
70	31	18,752	-55.1		279	3.7
60	31	19,737	-54.0		345	1.7
50	31	20,912	-52.3		72	3.9
40	29	22,355	-50.7		93	5.6
30	27	24,238	-48.7		78	6.6
25	27	25,441	-47.0		72	8.4
20	27	26,925	-45.1		89	8.9
15	24	28,870	-41.6		84	12.0
10	17	31,612	-38.1		81	10.3
7	11	34,053	-34.8			
5						

GREEN BAY, WIS.
988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	210	14.0	91	231	1.7
1000	31	108				
950	31	543	15.4	73	266	5.8
900	31	1,002	13.5	68	265	10.1
850	31	1,482	11.2	65	269	13.2
800	31	1,986	8.3	62	279	15.9
750	31	2,512	5.8	54	278	18.3
700	31	3,080	3.2	45	280	21.6
650	31	3,675	- .2	44	283	23.5
600	31	4,314	- 3.6	40	284	26.8
550	31	4,990	- 7.9	37	281	28.0
500	31	5,732	-12.3		281	31.3
450	31	6,526	-17.1		282	35.4
400	31	7,403	-23.2		283	38.5
350	31	8,367	-30.0		285	43.5
300	31	9,448	-37.8		283	47.8
250	31	10,682	-46.2		282	51.5
200	31	12,140	-53.4		278	57.5
175	31	12,995	-55.8		280	55.8
150	31	13,970	-58.1		284	48.4
125	31	15,116	-58.7		281	33.4
100	31	16,518	-58.3		280	22.5
80	31	17,929	-56.1		294	11.3
70	31	18,780	-54.8		304	6.0
60	31	19,770	-53.4		5	2.9
50	31	20,948	-51.8		64	6.2
40	31	22,399	-50.1		99	7.8
30	30	24,288	-48.0		90	10.7
25	30	25,495	-46.2		86	12.4
20	28	26,982	-44.2		87	13.6
15	20	28,913	-41.2		88	14.8
10						
7						
5						

GREENSBORO, N. C.
985 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	273	19.0	94	6	.4
1000	31	146				
950	31	586	19.7	82	284	1.4
900	31	1,054	17.4	77	278	3.3
850	31	1,542	14.9	76	274	4.9
800	31	2,054	12.1	74	271	7.6
750	31	2,591	9.3	66	282	10.3
700	31	3,164	6.9	60	276	13.8
650	31	3,771	4.1	48	270	14.4
600	31	4,419	.6	43	268	16.3
550	31	5,110	- 2.9	40	263	16.9
500	31	5,864	- 7.1	41	266	18.3
450	31	6,679	-12.2	39	268	18.3
400	31	7,571	-18.2	37	271	20.4
350	31	8,555	-25.1	38	270	25.4
300	31	9,656	-33.5		272	28.0
250	31	10,911	-43.1		273	32.6
200	31	12,378	-54.2		275	33.8
175	31	13,224	-59.6		276	34.6
150	31	14,176	-64.8		284	32.6
125	31	15,279	-67.5		283	22.7
100	31	16,621	-67.3		282	15.3
80	31	17,979	-63.6		330	4.9
70	31	18,807	-60.8		49	5.8
60	31	19,769	-57.9		77	8.9
50	30	20,925	-55.5		86	15.2
40	29	22,358	-52.8		92	19.0
30	29	24,228	-49.7		87	20.6
25	28	25,427	-47.8		88	22.7
20	26	26,905	-46.0		85	24.3
15	18	28,833	-43.0		89	26.0
10						
7						

GUAM, MARIANA IS.
997 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	111	24.7	94	109	2.3
1000	31	88				
950	31	541	23.5	84	125	5.2
900	31	1,011	21.0	80	121	5.6
850	31	1,505	18.4	77	115	4.7
800	31	2,024	15.7	75	109	5.4
750	31	2,568	12.8	74	114	6.8
700	31	3,148	9.6	72	117	7.8
650	31	3,760	6.0	72	111	7.0
600	31	4,412	2.1	74	110	8.0
550	31	5,110	- 1.8	74	106	8.7
500	31	5,864	- 6.1	70	105	8.4
450	31	6,683	-10.8	63	99	8.2
400	31	7,579	-16.2	57	85	9.3
350	31	8,571	-22.8	49	85	10.3
300	31	9,683	-31.1	45	74	11.8
250	31	10,949	-41.2		65	15.5
200	31	12,422	-54.0		60	17.3
175	31	13,265	-61.2		48	18.6
150	31	14,204	-69.1		48	23.3
125	31	15,270	-76.8		55	28.6
100	27	16,551	-75.0		76	23.7
80	27	17,863	-70.4		91	23.9
70	27	18,660	-67.7		93	24.5
60	27	19,596	-64.6		90	24.1
50	27	20,718	-61.2		85	24.9
40	27	22,114	-58.2		84	29.5
30	26	23,940	-54.9		90	34.6
25	25	25,112	-52.8		88	40.2
20	24	26,556	-51.4		86	48.8
15	24	28,439	-48.3		88	59.4
10	21	31,131	-44.7		88	74.6
7	12	33,527	-42.2			

HILO, HAWAII
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	11	21.1	88	237	5.2
1000	30	144	22.7	80	266	2.7
950	30	591	19.7	82	82	4.3
900	30	1,055	16.5	85	85	6.4
850	30	1,540	13.7	81	87	8.0
800	30	2,050	12.0	69	96	8.4
750	30	2,594	10.0	56	107	7.4
700	30	3,162	8.2	43	113	4.7
650	30	3,774	5.7		112	3.3
600	30	4,423	2.7		79	2.9
550	30	5,119	- 1.2		93	2.3
500	30	5,876	- 5.9		145	2.1
450	30	6,688	-11.8		174	2.5
400	30	7,583	-18.0		235	3.7
350	30	8,567	-25.2		249	6.2
300	30	9,668	-33.8		251	11.3
250	30	10,919	-44.0		253	17.1
200	30	12,378	-55.8		253	23.1
175	30	13,216	-62.0		254	23.3
150	30	14,156	-67.6		240	19.4
125	30	15,246	-69.9		221	8.5
100	30	16,569	-70.9		97	10.5
80	29	17,899	-68.0		94	18.6
70	29	18,704	-65.7		93	23.5
60	29	19,645	-63.3		91	26.0
50	28	20,773	-60.4		89	28.6
40	28	22,176	-57.0		87	33.2
30	28	24,012	-53.3		92	39.2
25	28	25,192	-51.3		93	40.8
20	28	26,650	-49.0		91	43.3
15	26	28,559	-46.2		90	45.6
10	12	31,285	-43.1			
7						

HUNTINGTON, W. VA.
988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	17.5	90	185	1.6
1000	30	140				
950	30	583	19.8	74	246	5.2
900	30	1,046	17.4	67	265	8.9
850	30	1,533	14.2	66	271	11.3
800	30	2,044	11.5	61	276	12.6
750	30	2,581	8.8	52	275	14.0
700	30	3,150	5.9	46	273	15.9
650	30	3,753	3.1	39	273	17.3
600	30	4,399	- .6	39	272	19.6
550	30	5,087	- 4.3	40	271	20.8
500	30	5,836	- 8.6	34	272	22.1
450	30	6,640	-13.6	32	274	23.7
400	30	7,532	-19.8		277	27.0
350	29	8,507	-26.8		278	29.7
300	29	9,601	-35.0		280	34.0
250	29	10,848	-44.3		281	40.8
200	29	12,310	-54.2		282	44.9
175	29	13,156	-59.6		283	46.6
150	29	14,110	-63.7		283	42.0
125	29	15,220	-66.1		281	30.1
100	29	16,575	-64.8		283	18.8
80	29	17,949	-61.2		302	9.1
70	29	18,780	-59.5		325	4.3
60	29	19,752	-56.9		61	5.2
50	29	20,912	-55.0		80	8.7
40	29	22,346	-52.5		90	13.8
30	29	24,217	-49.9		85	16.5
25	26	25,416	-48.2		86	18.5
20	21	26,894	-46.1		85	23.1
15	7	28,777	-43.3			
10						
7						

* INTERNAT. FALLS, MINN.
968 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	360	11.4	81	243	1.0
1000	31	88				
950	31	517	12.9	75	233	1.7
900	31	974	11.6	70	260	4.9
850	31	1,451	9.3	71	281	7.6
800	31	1,952	6.6	70	294	10.9
750	31	2,479	4.4	59	287	14.6
700	31	3,040	1.7	58	290	16.5
650	31	3,630	- 1.4	54	291	17.9
600	31	4,269	- 5.0	52	295	21.8
550	31	4,942	- 9.1	48	299	22.9
500	31	5,680	-13.7	48	299	24.1
450	31	6,468	-19.0	42	296	26.2
400	31	7,340	-25.1	40	295	27.8
350	31	8,296	-32.4	37	295	31.7
300	31	9,365	-40.4		293	39.2
250	31	10,586	-48.2		288	44.3
200	31	12,040	-52.6		283	47.6
175	31	12,899	-54.6		283	46.8
150	30	13,871	-55.6		286	39.4
125	30	15,033	-55.7		289	27.4
100	29	16,448	-55.8		287	19.6
80	29	17,874	-54.3		287	12.2
70	28	18,732	-53.4		300	8.0
60	28	19,724	-52.4		321	4.7
50	28	20,906	-51.5		354	3.5
40	27	22,360	-50.3		54	3.1
30	26	24,245	-48.5		68	4.9
25	26	25,448	-47.3		69	5.2
20	26	26,931	-45.2		69	7.2
15	26	28,865	-42.2		80	8.5
10	18	31,642	-37.5		79	11.1
7	6	34,105	-33.8			

JACKSON, MISS.
1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	94	22.1	94	193	1.7
1000	31	136	23.0	91	197	2.3
950	31	584	23.0	81	234	8.9
900	31	1,058	20.4	76	237	8.9
850	31	1,551	17.8	71	246	8.0
800	31	2,069	14.9	66	261	7.0
750	31	2,608	11.8	59	270	7.6
700	31	3,188	8.3	62	275	6.2
650	31	3,790	4.6	61	279	6.6
600	31	4,447	.7	63	282	6.4
550	31	5,134	- 3.1	55	288	6.4
500	31	5,892	- 6.7	44	299	6.8
450	31	6,703	-11.7	37	307	6.2
400	31	7,602	-17.4		314	7.2
350	31	8,589	-24.3		320	8.0
300	31	9,693	-32.5		308	8.4
250	31	10,951	-42.3		303	9.5
200	31	12,419	-54.0		302	10.1
175	31	13,264	-60.1		302	10.7
150	31	14,209	-66.4		308	9.5
125	31	15,298	-71.2		316	7.2
100	31	16,614	-70.8		26	2.7
80	31	17,954	-65.5		88	7.0
70	31	18,771	-62.6		87	10.5
60	31	19,728	-60.1		87	14.8
50	30	20,875	-57.1		87	20.0
40	30	22,297	-54.4		95	22.7
30	29	24,157	-51.0		92	26.2
25	29	25,347	-49.3		90	27.6
20	26	26,819	-47.0		88	29.1
15	9	28,700	-44.8			
10						
7						

JACKSONVILLE, FLA.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	23.7	96	269	1.9
1000	31	145	23.8	89	248	2.5
950	31	596	22.6	80	243	5.4
900	31	1,065	19.9	78	245	5.2
850	31	1,557	17.1	75	244	6.0
800	31	2,074	14.3	72	245	6.6
750	31	2,614	11.5	67	251	6.4
700	31	3,192	8.3	64	254	6.8
650	31	3,796	4.9	60	256	8.0
600	31	4,450	1.1	54	257	8.5
550	31	5,138	- 2.7	50	258	8.0
500	31	5,896	- 7.0	46	260	7.[illegible]
450	31	6,704	-11.6	38	280	6.8
400	31	7,604	-17.2	34	282	7.0
350	31	8,592	-23.9		282	7.2
300	31	9,699	-32.2		291	7.4
250	31	10,959	-42.1		309	7.6
200	29	12,428	-54.2		319	7.8
175	29	13,272	-60.5		331	9.5
150	29	14,217	-66.6		345	11.1
125	29	15,305	-71.6		12	8.7
100	29	16,620	-70.7		61	6.8
80	29	17,957	-66.1		67	11.7
70	29	18,772	-62.7		79	17.3
60	29	19,731	-59.5		84	22.5
50	29	20,880	-56.3		90	26.2
40	29	22,308	-53.0		95	26.8
30	29	24,175	-50.2		94	28.6
25	28	25,370	-48.5		90	28.7
20	27	26,843	-46.1		89	32.6
15	21	28,762	-43.1		85	36.5
10	13	31,517	-38.8		90	45.3
7						

JOHN F. KENNEDY INT. ARPT.NY
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	19.1	79	284	3.3
1000	31	142	18.6	73	287	4.5
950	31	581	16.9	68	281	6.6
900	31	1,041	14.4	65	269	9.7
850	31	1,523	11.6	64	264	13.2
800	31	2,028	9.1	59	270	16.9
750	31	2,561	6.8	47	277	19.8
700	31	3,126	4.1	41	276	22.0
650	31	3,723	1.2	39	273	24.7
600	31	4,366	- 2.2	31	272	27.2
550	31	5,048	- 5.9		272	29.7
500	31	5,794	-10.4		271	33.2
450	31	6,596	-15.3		274	37.7
400	31	7,479	-21.4		274	39.2
350	31	8,449	-28.7		276	43.9
300	31	9,535	-36.8		277	46.8
250	31	10,773	-45.6		284	52.6
200	31	12,232	-53.9		284	55.8
175	31	13,082	-57.9		284	55.2
150	31	14,045	-61.0		281	44.9
125	31	15,173	-62.6		280	33.8
100	31	16,553	-60.9		279	24.7
80	31	17,949	-58.3		285	11.8
70	31	18,792	-56.5		305	6.2
60	31	19,776	-54.7		60	3.1
50	31	20,947	-53.3		79	6.8
40	29	22,391	-51.5		78	11.5
30	29	24,270	-49.1		87	15.7
25	29	25,472	-47.3		87	14.8
20	25	26,962	-45.2		85	16.7
15	12	28,870	-42.7		87	23.5
10	7	31,627	-38.6			
7	5	34,095	-35.6			

JOHNSTON IS., PACIFIC AREA
1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	26.1	77	91	12.0
1000	31	125	25.1	78	89	15.0
950	31	571	21.5	80	90	16.7
900	31	1,042	18.2	80	91	17.7
850	31	1,530	15.5	73	87	15.2
800	31	2,043	13.2	65	89	12.4
750	31	2,583	10.7	55	94	9.7
700	31	3,157	8.2	43	98	7.6
650	30	3,763	4.7	40	89	5.8
600	30	4,414	1.2	37	98	4.9
550	30	5,103	- 2.6	33	104	4.3
500	30	5,859	- 7.2	35	98	2.9
450	30	6,671	-12.1	29	132	2.7
400	30	7,563	-18.2		252	3.7
350	30	8,547	-25.2		281	6.0
300	30	9,647	-33.8		279	14.8
250	30	10,898	-44.1		282	22.9
200	30	12,355	-56.1		277	28.4
175	30	13,190	-62.9		271	30.1
150	30	14,124	-69.8		268	27.2
125	30	15,199	-72.6		247	14.4
100	29	16,514	-71.5		120	7.6
80	28	17,840	-69.1		89	17.3
70	28	18,641	-66.4		89	20.2
60	27	19,583	-63.8		92	22.7
50	27	20,708	-61.3		91	25.1
40	27	22,103	-58.0		90	30.1
30	26	23,936	-54.3		91	37.5
25	25	25,107	-52.3		90	40.4
20	24	26,558	-50.0		90	46.0
15	20	28,446	-47.8		89	52.8
10	17	31,129	-43.5			
7						

KEY WEST, FLORIDA
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	3	27.9	81	119	4.5
1000	29	134	26.9	82	119	6.6
950	29	587	23.7	85	122	8.0
900	29	1,060	20.9	79	126	7.6
850	29	1,554	18.1	73	121	6.4
800	29	2,072	15.3	63	120	5.4
750	29	2,613	12.4	58	107	4.1
700	29	3,194	9.4	49	99	4.7
650	29	3,800	5.8	47	88	5.1
600	29	4,457	2.1	50	95	4.3
550	29	5,148	- 1.9	42	81	4.5
500	29	5,907	- 6.4	39	91	5.4
450	29	6,716	-11.6	40	73	7.0
400	29	7,618	-17.7	41	75	7.6
350	28	8,602	-24.7	32	83	8.5
300	28	9,706	-32.9	31	74	11.5
250	28	10,964	-42.6		71	15.9
200	28	12,433	-54.4		71	16.9
175	28	13,277	-60.6		68	17.1
150	28	14,223	-66.7		62	18.3
125	28	15,311	-72.0		59	18.8
100	28	16,626	-71.4		76	17.7
80	27	17,954	-68.0		83	19.8
70	27	18,760	-65.1		78	23.9
60	27	19,706	-61.7		84	28.9
50	27	20,841	-59.1		89	33.8
40	26	22,251	-55.9		95	34.0
30	24	24,099	-51.5		92	33.8
25	24	25,289	-48.9		88	34.6
20	23	26,763	-47.5		89	33.8
15	22	28,674	-45.1		81	37.1
10	19	31,405	-40.7		91	46.4
7	13	33,861	-36.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1964

KING SALMON, ALASKA
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	9.2	90	157	2.5
1000	30	69			199	1.2
950	30	495	8.6	81	201	3.5
900	30	941	6.0	81	182	2.7
850	30	1,408	3.1	81	181	5.1
800	30	1,897	.4	79	178	5.4
750	30	2,415	- 2.3	75	196	5.2
700	30	2,959	- 5.1	67	204	3.7
650	30	3,534	- 8.1	59	225	4.5
600	30	4,157	-11.5	53	236	4.7
550	30	4,818	-15.1	51	238	5.8
500	30	5,535	-19.4	46	252	8.2
450	30	6,308	-24.5	47	256	10.3
400	30	7,160	-30.4	49	262	13.8
350	30	8,096	-37.2		264	16.5
300	30	9,146	-43.8		267	19.4
250	30	10,358	-47.5		267	27.6
200	30	11,828	-48.8		271	29.9
175	29	12,705	-48.1		270	23.3
150	29	13,718	-49.4		270	20.0
125	29	14,909	-50.5		270	17.3
100	29	16,363	-50.3		266	13.4
80	29	17,818	-50.6		268	8.2
70	28	18,689	-50.2		260	6.2
60	28	19,696	-50.0		253	5.1
50	28	20,888	-49.6		269	2.9
40	28	22,348	-49.6		198	.2
30	27	24,232	-48.6		69	2.3
25	26	25,433	-47.6		80	2.7
20	23	26,906	-46.4		65	3.1
15	16	28,807	-44.7		63	2.7
10	6	31,561	-41.5			
7						
5						
4						

+ KOROR, CAROLINE IS.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	27.7	84	242	2.5
1000	31	86	27.2	83	246	3.1
950	31	536	23.5	80	257	6.6
900	31	1,010	20.6	76	256	6.8
850	31	1,504	17.7	74	263	5.4
800	31	2,020	14.8	71	278	4.5
750	31	2,561	11.8	69	277	3.7
700	31	3,140	8.9	67	226	1.9
650	31	3,749	5.4	68	139	2.3
600	31	4,403	1.9	64	102	6.0
550	31	5,097	- 1.9	62	106	7.6
500	31	5,853	- 6.1	59	109	8.7
450	31	6,667	-10.8	54	105	11.8
400	31	7,568	-16.6	48	97	14.6
350	31	8,559	-23.3	42	91	15.0
300	31	9,668	-31.7	36	89	20.2
250	31	10,931	-41.9		80	28.7
200	30	12,402	-54.5		72	38.1
175	30	13,243	-61.6		70	40.6
150	30	14,181	-69.0		68	40.8
125	30	15,253	-75.2		76	32.4
100	29	16,544	-74.5		77	18.5
80	28	17,861	-68.2		86	15.0
70	28	18,666	-65.6		84	9.9
60	28	19,606	-63.8		67	4.9
50	27	20,731	-61.2		55	2.9
40	27	22,124	-58.9		86	5.6
30	26	23,947	-55.2		93	21.2
25	26	25,115	-53.6		91	38.9
20	25	26,561	-50.3		92	58.7
15	18	28,462	-47.0		94	62.2
10	6	31,196	-41.8			
7						
5						
4						

KOTZEBUE, ALASKA
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	10.5	84	43	1.7
1000	31	60			55	1.4
950	31	488	10.0	68	138	3.9
900	31	936	7.0	71	171	4.1
850	31	1,404	3.9	71	181	3.7
800	31	1,894	.7	73	173	4.1
750	31	2,410	- 2.2	66	176	4.7
700	31	2,955	- 5.4	59	178	5.1
650	31	3,531	- 8.8	54	189	5.8
600	31	4,150	-12.5	50	194	5.6
550	31	4,809	-16.5	49	207	4.7
500	31	5,520	-21.1	44	236	5.2
450	31	6,287	-26.4	44	251	5.2
400	31	7,131	-32.4	41	256	7.2
350	31	8,060	-38.9		261	9.1
300	31	9,101	-46.0		263	10.7
250	31	10,297	-51.3		266	14.2
200	31	11,752	-49.2		265	11.5
175	31	12,629	-48.5		274	8.4
150	31	13,644	-48.4		268	7.4
125	31	14,844	-48.3		256	4.7
100	31	16,314	-48.1		245	3.7
80	31	17,785	-47.9		217	2.5
70	31	18,666	-47.8		198	2.1
60	31	19,684	-47.7		175	1.4
50	31	20,888	-47.6		126	1.9
40	31	22,363	-47.3		90	3.5
30	31	24,267	-46.9		83	5.4
25	31	25,477	-46.4		80	6.8
20	31	26,963	-45.2		82	7.4
15	30	28,902	-42.7		76	7.2
10	26	31,655	-38.9		77	7.4
7	10	34,151	-35.2			
5						
4						

KWAJALEIN, MARSHALL IS.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	26.6	81	90	6.6
1000	30	99	26.3	80	95	7.2
950	30	550	23.2	83	91	9.1
900	30	1,022	20.4	79	98	10.3
850	30	1,515	17.8	76	98	11.7
800	30	2,032	15.1	74	94	12.0
750	30	2,578	12.4	70	92	13.2
700	30	3,155	9.4	66	94	14.2
650	30	3,767	5.8	69	96	15.0
600	30	4,419	1.9	67	95	14.8
550	30	5,117	- 2.0	68	95	14.6
500	30	5,869	- 6.3	67	91	14.8
450	30	6,686	-11.3	60	93	13.2
400	30	7,580	-16.9	53	91	11.5
350	30	8,572	-22.6	44	93	12.0
300	30	9,684	-31.2	44	92	12.2
250	29	10,949	-41.8	32	87	12.6
200	29	12,421	-54.2	31	77	12.8
175	29	13,263	-61.8	31	73	12.4
150	29	14,199	-69.7	29	66	9.1
125	29	15,267	-75.7		35	4.3
100	28	16,557	-74.8		90	8.5
80	27	17,870	-69.9		95	10.7
70	25	18,671	-66.9		90	9.9
60	25	19,606	-64.6		93	5.4
50	25	20,727	-62.2		100	3.1
40	25	22,117	-59.2		76	7.8
30	24	23,932	-56.3		84	24.7
25	22	25,102	-53.6		88	39.0
20	22	26,544	-50.8		89	56.9
15	21	28,431	-47.8		88	69.2
10	21	31,129	-43.9		89	78.1
7	17	33,556	-39.1		89	92.1
5	12	35,890	-34.9		90	89.9
4	7	37,446	-34.0			

LAKE CHARLES, LA.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	24.6	92	104	1.7
1000	31	132	26.1	85	190	3.5
950	31	586	23.9	77	208	10.9
900	31	1,058	21.2	69	200	11.8
850	31	1,552	18.5	62	196	10.5
800	31	2,070	15.4	58	196	7.2
750	31	2,612	12.3	54	207	3.9
700	31	3,191	9.0	49	228	.8
650	31	3,799	5.2	51	267	1.0
600	31	4,451	1.2	52	279	1.7
550	31	5,143	- 2.6	48	329	1.7
500	31	5,898	- 6.9	41	340	1.4
450	30	6,710	-11.4	34	335	1.6
400	30	7,608	-17.1		357	3.3
350	30	8,597	-23.9		352	5.1
300	30	9,704	-32.2		352	5.8
250	30	10,964	-42.1		349	5.8
200	30	12,436	-53.7		358	6.0
175	30	13,282	-59.9		5	4.7
150	30	14,230	-66.0		349	4.3
125	30	15,319	-71.4		44	3.9
100	30	16,634	-71.4		67	6.0
80	30	17,970	-65.6		90	11.8
70	30	18,786	-63.2		94	13.2
60	30	19,741	-60.4		85	18.6
50	30	20,887	-57.0		87	23.5
40	30	22,308	-54.5		90	26.6
30	30	24,167	-51.0		92	29.3
25	29	25,359	-48.6		89	31.1
20	27	26,833	-46.4		86	31.3
15	25	28,754	-43.4		83	35.9
10	16	31,491	-38.9			
7						
5						
4						

LANDER, WYO.
830 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,696	13.2	52	248	3.7
1000	31	91				
950	31	531				
900	31	999				
850	31	1,491				
800	31	2,007	15.5	35	270	2.9
750	31	2,546	12.4	36	281	5.8
700	31	3,127	8.7	36	268	11.8
650	31	3,727	4.2	40	273	15.0
600	31	4,382	- 1.0	43	276	18.6
550	31	5,060	- 6.0	41	275	21.4
500	31	5,810	-10.7	31	276	21.6
450	31	6,607	-16.1		274	22.9
400	31	7,491	-22.3		273	28.0
350	31	8,458	-29.5		273	31.5
300	31	9,541	-37.5		269	36.7
250	31	10,777	-46.0		265	44.7
200	31	12,233	-54.1		262	51.1
175	31	13,083	-57.7		264	49.0
150	31	14,048	-61.2		267	42.7
125	31	15,172	-63.6		267	30.9
100	31	16,538	-63.9		267	17.9
80	31	17,917	-60.3		275	6.8
70	31	18,757	-57.8		254	1.7
60	31	19,730	-55.9		87	1.7
50	31	20,894	-54.2		86	7.2
40	31	22,330	-52.3		86	9.7
30	31	24,203	-49.4		83	12.2
25	30	25,402	-47.8		89	14.4
20	27	26,884	-45.5		89	16.5
15	26	28,820	-42.0		89	19.4
10	5	31,599	-38.8			
7						

LAS VEGAS, NEV.
936 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	25.8	33	218	5.2
1000	31	70				
950	31	525				
900	31	1,008	27.4	29	209	4.9
850	31	1,511	24.2	32	234	6.0
800	31	2,037	20.2	36	225	7.4
750	31	2,582	15.8	40	212	8.0
700	31	3,171	11.1	43	194	6.6
650	31	3,777	6.4	44	189	7.0
600	31	4,437	1.9	42	206	8.0
550	31	5,122	- 2.4	36	234	7.2
500	31	5,884	- 7.4		253	8.9
450	31	6,690	-12.8		257	9.7
400	31	7,586	-18.8		254	11.7
350	31	8,566	-26.3		250	14.6
300	31	9,663	-34.2		243	18.8
250	31	10,914	-43.6		236	23.1
200	30	12,381	-53.9		234	26.2
175	30	13,227	-59.5		237	28.0
150	30	14,179	-64.7		246	26.0
125	29	15,285	-68.5		257	19.0
100	29	16,621	-68.0		248	7.6
80	29	17,973	-63.8		108	1.2
70	29	18,798	-60.7		101	3.9
60	28	19,763	-57.6		91	7.0
50	28	20,921	-55.3		85	11.5
40	28	22,350	-53.5		89	15.5
30	26	24,211	-50.6		87	21.0
25	25	25,403	-49.0		90	23.7
20	22	26,873	-46.6		87	26.0
15	15	28,774	-44.1		93	29.1
10						
7						

* LIHUE, HAWAII
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	36	24.1	77	55	8.4
1000	31	153	23.3	78	58	11.3
950	31	594	19.5	89	71	15.7
900	31	1,064	16.2	87	78	15.7
850	31	1,549	13.4	79	82	15.5
800	31	2,058	11.2	71	87	14.4
750	31	2,592	9.4	53	90	11.8
700	31	3,167	8.0	37	97	9.1
650	31	3,770	5.3	31	95	6.8
600	31	4,425	1.7	29	104	5.2
550	31	5,114	- 2.1	25	117	2.7
500	31	5,873	- 6.9	25	192	2.3
450	31	6,678	-12.6	28	222	4.9
400	31	7,575	-19.1	31	243	8.4
350	31	8,554	-26.6	35	250	12.8
300	31	9,648	-35.4	35	258	18.1
250	31	10,890	-45.4		256	24.9
200	31	12,341	-56.7		255	30.7
175	31	13,176	-62.4		252	31.5
150	31	14,116	-66.3		248	24.7
125	31	15,217	-67.7		231	11.7
100	31	16,551	-69.9		120	5.2
80	31	17,882	-68.2		93	16.5
70	31	18,686	-65.8		93	23.1
60	31	19,628	-63.2		92	25.8
50	29	20,755	-60.5		94	29.1
40	29	22,157	-57.2		91	30.9
30	28	23,991	-53.8		92	37.3
25	26	25,168	-51.8		93	39.0
20	26	26,620	-49.8		95	39.4
15	24	28,519	-47.1		95	42.2
10	21	31,211	-43.8		91	41.2
7	7	33,638	-40.1			

LITTLE ROCK, ARK.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	21.3	89	267	.6
1000	31	130	21.9	86	269	.6
950	31	578	22.8	72	233	7.6
900	31	1,049	20.7	67	239	9.3
850	31	1,542	18.0	67	249	9.1
800	31	2,060	15.3	62	251	9.1
750	31	2,603	11.8	62	260	8.9
700	31	3,180	8.2	60	274	8.7
650	31	3,786	4.5	57	278	9.5
600	31	4,438	.8	49	273	8.5
550	31	5,127	- 3.0	44	271	10.1
500	31	5,884	- 7.0	38	278	11.5
450	31	6,697	-11.6	28	287	13.0
400	31	7,593	-17.6		288	14.8
350	31	8,580	-24.4		289	16.9
300	31	9,685	-32.4		292	20.0
250	31	10,945	-42.2		298	21.0
200	31	12,416	-53.8		299	22.7
175	31	13,262	-59.9		290	20.8
150	31	14,212	-65.5		292	20.4
125	31	15,309	-69.3		290	16.3
100	31	16,638	-69.0		284	7.4
80	31	17,986	-64.5		77	3.3
70	30	18,806	-61.4		85	8.2
60	30	19,768	-58.6		88	11.7
50	30	20,921	-56.0		89	16.1
40	30	22,349	-53.2		89	18.8
30	30	24,214	-50.4		89	21.0
25	27	25,407	-48.9		87	24.1
20	23	26,884	-46.4		80	26.6
15	17	28,809	-44.3			
10	5	31,515	-42.1			
7						

MCGRATH, ALASKA
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	10.0	89	220	2.3
1000	31	68			275	2.9
950	31	494	10.2	77	239	1.9
900	31	944	7.5	76	208	2.9
850	31	1,412	4.6	78	195	3.3
800	31	1,904	1.3	80	178	4.7
750	31	2,414	- 1.9	77	180	6.8
700	31	2,967	- 5.1	74	170	6.2
650	31	3,537	- 8.4	72	159	5.8
600	31	4,163	-12.1	66	159	6.6
550	31	4,816	-16.2	57	156	7.0
500	31	5,535	-20.9	53	149	4.7
450	31	6,295	-25.7	46	127	4.7
400	31	7,151	-31.5	42	106	2.7
350	31	8,083	-38.1		45	1.4
300	31	9,128	-45.5		307	3.5
250	31	10,328	-50.8		295	7.4
200	31	11,783	-49.5		297	10.5
175	31	12,660	-48.6		290	10.7
150	31	13,673	-49.0		280	9.7
125	31	14,869	-49.3		274	8.2
100	30	16,328	-49.4		270	6.6
80	30	17,791	-49.2		265	5.2
70	30	18,666	-49.1		269	4.1
60	30	19,678	-49.0		266	2.1
50	30	20,875	-48.9		156	1.2
40	29	22,341	-48.8		78	2.7
30	29	24,234	-48.0		81	4.3
25	29	25,438	-47.3		82	5.8
20	25	26,931	-45.5		76	6.8
15	20	28,854	-43.4		69	6.0
10	6	31,622	-40.6			
7						

MAJURO, MARSHALL IS.
+ 1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	28.4	78	106	6.0
1000	31	91	27.2	77	103	6.6
950	31	541	23.0	78	113	9.9
900	31	1,014	20.1	76	112	12.4
850	31	1,507	17.6	74	108	13.8
800	31	2,024	15.0	71	105	12.8
750	31	2,567	12.2	68	96	14.2
700	31	3,146	9.1	67	95	15.2
650	31	3,756	5.7	64	93	15.5
600	31	4,409	2.2	59	91	16.3
550	31	5,104	- 1.5	56	89	15.5
500	31	5,862	- 5.6	51	86	15.7
450	31	6,682	-10.6	42	92	14.6
400	31	7,579	-15.9	35	97	14.2
350	31	8,572	-22.9	33	94	13.8
300	31	9,683	-31.2	31	94	15.5
250	31	10,949	-41.6		90	14.2
200	31	12,421	-54.2		80	12.0
175	31	13,264	-61.2		78	8.9
150	31	14,204	-68.6		38	3.7
125	31	15,277	-75.1		86	1.4
100	31	16,570	-73.7		87	8.7
80	30	17,892	-68.6		97	7.8
70	29	18,699	-65.1		121	4.1
60	29	19,641	-63.3		211	2.1
50	29	20,770	-60.8		237	2.7
40	29	22,165	-59.0		159	2.3
30	27	23,985	-55.0		92	15.9
25	26	25,156	-53.1		92	34.6
20	23	26,603	-50.4		91	53.6
15	21	28,493	-47.4		93	63.3
10	12	31,205	-43.6			
7						

* MARCUS IS., N. PACIFIC
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	27.1	82	119	6.0
1000	31	98	26.4	81	119	7.2
950	31	545	22.7	87	123	8.9
900	31	1,021	19.9	80	125	8.0
850	31	1,514	17.2	79	115	6.6
800	31	2,030	14.7	71	103	5.4
750	31	2,569	12.1	65	106	4.7
700	31	3,150	9.0	60	90	3.7
650	31	3,757	5.5	59	90	3.3
600	31	4,412	1.9	53	85	3.7
550	31	5,107	- 1.9	50	68	3.5
500	31	5,862	- 6.1	44	62	5.1
450	31	6,674	-11.0	43	56	6.6
400	31	7,575	-16.8	39	52	7.4
350	31	8,565	-23.6	35	43	9.1
300	31	9,673	-32.0	34	40	12.0
250	31	10,933	-42.2		38	15.0
200	31	12,403	-54.3		38	18.6
175	31	13,246	-61.0		35	19.2
150	31	14,189	-67.4		39	18.6
125	30	15,276	-71.9		56	23.3
100	30	16,590	-71.7		72	22.5
80	28	17,918	-68.7		79	22.5
70	27	18,723	-66.2		80	25.4
60	26	19,663	-63.7		78	27.2
50	24	20,791	-60.7		83	32.6
40	23	22,188	-57.8		89	35.2
30	21	24,020	-53.9		84	40.0
25	20	25,196	-51.3		86	43.3
20	20	26,656	-48.4		90	41.0
15	18	28,552	-47.3		92	39.6
10	15	31,267	-43.8		91	41.6
7	5	33,701	-40.0			

MEDFORD, OREG.
970 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	401	13.3	74	279	1.4
1000	30	138				
950	30	577	15.2	62	293	2.5
900	30	1,031	14.1	61	297	2.5
850	30	1,512	12.4	57	266	.8
800	30	2,020	11.4	40	241	4.9
750	30	2,555	8.7	33	245	9.1
700	30	3,124	6.0	30	258	12.2
650	30	3,723	2.8	26	259	15.7
600	30	4,371	- 1.2	28	262	19.2
550	30	5,049	- 5.5		259	22.3
500	30	5,801	-10.2		263	25.3
450	30	6,601	-15.8		262	23.3
400	30	7,484	-22.0		259	25.8
350	30	8,452	-29.4		258	28.4
300	30	9,533	-37.8		258	29.7
250	30	10,767	-46.5		257	32.6
200	30	12,219	-54.6		259	35.0
175	29	13,065	-57.6		259	34.6
150	29	14,031	-61.0		255	31.3
125	29	15,158	-62.6		259	24.7
100	29	16,535	-62.1		258	14.8
80	29	17,921	-59.7		268	3.1
70	29	18,758	-57.9		352	.6
60	29	19,734	-55.7		80	3.7
50	28	20,898	-54.0		90	6.8
40	27	22,334	-52.0		88	8.5
30	27	24,209	-49.4		88	13.6
25	27	25,407	-47.9		90	15.2
20	25	26,882	-45.8		92	18.6
15	20	28,806	-43.4		89	20.0
10	15	31,565	-38.4		87	24.5
7	6	34,039	-34.4			

* MIAMI, FLA.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	26.0	87	160	2.5
1000	31	135	26.2	82	127	4.7
950	31	587	23.0	83	152	8.0
900	31	1,058	20.2	75	158	7.8
850	31	1,551	17.5	64	155	6.4
800	31	2,067	15.0	57	158	6.0
750	31	2,607	12.1	51	158	5.6
700	31	3,187	9.1	46	152	4.9
650	31	3,792	5.7	42	150	2.9
600	31	4,449	1.9	43	124	2.5
550	31	5,137	- 2.2	42	126	2.5
500	31	5,898	- 6.7	38	105	3.1
450	31	6,706	-11.8	39	99	2.9
400	31	7,607	-17.5	37	102	5.1
350	31	8,594	-24.4	36	90	7.2
300	31	9,699	-32.5	32	77	11.1
250	31	10,958	-42.4		71	12.6
200	31	12,427	-54.3		71	15.9
175	30	13,267	-60.7		64	15.2
150	30	14,212	-67.1		56	16.7
125	30	15,297	-72.2		58	18.8
100	30	16,608	-71.9		73	16.3
80	30	17,934	-68.0		85	19.2
70	30	18,741	-65.2		81	23.3
60	30	19,686	-61.9		85	28.4
50	30	20,821	-59.0		90	32.4
40	30	22,233	-55.3		96	35.0
30	27	24,080	-52.0		95	34.6
25	26	25,264	-50.0		91	35.4
20	23	26,733	-47.3		87	35.4
15	21	28,641	-45.3		84	36.9
10	13	31,364	-42.4		88	43.1
7	5	33,820	-35.6			

* MIDLAND, TEXAS
915 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	874	22.9	63	168	4.9
1000	29	87				
950	29	541				
900	29	1,017	23.4	58	174	9.7
850	29	1,516	21.6	54	194	15.5
800	29	2,040	19.0	49	213	9.1
750	29	2,591	15.2	51	217	3.7
700	29	3,173	11.3	47	228	2.1
650	29	3,786	6.7	50	140	1.2
600	29	4,439	2.2	47	111	2.5
550	29	5,132	- 2.3	45	102	3.7
500	29	5,887	- 6.8	44	176	2.7
450	29	6,699	-11.7	38	277	1.7
400	29	7,596	-17.6	36	269	2.7
350	29	8,582	-24.4	33	262	3.7
300	29	9,686	-32.7	34	273	5.2
250	29	10,943	-42.7		266	7.2
200	29	12,411	-54.3		280	8.4
175	28	13,251	-60.6		279	8.5
150	28	14,196	-66.6		259	5.2
125	28	15,283	-71.8		261	5.1
100	28	16,593	-72.2		321	2.7
80	28	17,924	-66.8		92	8.4
70	28	18,747	-63.4		96	11.1
60	28	19,691	-60.6		90	14.4
50	28	20,833	-57.9		90	18.6
40	28	22,249	-55.2		89	22.5
30	27	24,097	-52.2		88	27.4
25	27	25,280	-50.8		90	29.1
20	26	26,741	-48.5		91	31.7
15	24	28,653	-45.1		86	32.4
10	23	31,384	-41.0		85	38.9
7	10	33,857	-37.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1964

MONTGOMERY, ALA.
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	22.2	91	27	.8
1000	31	140	22.7	87	50	.6
950	31	592	23.0	76	263	2.7
900	31	1,060	20.4	74	261	5.1
850	31	1,552	17.7	69	270	6.6
800	31	2,069	15.0	66	277	5.4
750	31	2,614	12.0	62	279	5.8
700	31	3,189	8.8	58	283	6.2
650	31	3,797	5.2	58	277	7.0
600	31	4,450	1.4	58	272	8.0
550	31	5,144	-2.2	49	283	7.8
500	31	5,898	-6.6	46	286	6.4
450	31	6,715	-11.3	40	292	7.4
400	31	7,610	-16.8	35	310	8.7
350	31	8,599	-23.7		315	9.7
300	31	9,707	-32.0		314	9.7
250	31	10,967	-42.1		305	10.7
200	31	12,438	-53.9		297	10.7
175	31	13,283	-60.0		298	12.6
150	31	14,230	-66.2		310	13.0
125	31	15,320	-70.7		323	8.5
100	31	16,640	-70.6		36	1.9
80	31	17,979	-65.3		83	8.0
70	31	18,804	-62.0		77	10.9
60	31	19,757	-59.4		78	15.0
50	31	20,906	-56.7		85	20.0
40	31	22,331	-53.4		96	23.3
30	30	24,190	-50.9		91	25.1
25	30	25,382	-48.9		91	27.2
20	29	26,853	-47.1		85	29.5
15	22	28,756	-44.5		84	33.2
10	8	31,486	-41.4			
7						

NANTUCKET, MASS.
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	14	17.8	87	237	2.9
1000	30	140	17.4	80	216	5.2
950	30	577	15.7	67	241	6.4
900	30	1,036	13.6	63	257	8.4
850	30	1,516	10.7	58	268	13.0
800	30	2,019	8.3	54	275	15.5
750	30	2,549	5.5	47	272	19.0
700	30	3,113	3.1	41	272	22.9
650	30	3,708	.4	35	270	24.1
600	30	4,349	-3.0		270	27.8
550	30	5,029	-6.9		270	30.7
500	29	5,773	-11.5		270	34.2
450	29	6,568	-16.5		271	36.9
400	29	7,451	-22.4		273	39.6
350	29	8,418	-29.4		274	43.3
300	28	9,496	-37.5		277	47.4
250	28	10,733	-45.6		277	54.0
200	28	12,193	-53.3		275	54.6
175	28	13,046	-56.8		273	54.2
150	27	14,014	-59.3		272	45.6
125	27	15,151	-60.8		271	37.1
100	27	16,543	-59.2		271	24.1
80	27	17,948	-57.1		283	9.3
70	27	18,795	-55.3		270	2.1
60	27	19,784	-53.7		110	3.5
50	27	20,959	-52.5		102	8.0
40	27	22,407	-50.5		93	12.8
30	27	24,294	-47.9		91	16.7
25	27	25,501	-46.2		88	16.7
20	26	26,993	-43.9		91	19.4
15	24	28,934	-40.8		95	23.5
10	17	31,717	-36.2		91	24.3
7	9	34,198	-31.6			

NASHVILLE, TENN.
995 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	20.0	93	157	1.9
1000	31	137				
950	31	585	21.2	74	238	5.1
900	31	1,050	18.9	71	256	6.2
850	31	1,540	15.9	68	263	8.4
800	31	2,054	13.3	58	273	10.1
750	31	2,590	10.5	53	273	11.8
700	31	3,167	7.4	49	277	12.4
650	31	3,768	3.7	51	275	13.0
600	31	4,419	.1	49	274	14.4
550	31	5,106	-3.5	38	273	14.4
500	31	5,861	-7.4	40	268	16.3
450	31	6,670	-12.2		280	17.5
400	31	7,565	-17.9		284	20.0
350	31	8,549	-25.0		288	22.9
300	31	9,651	-33.3		286	27.4
250	31	10,905	-43.0		288	30.5
200	31	12,372	-54.1		289	34.2
175	31	13,216	-59.9		285	33.0
150	31	14,166	-65.3		288	30.5
125	31	15,263	-69.1		283	23.3
100	31	16,600	-67.2		282	13.6
80	31	17,954	-64.0		303	5.1
70	31	18,784	-61.3		47	5.2
60	31	19,739	-58.6		79	9.3
50	31	20,892	-56.0		86	12.8
40	31	22,319	-53.3		89	15.9
30	31	24,186	-50.3		87	19.4
25	31	25,378	-49.0		86	20.8
20	31	26,849	-47.1		84	23.1
15	30	28,765	-44.6		85	27.6
10	27	31,498	-40.8		85	31.5
7	12	33,907	-38.8			

NOME, ALASKA
1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	10.2	83	356	3.3
1000	30	52			20	2.3
950	30	481	9.2	75	116	3.7
900	30	927	6.4	76	146	5.6
850	30	1,394	3.7	79	154	7.0
800	30	1,885	.8	80	156	8.4
750	30	2,397	-2.0	75	156	8.0
700	30	2,948	-4.9	69	159	6.8
650	30	3,522	-8.4	63	154	6.0
600	30	4,146	-11.6	55	161	6.2
550	30	4,802	-15.5	48	166	4.9
500	30	5,522	-19.9	43	193	3.3
450	30	6,289	-24.9	42	202	4.3
400	30	7,144	-30.9		238	4.7
350	30	8,079	-37.7		240	6.4
300	30	9,125	-45.2		250	8.0
250	30	10,325	-51.1		251	10.3
200	30	11,777	-49.8		260	11.8
175	30	12,652	-49.2		262	8.5
150	30	13,663	-49.1		270	8.2
125	30	14,859	-49.1		257	6.2
100	29	16,322	-48.6		242	5.8
80	28	17,786	-48.1		232	5.2
70	28	18,665	-48.1		216	2.9
60	27	19,683	-48.2		217	2.7
50	27	20,884	-48.2		264	.2
40	27	22,354	-48.0		135	2.1
30	27	24,253	-47.5		108	3.1
25	26	25,457	-46.7		101	4.7
20	26	26,939	-45.8		82	5.2
15	21	28,855	-43.8		87	5.1
10	13	31,552	-41.1		63	3.3
7	7	34,006	-37.1			

NORFOLK, VA.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	21.1	86	181	1.4
1000	31	146	21.1	73	211	1.7
950	31	589	19.0	67	282	3.1
900	31	1,054	16.6	65	291	5.1
850	31	1,539	14.1	62	274	6.6
800	31	2,049	11.3	61	266	10.3
750	31	2,580	8.3	57	263	13.0
700	31	3,154	5.7	45	269	15.5
650	31	3,754	2.9	40	269	20.2
600	31	4,403	-.1	35	266	21.0
550	31	5,086	-3.9	32	266	22.5
500	31	5,842	-8.2		263	23.3
450	31	6,645	-13.2		265	25.8
400	31	7,541	-19.2		268	28.2
350	31	8,521	-26.1		270	30.3
300	31	9,618	-34.1		274	32.6
250	31	10,868	-43.9		275	35.4
200	31	12,329	-54.7		278	41.4
175	31	13,172	-59.9		280	39.4
150	31	14,124	-64.5		283	35.4
125	31	15,228	-67.6		281	26.2
100	31	16,576	-65.4		280	17.3
80	31	17,945	-61.7		309	7.2
70	31	18,780	-58.7		50	3.9
60	31	19,751	-56.7		83	9.3
50	30	20,911	-54.7		83	15.3
40	30	22,347	-51.8		90	18.8
30	29	24,222	-49.1		90	21.0
25	29	25,424	-46.9		89	24.9
20	27	26,906	-44.7		90	25.4
15	19	28,832	-42.2		90	31.7
10						
7						

NORTH PLATTE, NEBR.
916 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	15.6	82	180	.8
1000	31	92				
950	31	537				
900	31	996	16.9	76	186	3.7
850	31	1,484	16.8	63	227	9.1
800	31	2,000	15.2	53	264	9.1
750	31	2,545	13.1	42	280	11.5
700	31	3,122	9.2	47	286	14.0
650	31	3,730	5.1	46	279	16.5
600	31	4,379	.2	50	277	18.6
550	31	5,066	-4.7	48	280	20.6
500	31	5,815	-9.4	49	276	22.9
450	31	6,619	-14.6	42	275	26.2
400	31	7,505	-20.1		273	28.4
350	31	8,480	-27.3		275	30.1
300	31	9,571	-35.9		278	32.6
250	31	10,813	-45.2		278	39.0
200	31	12,271	-54.3		276	43.5
175	31	13,119	-58.5		275	41.8
150	31	14,079	-62.5		276	37.5
125	31	15,196	-65.1		277	29.5
100	31	16,555	-64.9		276	16.5
80	31	17,930	-60.3		275	6.4
70	31	18,771	-57.9		275	2.1
60	30	19,742	-56.1		103	2.1
50	30	20,906	-54.0		92	5.8
40	30	22,346	-51.8		89	10.5
30	28	24,220	-49.9		89	11.5
25	28	25,416	-48.3		84	13.6
20	28	26,893	-45.9		85	15.3
15	26	28,818	-43.5		83	19.0
10	21	31,567	-39.9		83	22.9
7	7	34,075	-36.0			
5						

* OAKLAND, CALIF.
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	14.1	84	258	3.9
1000	31	113	13.5	86	247	4.1
950	31	559	15.6	66	254	5.2
900	31	1,012	21.1	35	296	8.0
850	31	1,505	19.8	30	276	5.2
800	31	2,024	16.8	31	241	4.9
750	31	2,562	13.6	32	218	5.8
700	31	3,148	10.1	34	214	7.0
650	31	3,753	6.1	36	225	7.8
600	31	4,411	1.7	36	229	8.7
550	31	5,094	-2.9	35	238	8.5
500	31	5,856	-8.0	33	242	10.7
450	31	6,660	-13.7	31	241	13.0
400	31	7,553	-20.3	30	240	15.7
350	31	8,528	-27.7	30	241	16.3
300	31	9,617	-36.0	29	240	19.0
250	31	10,860	-45.0		237	21.4
200	31	12,321	-54.1		239	24.3
175	31	13,169	-58.7		243	24.3
150	31	14,127	-63.0		247	24.3
125	31	15,239	-66.5		253	18.8
100	31	16,588	-66.3		268	10.5
80	31	17,951	-63.1		316	1.6
70	31	18,776	-60.7		82	2.3
60	30	19,742	-58.0		88	5.1
50	30	20,898	-55.9		92	8.2
40	30	22,325	-53.7		89	12.4
30	30	24,185	-51.4		95	16.7
25	29	25,375	-50.2		94	18.5
20	29	26,838	-48.4		90	21.4
15	27	28,747	-45.7		92	25.1
10	22	31,470	-41.4		90	28.0
7	10	33,903	-37.7			
5						

OKLAHOMA CITY, OKLA.
968 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	21.7	77	152	6.2
1000	31	109				
950	31	558	22.8	69	177	11.3
900	31	1,028	22.5	59	208	15.5
850	31	1,525	20.1	54	229	14.4
800	31	2,046	16.9	51	240	13.2
750	31	2,592	13.3	53	252	8.9
700	31	3,170	9.4	54	268	8.2
650	31	3,778	5.6	52	287	7.2
600	31	4,432	1.2	51	273	7.8
550	31	5,120	-3.2	47	283	9.5
500	31	5,875	-7.7	41	279	10.9
450	31	6,680	-12.5		281	11.3
400	31	7,579	-17.9		278	13.4
350	30	8,563	-24.8		277	16.1
300	30	9,665	-33.1		277	21.2
250	30	10,921	-43.0		273	25.1
200	30	12,389	-54.1		267	26.2
175	30	13,234	-60.0		268	28.0
150	30	14,184	-65.5		272	28.0
125	30	15,281	-69.5		278	20.2
100	30	16,609	-69.1		273	10.3
80	30	17,959	-64.5		77	1.7
70	30	18,784	-61.6		91	5.8
60	30	19,741	-58.6		94	9.7
50	30	20,893	-56.2		89	13.6
40	30	22,318	-53.5		88	18.5
30	29	24,178	-50.9		87	21.4
25	24	25,359	-49.3		90	22.3
20	18	26,835	-47.5		88	24.5
15	7	28,735	-44.5			
10						
7						
5						

OMAHA, NEBR.
966 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	16.3	87	182	3.1
1000	31	110				
950	31	551	18.0	75	188	5.2
900	31	1,013	17.5	60	230	10.7
850	31	1,500	15.1	58	243	12.4
800	31	2,012	13.0	54	256	12.8
750	31	2,547	10.1	52	267	14.4
700	31	3,123	6.8	44	280	16.1
650	31	3,724	3.1	46	281	20.0
600	31	4,373	-.8	46	278	22.9
550	31	5,056	-4.7	39	279	26.4
500	31	5,807	-9.2	34	278	27.8
450	31	6,613	-14.1		281	28.2
400	31	7,500	-20.0		280	30.9
350	31	8,476	-27.1		278	38.5
300	31	9,568	-35.4		278	39.6
250	31	10,813	-44.8		273	43.7
200	31	12,273	-54.0		272	49.1
175	31	13,122	-58.3		276	47.6
150	31	14,082	-62.3		279	42.5
125	31	15,202	-64.1		279	31.7
100	30	16,569	-63.3		283	20.0
80	30	17,949	-60.3		279	8.9
70	30	18,789	-57.7		314	3.1
60	30	19,763	-55.6		63	2.7
50	30	20,929	-53.9		83	7.4
40	30	22,368	-51.7		87	10.1
30	30	24,243	-49.5		89	12.2
25	27	25,434	-48.1		88	14.8
20	27	26,912	-45.7		87	17.1
15	18	28,834	-42.6		87	19.2
10	7	31,593	-40.1			
7						
5						

PEORIA, ILL.
991 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	200	16.6	84	181	2.1
1000	31	124				
950	31	565	19.4	66	233	5.6
900	31	1,028	17.1	60	252	9.1
850	31	1,515	14.5	59	262	10.9
800	31	2,026	12.1	51	271	13.8
750	31	2,562	9.3	47	275	15.7
700	31	3,134	5.9	47	277	17.1
650	31	3,734	2.5	44	278	18.5
600	31	4,381	-1.1	39	279	20.4
550	31	5,064	-5.3	37	280	23.7
500	31	5,813	-9.1		281	26.8
450	31	6,616	-14.1		281	28.7
400	31	7,505	-20.1		280	32.2
350	31	8,481	-27.1		277	35.2
300	31	9,574	-35.2		279	42.2
250	31	10,820	-44.6		277	45.6
200	31	12,281	-54.1		280	55.0
175	31	13,128	-58.8		281	52.8
150	31	14,089	-61.9		285	42.7
125	31	15,208	-64.3		281	32.1
100	31	16,575	-63.1		284	18.5
80	31	17,958	-59.6		292	8.0
70	31	18,796	-57.8		315	3.7
60	31	19,774	-55.7		68	4.7
50	31	20,941	-53.5		88	8.5
40	31	22,383	-51.5		88	11.5
30	31	24,261	-49.0		89	14.2
25	31	25,463	-47.2		86	15.5
20	31	26,944	-45.6		87	20.0
15	29	28,870	-42.9		86	21.8
10	24	31,630	-37.8		92	26.4
7	12	34,104	-35.2		88	26.8
5	6	36,442	-32.8			

PITTSBURGH, PA.
974 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	15.3	90	203	1.2
1000	31	137				
950	31	577	17.2	76	240	5.1
900	31	1,035	14.8	70	277	10.7
850	31	1,518	12.5	68	280	13.2
800	31	2,024	9.7	64	276	15.5
750	31	2,553	7.1	50	277	17.7
700	31	3,123	4.8	41	277	19.8
650	31	3,719	1.6	38	276	22.1
600	31	4,366	-1.9	41	277	24.1
550	31	5,046	-5.7	37	279	25.6
500	31	5,794	-9.9		280	29.3
450	31	6,592	-14.7		282	31.5
400	31	7,481	-20.8		282	32.8
350	31	8,454	-27.9		281	35.5
300	31	9,543	-36.1		281	38.3
250	31	10,786	-44.8		284	44.9
200	31	12,247	-54.0		285	50.3
175	31	13,096	-58.2		284	48.2
150	31	14,058	-61.6		285	46.4
125	31	15,182	-63.3		284	34.2
100	31	16,556	-61.6		281	22.0
80	31	17,946	-59.2		298	10.7
70	31	18,786	-57.0		339	4.9
60	31	19,767	-55.1		68	5.8
50	31	20,937	-53.4		80	7.8
40	31	22,378	-51.7		82	9.3
30	31	24,257	-49.0		85	13.0
25	31	25,460	-47.1		88	15.5
20	31	26,944	-45.2		85	16.3
15	30	28,880	-42.3		86	19.0
10	22	31,638	-38.2		91	22.9
7	8	34,064	-36.5			
5						

* POINT ARGUELLO, CALIF.
1001 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	113	12.5	97	301	2.5
1000	31	117			303	2.5
950	31	558	17.0	61	339	5.4
900	31	1,015	21.5	39	359	4.5
850	31	1,509	20.5	31	7	2.3
800	31	2,030	17.9	28	285	1.2
750	31	2,572	14.8	30	214	2.5
700	31	3,158	11.1	31	191	4.5
650	31	3,766	7.0	32	175	3.9
600	31	4,424	2.8	34	204	4.1
550	31	5,113	-2.1	32	217	4.3
500	31	5,872	-7.3	30	215	5.8
450	31	6,677	-13.0	29	217	8.2
400	31	7,571	-19.7	29	221	9.9
350	31	8,547	-27.1	26	223	12.8
300	31	9,639	-35.4	25	227	15.5
250	31	10,885	-44.3		229	21.0
200	31	12,348	-53.9		229	22.9
175	31	13,196	-59.1		228	23.1
150	31	14,150	-64.1		235	20.0
125	31	15,255	-68.0		242	15.7
100	30	16,593	-67.8		258	4.9
80	30	17,943	-64.5		82	2.3
70	29	18,766	-62.0		85	6.4
60	29	19,727	-58.9		95	8.9
50	29	20,877	-56.7		92	13.2
40	29	22,298	-54.7		91	17.1
30	28	24,147	-51.9		90	22.7
25	28	25,333	-50.0		91	24.1
20	27	26,795	-48.1		91	26.8
15	26	28,703	-44.9		90	30.5
10	24	31,418	-41.3		89	35.9
7	19	33,872	-35.8		96	40.8
5	9	36,218	-30.8			

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	39	28.3	80	45	1.7
1000	31	81	27.8	80	60	1.9
950	31	526	23.8	79	100	5.1
900	31	1,007	20.5	81	115	8.5
850	31	1,500	17.8	78	113	10.9
800	31	2,018	15.2	72	111	11.1
750	31	2,561	12.3	69	109	12.0
700	31	3,141	9.2	67	104	13.2
650	31	3,751	5.9	65	98	13.6
600	31	4,405	2.4	63	100	15.5
550	31	5,101	-1.5	63	95	14.6
500	31	5,860	-5.6	57	94	14.2
450	31	6,679	-10.3	48	93	15.2
400	31	7,580	-15.6	39	92	15.7
350	31	8,575	-22.5	34	86	15.5
300	31	9,688	-30.9		83	16.7
250	31	10,955	-41.0		84	18.8
200	31	12,432	-53.7		64	16.1
175	31	13,276	-60.9		56	13.2
150	31	14,217	-68.5		47	12.4
125	30	15,290	-75.1		72	7.0
100	30	16,582	-73.7		92	13.2
80	30	17,903	-67.6		92	8.0
70	29	18,713	-65.0		108	5.8
60	29	19,655	-63.6		145	2.1
50	29	20,782	-60.6		280	1.2
40	28	22,179	-58.5		135	1.6
30	26	24,000	-55.0		93	13.6
25	24	25,171	-53.3		90	31.1
20	20	26,607	-51.5		91	53.6
15	13	28,488	-48.0		89	66.4
10	7	31,149	-44.6			
7						
5						

PORTLAND, ME.
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	20	13.8	89	261	2.7
1000	31	133	14.7	78	258	5.2
950	31	568	14.5	64	265	8.9
900	31	1,023	12.0	64	264	10.1
850	31	1,500	9.2	61	263	12.0
800	31	2,000	6.3	59	264	15.2
750	31	2,526	3.9	50	265	17.5
700	31	3,086	.9	49	268	22.5
650	31	3,675	-1.5	44	270	25.4
600	31	4,314	-5.1	42	268	28.4
550	31	4,985	-9.1	40	267	30.9
500	31	5,725	-13.3		267	33.6
450	31	6,510	-18.6		267	35.0
400	31	7,389	-24.5		268	38.7
350	31	8,348	-31.4		271	42.9
300	31	9,422	-39.1		274	47.0
250	31	10,652	-46.6		278	53.0
200	31	12,113	-52.4		278	50.5
175	31	12,971	-54.8		278	46.6
150	31	13,952	-57.0		276	41.0
125	31	15,104	-57.6		271	32.8
100	31	16,516	-56.5		277	22.7
80	31	17,937	-55.0		264	7.2
70	31	18,796	-53.8		262	3.1
60	31	19,785	-52.7		56	1.0
50	31	20,965	-51.6		69	3.3
40	31	22,417	-50.3		87	7.0
30	31	24,305	-48.1		83	9.7
25	31	25,513	-46.1		87	12.2
20	31	27,005	-43.7		87	15.0
15	20	28,953	-40.4		90	18.5
10	15	31,742	-35.4		92	16.5
7	11	34,279	-30.4			
5	7	36,661	-27.1			

RAPID CITY, S. DAK.
903 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	14.5	63	303	2.7
1000	31	93				
950	31	534				
900	31	996			323	2.9
850	31	1,483	16.7	45	274	7.8
800	31	1,997	14.2	41	275	9.7
750	31	2,533	11.1	40	275	11.7
700	31	3,112	7.4	40	274	11.8
650	31	3,707	3.0	44	273	15.2
600	31	4,360	-1.6	44	279	19.4
550	31	5,037	-6.2	42	277	22.5
500	31	5,787	-10.8		278	24.1
450	31	6,583	-15.9		274	27.8
400	31	7,467	-22.2		272	30.9
350	31	8,434	-29.5		268	35.2
300	31	9,517	-37.2		268	41.6
250	30	10,746	-46.4		272	48.8
200	30	12,199	-54.5		274	51.5
175	30	13,049	-57.1		274	50.5
150	30	14,017	-60.1		275	42.0
125	29	15,150	-62.6		278	31.3
100	29	16,529	-61.5		277	19.6
80	29	17,922	-58.2		273	8.7
70	29	18,765	-56.4		283	2.7
60	29	19,748	-55.0		42	.8
50	29	20,918	-52.9		70	4.9
40	29	22,364	-50.9		84	7.8
30	27	24,243	-48.5		93	10.5
25	27	25,447	-46.6		89	11.1
20	24	26,930	-44.6		85	12.4
15	16	28,852	-41.4		83	14.8
10						
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5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1964

ST. CLOUD, MINN.
975 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	316	14.0	87	220	1.6
1000	31	99				
950	31	536	15.6	74	231	3.9
900	31	994	14.5	68	260	9.7
850	31	1,475	12.2	65	280	13.4
800	31	1,982	9.7	61	290	15.2
750	31	2,513	6.9	59	288	17.5
700	31	3,081	3.9	54	286	20.0
650	31	3,674	.3	51	289	21.8
600	31	4,318	- 3.4	49	289	23.9
550	31	4,994	- 7.4	40	290	24.7
500	31	5,738	-12.0	36	288	27.4
450	31	6,530	-17.4	32	287	28.4
400	31	7,410	-23.5		286	33.0
350	31	8,374	-30.2		288	39.0
300	31	9,453	-38.1		287	43.5
250	31	10,687	-46.0		286	52.1
200	31	12,146	-52.9		294	56.1
175	31	13,001	-56.0		285	53.0
150	31	13,976	-58.2		287	44.1
125	31	15,119	-59.7		286	30.9
100	31	16,516	-58.6		287	21.6
80	31	17,925	-56.5		294	10.3
70	31	18,777	-55.2		300	6.2
60	31	19,762	-53.9		344	3.1
50	31	20,937	-52.4		60	3.5
40	30	22,386	-50.8		76	4.9
30	30	24,269	-48.6		78	9.1
25	28	25,463	-47.3		77	10.5
20	25	26,945	-44.9		95	12.0
15	15	28,887	-42.2		87	15.7
10						
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ST. PAUL IS., ALASKA
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	7.5	95	209	3.5
1000	31	58			230	4.9
950	31	478	4.9	92	235	9.5
900	31	919	3.0	86	239	9.9
850	31	1,381	1.3	80	238	9.1
800	31	1,868	- .4	70	240	8.5
750	31	2,384	- 2.3	70	243	9.3
700	31	2,929	- 4.5	64	246	11.7
650	31	3,507	- 7.1	56	249	14.2
600	31	4,131	-10.5	50	252	16.9
550	31	4,794	-14.1	45	255	17.9
500	31	5,514	-18.6	38	256	19.6
450	31	6,289	-23.6	37	257	22.0
400	31	7,146	-29.4	36	259	24.3
350	31	8,086	-35.8		251	24.7
300	31	9,145	-41.5		253	32.4
250	31	10,367	-46.9		251	33.0
200	31	11,837	-48.8		248	28.7
175	31	12,713	-49.4		245	26.6
150	31	13,722	-50.1		248	22.7
125	31	14,910	-50.9		248	16.5
100	31	16,362	-50.7		250	12.2
80	31	17,816	-50.6		248	8.5
70	31	18,689	-50.4		239	6.8
60	30	19,690	-50.3		240	5.2
50	30	20,881	-50.1		215	2.9
40	29	22,339	-49.6		172	2.1
30	29	24,227	-48.5		95	2.7
25	28	25,430	-47.5		111	2.3
20	27	26,912	-46.0		90	2.1
15	27	28,835	-43.8		85	3.5
10	20	31,570	-40.6		60	5.2
7	9	34,023	-37.6			

SALEM, OREG.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	12.2	91	225	1.4
1000	31	148	13.3	82	319	1.2
950	31	581	12.7	76	334	3.7
900	31	1,033	11.2	70	287	3.9
850	31	1,509	9.6	60	252	5.6
800	31	2,012	8.1	49	261	8.7
750	31	2,539	6.1	43	268	11.7
700	31	3,106	3.7	41	265	14.2
650	31	3,702	.4	40	263	17.7
600	31	4,343	- 3.3	40	262	19.8
550	31	5,021	- 7.3	36	264	22.3
500	31	5,763	-12.0	33	266	24.7
450	31	6,556	-17.2		268	27.6
400	31	7,435	-23.5		269	31.7
350	31	8,397	-30.6		272	35.9
300	31	9,475	-38.2		273	39.6
250	31	10,706	-46.5		274	42.5
200	31	12,161	-53.7		270	45.6
175	31	13,014	-56.2		269	41.4
150	31	13,988	-58.6		266	36.1
125	31	15,128	-60.4		267	29.5
100	31	16,522	-59.1		270	16.3
80	31	17,924	-58.0		276	8.2
70	31	18,767	-56.7		302	2.9
60	31	19,749	-55.0		68	3.1
50	31	20,918	-53.6		72	4.5
40	31	22,359	-51.9		88	6.0
30	30	24,233	-49.3		83	9.5
25	30	25,432	-47.6		92	10.1
20	26	26,909	-45.8		79	13.4
15	23	28,830	-42.8		92	14.6
10	7	31,627	-37.2			
7						

SALT LAKE CITY, UTAH
872 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,288	16.3	49	161	7.4
1000	31	100				
950	31	548				
900	31	1,018				
850	31	1,506	20.1	37	167	10.7
800	31	2,028	[illegible]	34	186	10.1
750	31	2,576	14.3	36	225	7.6
700	31	3,156	9.8	39	252	8.9
650	31	3,763	5.2	42	266	11.5
600	31	4,415	.3	45	265	15.2
550	31	5,104	- 4.8	46	268	17.7
500	31	5,851	- 9.7	40	268	19.0
450	31	6,658	-14.7		270	23.1
400	31	7,540	-20.8		273	27.8
350	31	8,514	-28.0		270	[illegible]
300	31	9,602	-36.2		262	33.2
250	31	10,843	-45.4		256	40.6
200	31	12,302	-54.3		254	43.7
175	31	13,149	-58.7		256	42.2
150	31	14,108	-62.5		259	[illegible]
125	31	15,224	-65.5		264	26.8
100	31	16,581	-65.3		260	13.6
80	30	17,949	-60.9		277	5.4
70	29	18,789	-58.3		154	.4
60	28	19,754	-56.2		80	3.1
50	28	20,917	-54.5		90	6.8
40	28	22,352	-52.7		96	7.2
30	25	24,218	-50.3		84	12.8
25	25	25,412	-48.7		83	14.6
20	22	26,893	-46.3		87	18.5
15	16	28,819	-43.4		92	22.1
10						
7						

SAN ANTONIO, TEXAS
986 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	24.7	84	163	4.1
1000	31	122				
950	31	572	22.7	81	173	11.5
900	31	1,043	20.7	71	171	15.3
850	31	1,548	19.1	59	168	12.8
800	31	2,057	16.1	59	163	8.2
750	31	2,601	13.1	53	143	7.0
700	31	3,182	9.8	47	134	5.6
650	31	3,790	[illegible]	48	119	5.1
600	31	4,446	2.0	49	111	4.7
550	31	5,135	- 2.1	44	102	4.5
500	31	5,896	- 6.7	43	109	2.7
450	31	6,708	-11.4	32	104	3.1
400	30	7,607	-17.3	31	83	4.3
350	30	8,594	-24.1		85	2.7
300	30	9,701	-32.5		93	2.1
250	30	10,960	-42.7		4	2.5
200	30	12,430	-54.5		11	1.9
175	30	13,273	-60.8		91	3.5
150	30	14,217	-67.1		59	3.3
125	30	15,303	-72.3		41	4.9
100	29	16,609	-72.7		74	6.6
80	29	17,935	-67.3		98	12.6
70	28	18,745	-63.8		94	14.0
60	27	19,699	-61.2		85	19.0
50	26	20,838	-58.5		84	24.1
40	24	22,253	-55.1		92	26.8
30	22	24,104	-52.2		90	29.7
25	22	25,289	-50.0		88	32.1
20	22	26,753	-48.1		84	34.6
15	20	28,655	-45.2		87	37.9
10	8	31,363	-43.1			
7						

SAN DIEGO, CALIF.
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	124	18.1	88	227	1.4
1000	31	109				
950	31	551	18.1	70	166	1.4
900	31	1,015	21.3	40	316	1.9
850	31	1,511	21.8	31	306	4.3
800	31	2,034	18.6	33	241	2.7
750	31	2,579	14.8	37	191	5.1
700	31	3,164	11.0	39	175	6.6
650	31	3,772	6.8	36	166	7.4
600	31	4,432	2.7	36	169	6.4
550	31	5,118	- 2.0	35	171	4.5
500	31	5,883	- 7.0	31	184	4.9
450	31	6,691	-12.1		214	5.1
400	31	7,590	-18.4		229	7.0
350	31	8,573	-25.5		229	10.5
300	31	9,673	-33.5		226	15.0
250	31	10,928	-43.0		225	19.4
200	31	12,398	-53.8		223	21.4
175	30	13,247	-59.4		218	22.3
150	30	14,199	-65.2		217	19.2
125	30	15,296	-69.6		225	13.6
100	30	16,624	-69.2		239	2.3
80	30	17,967	-65.8		96	4.9
70	30	18,785	-62.0		103	7.8
60	30	19,747	-58.7		93	10.7
50	30	20,897	-56.7		91	16.7
40	30	22,321	-54.1		87	21.8
30	30	24,177	-51.5		89	26.4
25	30	25,365	-49.8		91	27.0
20	28	26,831	-48.0		86	29.9
15	23	28,742	-45.3		90	34.2
10	6	31,458	-40.1			
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* SAN JUAN, P. R.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	26.2	84	111	4.7
1000	30	136	25.4	80	99	10.9
950	30	586	22.0	81	92	14.6
900	30	1,056	19.2	76	93	15.9
850	30	1,546	16.6	70	93	16.5
800	30	2,061	14.2	58	93	18.6
750	30	2,597	11.8	47	93	17.1
700	30	3,179	8.4	47	94	16.7
650	30	3,779	4.7	46	94	15.3
600	30	4,436	.7	44	95	12.6
550	30	5,125	- 2.9	39	100	10.9
500	30	5,881	- 7.0	33	99	9.7
450	29	6,684	-12.1	26	93	7.8
400	29	7,586	-18.1	25	93	6.6
350	29	8,569	-25.4	24	94	5.6
300	29	9,669	-33.8	25	84	4.5
250	29	10,920	-43.9		120	2.5
200	29	12,378	-55.5		31	1.4
175	28	13,219	-61.5		5	2.5
150	28	14,161	-67.0		68	2.3
125	28	15,249	-71.2		81	6.0
100	28	16,564	-72.1		79	15.5
80	28	17,890	-68.1		81	22.3
70	28	18,701	-65.4		84	25.8
60	27	19,639	-62.7		92	28.2
50	27	20,773	-59.2		90	26.4
40	27	22,181	-56.3		93	32.6
30	27	24,024	-52.6		94	35.7
25	27	25,207	-50.6		92	38.5
20	27	26,671	-47.8		89	40.6
15	26	28,588	-44.1		88	49.3
10	25	31,332	-40.0		91	51.3
7	19	33,772	-36.7		89	56.1
5	12	36,075	-33.4			

SANTA MONICA, CALIF.
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	18.4	86	133	1.0
1000	31	110	18.0	85	131	1.7
950	31	550	18.7	68	94	3.3
900	31	1,017	21.0	41	73	.8
850	31	1,512	21.0	25	244	3.7
800	31	2,034	18.2	28	240	6.2
750	31	2,577	14.8	29	209	6.6
700	31	3,164	10.8	34	183	5.2
650	31	3,771	6.8	35	163	5.1
600	31	4,432	2.4	35	166	5.4
550	31	5,120	- 2.2	32	184	4.7
500	31	5,881	- 7.3		204	5.1
450	31	6,686	-12.9		209	7.6
400	31	7,582	-19.6		221	7.8
350	31	8,560	-26.7		225	12.2
300	31	9,655	-34.7		231	16.1
250	31	10,904	-44.1		225	20.4
200	31	12,368	-54.6		223	23.3
175	31	13,213	-60.1		226	23.9
150	31	14,162	-65.4		228	20.8
125	31	15,257	-70.0		238	14.8
100	31	16,585	-69.3		272	3.3
80	31	17,927	-65.3		91	4.3
70	31	18,745	-62.2		93	6.8
60	31	19,705	-59.3		96	9.7
50	31	20,853	-56.8		87	14.6
40	31	22,274	-54.5		88	18.6
30	31	24,127	-51.8		90	23.7
25	31	25,313	-50.2		88	26.0
20	30	26,773	-48.0		89	29.1
15	25	28,682	-45.9		91	32.1
10	8	31,401	-42.4			
7						
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SAULT STE. MARIE, MICH.
987 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	221	12.5	91	310	.6
1000	31	109				
950	31	539	12.4	78	255	3.3
900	31	994	11.0	69	272	8.9
850	31	1,469	8.6	67	282	[illegible]
800	31	1,969	6.2	65	280	[illegible]
750	31	2,495	3.5	62	282	16.9
700	31	3,053	.9	57	282	19.8
650	31	3,644	- 2.2	43	280	23.3
600	31	4,278	- 5.3	37	282	25.1
550	31	4,952	- 9.5	36	282	26.8
500	31	5,687	-13.9		281	30.7
450	31	6,475	[illegible]		278	33.8
400	31	7,346	-25.0		280	39.0
350	31	8,303	-31.9		282	42.3
300	31	9,374	-39.6		282	47.0
250	31	10,600	-46.9		281	54.2
200	31	12,059	-51.7		278	56.1
175	31	12,921	-53.9		282	49.9
150	31	13,904	-56.1		284	40.6
125	31	15,062	-56.3		285	28.7
100	31	16,478	-55.6		288	19.8
80	31	17,903	-54.5		291	10.3
70	31	18,758	-53.7		307	6.2
60	31	19,752	-52.7		340	2.5
50	30	20,929	-51.1		65	1.7
40	30	22,385	-49.6		70	5.4
30	27	24,276	-47.4		95	9.3
25	26	25,487	-45.5		93	9.9
20	26	26,983	-43.1		87	12.2
15	24	28,940	-40.1		88	14.2
10	9	31,758	-34.9			
7						
5						

SHEMYA, ALASKA
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	7.8	94	248	8.5
1000	31	82			[illegible]	9.3
950	31	[illegible]	6.8	[illegible]	250	15.3
900	31	948	5.6	75	262	14.8
850	31	1,415	4.0	[illegible]	264	[illegible]
800	31	1,906	1.7	66	263	[illegible]
750	31	2,425	- .3	59	261	16.9
700	31	2,975	- 2.6	51	263	18.6
650	31	3,556	- 5.9	49	262	19.6
600	31	4,184	- 9.2	51	261	[illegible]
550	31	4,848	-13.1	48	260	[illegible]
500	31	5,572	-17.8	43	259	26.2
450	31	6,346	[illegible]		263	28.6
400	31	7,206	-28.5		263	31.1
350	31	8,150	-35.2		262	32.8
300	31	9,207	-42.7		262	35.9
250	31	10,423	-47.4		260	37.5
200	31	11,889	-49.9		260	39.0
175	31	12,762	-50.4		260	37.1
150	31	13,765	-51.2		264	29.7
125	31	14,948	-52.1		259	23.9
100	31	16,390	-52.6		262	16.1
80	30	17,832	-52.2		255	12.0
70	30	18,700	-51.7		244	9.3
60	30	19,697	-51.4		243	7.2
50	30	20,882	-50.9		200	4.1
40	30	22,335	-50.4		151	3.7
30	30	24,218	-48.8		127	[illegible]
25	30	25,419	-47.5		109	4.9
20	30	26,897	-46.0		101	6.0
15	26	28,830	-43.3		91	7.8
10	10	31,575	-39.8			
7						
5						

* SHREVEPORT, LA.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	24.6	92	168	3.9
1000	31	135	24.2	90	183	5.4
950	31	589	23.4	74	219	14.0
900	31	1,057	21.3	66	218	11.8
850	31	1,552	18.4	66	221	8.7
800	31	2,070	15.2	66	238	6.8
750	31	2,612	11.8	61	246	6.0
700	31	3,189	8.5	57	248	5.6
650	31	3,797	4.7	58	252	5.8
600	31	4,447	.8	57	255	6.6
550	31	5,136	- 3.3	52	265	5.2
500	31	5,891	- 7.1	41	268	6.8
450	31	6,703	-11.7	33	280	6.0
400	31	7,600	-17.2	28	287	6.2
350	31	8,588	-24.0	29	288	9.5
300	31	9,694	-32.3	30	291	12.6
250	31	10,953	-42.2		301	12.0
200	31	12,424	-53.7		307	12.8
175	31	13,269	-60.2		301	13.2
150	31	14,216	-66.2		291	11.3
125	31	15,308	-70.8		293	7.0
100	30	16,622	-71.6		351	3.3
80	30	17,955	-66.4		81	6.4
70	30	18,779	-62.9		83	10.3
60	30	19,727	-60.2		83	13.8
50	30	20,870	-57.7		89	18.6
40	30	22,287	-55.0		89	24.1
30	30	24,139	-52.0		93	25.3
25	30	25,324	-50.4		90	26.6
20	29	26,784	-48.2		88	30.7
15	28	28,684	-46.0		88	34.0
10	21	31,404	-41.0		90	40.6
7	12	33,864	-35.5		91	36.1

SPOKANE, WASH.
931 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	722	11.7	66	172	3.5
1000	31	118				
950	31	552				
900	31	1,009	14.1	53	207	4.1
850	31	1,490	12.1	49	241	6.0
800	31	1,994	8.7	54	257	7.8
750	31	2,521	5.2	54	255	10.3
700	31	3,086	2.1	51	258	12.8
650	31	3,675	- 1.0	45	260	15.3
600	31	4,315	- 4.8	41	266	19.2
550	31	4,988	- 8.9	34	266	19.8
500	31	5,727	-13.4		269	22.3
450	31	6,511	-18.8		265	28.4
400	31	7,388	-25.0	32	265	31.9
350	31	8,345	-31.9		264	36.7
300	31	9,416	-40.2		260	38.7
250	31	10,638	-48.1		263	42.5
200	31	12,088	-53.5		267	43.3
175	31	12,945	-54.7		268	39.8
150	31	13,927	-56.4		271	35.9
125	31	15,081	-57.6		269	27.2
100	31	16,492	-57.0		273	15.7
80	31	17,908	-55.9		274	7.2
70	30	18,763	-54.9		285	3.1
60	30	19,753	-53.4		5	2.3
50	30	20,930	-52.3		57	3.7
40	30	22,379	-50.6		77	5.8
30	30	24,265	-48.0		89	8.7
25	30	25,472	-46.4		88	9.1
20	28	26,969	-43.8		87	10.5
15	19	28,905	-40.3		82	11.5
10						
7						

SWAN ISLAND, W. I.
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	26.6	87	79	8.0
1000	31	114	26.0	86	78	9.7
950	31	576	23.5	82	87	12.6
900	31	1,036	20.6	76	95	14.6
850	31	1,530	17.8	73	99	15.7
800	31	2,047	14.9	67	97	16.5
750	31	2,595	12.1	55	99	16.1
700	31	3,166	8.7	52	101	16.9
650	31	3,779	5.3	48	105	16.3
600	31	4,425	1.6	45	106	15.9
550	31	5,113	- 2.2	40	108	13.6
500	31	5,873	- 6.8	38	114	12.4
450	31	6,685	-11.8	32	110	11.8
400	31	7,580	-17.5	32	95	10.9
350	31	8,566	-24.8	31	85	9.3
300	31	9,668	-33.1		80	8.4
250	31	10,923	-43.2		52	6.8
200	31	12,386	-55.1		56	7.2
175	31	13,226	-61.3		65	7.2
150	31	14,168	-67.7		77	12.2
125	31	15,250	-72.7		86	15.9
100	31	16,557	-72.7		86	21.6
80	31	17,876	-69.5		87	22.9
70	31	18,688	-66.4		84	23.1
60	31	19,618	-63.8		84	24.7
50	31	20,743	-61.2		87	27.6
40	30	22,138	-57.8		94	32.6
30	28	23,968	-53.6		96	39.2
25	26	25,148	-50.9		97	42.9
20	22	26,610	-48.5		97	45.3
15	19	28,513	-45.4		86	55.4
10	9	31,250	-42.3			
7						

TAMPA, FLA.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	24.7	93	117	3.3
1000	31	140	25.1	84	152	3.9
950	31	587	23.2	77	209	5.1
900	31	1,062	20.5	74	222	6.1
850	31	1,555	17.8	71	222	3.7
800	31	2,073	14.9	67	215	2.7
750	31	2,613	12.1	60	226	1.7
700	31	3,193	8.8	57	202	1.0
650	31	3,797	5.4	55	236	1.4
600	31	4,454	1.6	54	290	2.3
550	31	5,141	- 2.3	46	304	1.9
500	31	5,902	- 6.6	39	310	1.7
450	31	6,709	-11.4	36	329	1.9
400	31	7,613	-17.0	32	359	2.5
350	31	8,601	-23.9		23	2.1
300	31	9,707	-32.0		50	4.1
250	31	10,968	-41.9		55	5.4
200	31	12,440	-53.8		46	6.8
175	31	13,284	-60.3		35	9.5
150	31	14,230	-66.3		26	12.0
125	31	15,319	-71.4		47	12.8
100	31	16,631	-71.8		69	12.6
80	31	17,960	-66.9		82	15.7
70	31	18,773	-63.7		79	19.2
60	31	19,724	-61.1		86	23.9
50	31	20,864	-57.9		91	28.6
40	31	22,282	-54.3		95	31.3
30	31	24,141	-50.8		89	29.1
25	31	25,333	-48.9		86	31.1
20	27	26,795	-46.5		87	32.2
15	21	28,714	-42.7		83	36.3
10	10	31,472	-37.8			
7						

* TATOOSH IS., WASH
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	12.1	95	164	1.7
1000	31	137	12.6	90	198	[illegible]
950	31	566	11.5	[illegible]	[illegible]	5.2
900	31	1,019	9.4	78	252	7.0
850	31	1,492	7.4	72	[illegible]	[illegible]
800	31	1,989	5.4	65	261	[illegible]
750	31	2,512	3.2	71	259	11.1
700	31	3,072	.3	57	262	12.4
650	31	3,658	- 2.7	49	262	[illegible]
600	31	4,295	- 6.3	44	262	19.2
550	31	4,967	-10.1	44	259	[illegible]
500	31	5,700	-14.9	43	263	24.5
450	31	6,483	-20.2	43	[illegible]	[illegible]
400	31	7,353	-26.3	42	264	28.6
350	31	8,305	-33.1	49	264	[illegible]
300	30	9,372	-40.3		[illegible]	37.5
250	30	10,594	-47.8		266	[illegible]
200	30	12,047	-52.7		[illegible]	[illegible]
175	30	[illegible]	-53.9		261	43.5
150	30	[illegible]	-55.6		260	37.9
125	30	[illegible]	-56.5		261	27.6
100	30	16,467	-56.4		266	18.3
80	30	17,885	-55.6		272	9.9
70	30	18,738	-54.6		268	4.5
60	30	19,726	-53.9		332	1.0
50	30	20,899	-52.9		27	2.1
40	30	22,342	-51.5		67	4.1
30	29	24,216	-49.6		66	6.4
25	28	25,413	[illegible]		[illegible]	6.0
20	27	26,897	-46.4		87	8.7
15	25	28,816	-43.6		[illegible]	8.2
10	15	[illegible]	-39.6		76	[illegible]
7	6	34,083	-34.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

TOPEKA, KANS.
983 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	269	19.3	82	152	3.1
1000	31	117				
950	31	562	19.9	69	184	7.8
900	31	1,027	18.8	61	218	10.5
850	31	1,517	16.8	61	245	10.7
800	31	2,033	14.6	60	253	10.7
750	31	2,572	11.7	56	265	9.9
700	31	3,152	8.2	52	277	13.2
650	31	3,754	4.2	52	281	15.9
600	31	4,407	- .1	51	282	19.6
550	31	5,093	- 3.9	42	283	21.8
500	31	5,846	- 8.3		280	23.3
450	31	6,652	-13.4		279	25.3
400	31	7,545	-19.3		278	26.6
350	31	8,523	-26.4		276	31.1
300	31	9,619	-34.3		273	34.2
250	31	10,869	-43.9		273	37.1
200	31	12,332	-54.3		270	42.3
175	31	13,177	-59.4		272	43.3
150	31	14,131	-63.7		277	37.5
125	31	15,241	-66.5		284	26.8
100	31	16,589	-66.3		286	14.6
80	30	17,958	-61.9		285	4.9
70	30	18,790	-59.2		17	1.6
60	29	19,760	-56.8		83	6.0
50	29	20,921	-54.9		94	9.1
40	28	22,354	-52.6		79	12.2
30	28	24,222	-50.2		86	15.5
25	28	25,416	-48.7		86	16.5
20	27	26,891	-46.8		85	21.4
15	23	28,817	-44.0		83	26.8
10						
7						

+ TRUK, CAROLINE IS.
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	2	28.5	77	301	.2
1000	31	85	27.7	77	201	.4
950	31	531	23.7	80	157	2.3
900	31	1,011	20.7	76	140	3.9
850	31	1,505	17.9	75	123	5.2
800	31	2,023	15.1	73	118	7.4
750	31	2,571	12.3	71	114	8.4
700	31	3,145	9.3	69	109	10.9
650	31	3,757	5.9	65	113	11.8
600	31	4,411	2.3	65	110	13.4
550	31	5,107	- 1.4	66	108	14.6
500	31	5,866	- 5.5	60	105	14.4
450	31	6,685	-10.2	55	100	15.0
400	31	7,587	-15.7	48	96	16.1
350	31	8,582	-22.3	40	102	16.5
300	31	9,696	-30.7		96	15.9
250	31	10,964	-41.1		83	16.5
200	31	12,440	-53.8		67	19.2
175	31	13,284	-61.1		63	18.6
150	31	14,224	-68.9		56	19.0
125	31	15,296	-75.5		72	15.2
100	31	16,590	-73.1		81	12.4
80	31	17,912	-67.7		99	12.6
70	31	18,721	-64.9		103	10.3
60	31	19,665	-63.0		101	6.6
50	31	20,794	-60.4		91	2.7
40	29	22,193	-58.2		105	3.9
30	28	24,018	-54.6		94	13.6
25	24	25,190	-52.6		99	36.3
20	16	26,625	-50.2		100	55.8
15	8	28,521	-46.9			
10						
7						

TUCSON, ARIZ.
924 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	789	22.9	73	161	5.2
1000	31	89				
950	31	538				
900	31	1,016	23.9	58	187	5.8
850	31	1,515	21.6	55	218	3.1
800	31	2,039	18.2	56	294	2.3
750	31	2,583	14.5	57	324	1.6
700	31	3,169	10.8	54	177	1.7
650	31	3,775	6.5	55	170	4.3
600	31	4,435	2.1	53	175	4.7
550	31	5,124	- 2.3	50	191	3.7
500	31	5,884	- 6.7	42	221	.4
450	31	6,693	-11.8	37	273	1.4
400	31	7,592	-17.8	31	251	2.1
350	31	8,578	-24.8		242	5.8
300	31	9,681	-33.0		230	8.7
250	31	10,938	-42.6		227	13.0
200	30	12,410	-54.3		220	16.7
175	30	13,254	-60.3		225	18.1
150	30	14,201	-66.1		228	16.5
125	29	15,294	-70.9		232	10.7
100	29	16,611	-71.3		249	1.7
80	28	17,945	-65.8		100	7.4
70	28	18,757	-62.5		94	10.1
60	28	19,717	-59.9		93	13.4
50	28	20,863	-57.6		89	20.4
40	28	22,280	-55.0		89	23.9
30	28	24,131	-52.2		88	26.4
25	28	25,319	-49.7		88	28.6
20	27	26,786	-47.1		88	29.1
15	26	28,704	-44.7		87	33.8
10	19	31,444	-39.4		89	40.0
7	7	33,911	-34.6			

* WAKE IS., PACIFIC AREA
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	26.9	79	94	6.8
1000	31	118	26.0	81	94	10.1
950	31	567	22.7	86	101	13.0
900	31	1,040	19.9	81	105	12.2
850	31	1,533	17.0	82	108	11.7
800	31	2,049	14.4	77	108	10.3
750	31	2,591	11.7	71	103	9.3
700	31	3,168	8.7	65	100	8.9
650	31	3,775	5.3	59	95	8.2
600	31	4,428	1.3	61	95	6.6
550	31	5,124	- 2.4	57	98	4.3
500	31	5,876	- 6.8	52	92	2.1
450	31	6,689	-11.7	49	139	1.9
400	31	7,585	-17.7	49	271	1.4
350	31	8,570	-24.7	41	276	4.1
300	31	9,673	-33.2	39	269	7.6
250	31	10,928	-43.4		274	13.0
200	31	12,390	-55.4		271	18.3
175	31	13,229	-61.8		275	18.6
150	31	14,168	-68.2		292	13.8
125	31	15,250	-71.8		352	5.8
100	30	16,569	-70.7		72	13.0
80	30	17,899	-68.4		84	19.8
70	30	18,702	-66.3		84	23.7
60	30	19,642	-63.4		87	28.6
50	30	20,769	-61.1		86	30.5
40	29	22,169	-57.3		87	34.0
30	29	24,003	-53.8		90	40.0
25	29	25,180	-51.4		89	42.5
20	28	26,641	-49.1		88	47.0
15	26	28,536	-47.3		89	50.7
10	23	31,237	-43.5		87	51.9
7	7	33,660	-40.7			

WALLOPS IS. VA. NASA
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	20	3	20.7	85	344	.2
1000	20	137	21.1	76	295	1.0
950	20	579	18.9	70	307	3.9
900	20	1,044	16.3	66	294	6.4
850	20	1,529	14.0	62	279	8.2
800	20	2,039	11.0	66	269	12.0
750	20	2,572	8.5	60	264	15.0
700	20	3,144	6.1	46	265	18.3
650	20	3,746	3.5	40	267	21.0
600	20	4,395	.4	38	268	22.5
550	20	5,082	- 3.3	32	266	24.7
500	19	5,843	- 7.9	31	268	23.3
450	19	6,650	-13.3	34	268	28.2
400	19	7,541	-19.5	40	270	31.1
350	19	8,520	-26.5	40	272	33.2
300	19	9,616	-34.8	33	275	35.9
250	19	10,865	-43.9		276	38.7
200	19	12,330	-54.2		273	42.3
175	19	13,178	-58.8		278	41.2
150	19	14,135	-63.2		277	37.7
125	19	15,247	-66.1		280	31.9
100	19	16,604	-64.0		281	25.3
80	19	17,981	-60.8		300	10.1
70	19	18,822	-58.3		26	5.2
60	19	19,792	-56.2		80	6.8
50	19	20,954	-54.6		78	11.3
40	19	22,391	-52.2		94	13.8
30	19	24,263	-49.7		91	16.5
25	19	25,461	-47.9		86	19.0
20	15	26,952	-45.7		86	22.0
15	15	28,881	-42.9		92	26.6
10	14	31,647	-38.8		92	32.4
7	10	34,116	-35.1			

WASHINGTON, D. C.
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	84	17.4	88	201	1.4
1000	30	143	18.5	84	217	2.3
950	30	587	18.4	72	269	6.2
900	30	1,047	16.0	71	280	9.1
850	30	1,531	13.3	70	283	11.5
800	30	2,039	10.4	67	284	13.6
750	30	2,575	7.7	58	273	16.3
700	30	3,142	5.2	47	268	17.1
650	30	3,742	2.3	34	269	19.4
600	30	4,388	- .8		273	21.8
550	30	5,070	- 4.6		272	24.7
500	30	5,824	- 8.9		270	26.2
450	30	6,627	-14.1		273	29.3
400	30	7,517	-20.2		274	29.5
350	30	8,492	-27.4		274	32.4
300	30	9,584	-35.4		276	36.7
250	30	10,829	-44.4		278	41.4
200	30	12,291	-54.6		279	46.2
175	30	13,136	-59.1		281	43.1
150	30	14,093	-63.0		282	39.7
125	30	15,207	-65.3		278	29.5
100	30	16,567	-63.9		280	18.6
80	30	17,945	-60.7		307	7.0
70	30	18,787	-58.9		11	3.5
60	30	19,751	-56.7		58	4.5
50	30	20,913	-54.7		82	8.4
40	29	22,349	-52.4		82	11.5
30	28	24,222	-49.4		86	15.3
25	25	25,419	-47.9		89	19.0
20	24	26,900	-45.8		88	21.0
15	15	28,840	-42.9		92	25.1
10	7	31,578	-40.3			

WINNEMUCCA, NEV.
870 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,310	11.2	36	152	2.7
1000	31	115				
950	31	557				
900	31	1,023				
850	31	1,503	18.6	25	170	1.0
800	31	2,021	16.7	23	272	3.5
750	31	2,565	13.0	25	268	7.2
700	31	3,143	9.1	27	251	10.9
650	31	3,752	4.9	30	237	15.9
600	31	4,400	.2	33	240	18.8
550	31	5,087	- 4.3	34	245	20.6
500	31	5,837	- 9.2		253	23.1
450	31	6,641	-14.6		258	26.0
400	31	7,527	-21.1		259	28.6
350	31	8,499	-28.3		255	34.6
300	31	9,587	-36.3		252	34.8
250	31	10,927	-45.5		253	38.1
200	30	12,281	-54.6		252	40.8
175	30	13,128	-58.7		254	40.8
150	30	14,089	-61.6		256	35.9
125	30	15,210	-64.5		263	26.4
100	30	16,573	-63.7		264	13.4
80	30	17,952	-60.7		303	1.9
70	30	18,797	-58.6		67	2.7
60	30	19,761	-56.0		82	6.0
50	30	20,927	-53.8		78	8.2
40	30	22,366	-52.1		84	11.5
30	29	24,239	-50.0		84	14.8
25	29	25,435	-48.4		81	17.7
20	24	26,909	-46.6		85	19.4
15	12	28,816	-43.6			
10						

WINSLOW, ARIZ.
852 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,492	17.8	68	198	3.9
1000	30	96				
950	30	542				
900	30	1,016				
850	30	1,515			201	3.7
800	30	2,037	19.2	49	261	9.1
750	30	2,585	16.0	48	269	7.8
700	30	3,172	11.7	49	259	4.5
650	30	3,780	7.2	51	233	3.7
600	30	4,439	2.2	54	225	3.7
550	30	5,129	- 2.5	52	229	6.4
500	30	5,889	- 7.0	44	256	7.8
450	30	6,695	-12.1	38	265	9.7
400	30	7,595	-18.4		269	11.3
350	30	8,578	-25.1		264	12.4
300	30	9,680	-33.5		252	15.5
250	30	10,933	-43.2		243	19.4
200	30	12,399	-54.2		240	24.3
175	30	13,244	-60.0		242	26.2
150	30	14,192	-65.5		251	25.4
125	30	15,288	-69.9		264	17.7
100	30	16,611	-70.4		255	5.2
80	30	17,952	-65.2		134	2.5
70	30	18,775	-61.8		121	4.7
60	30	19,733	-58.6		91	8.5
50	29	20,884	-56.3		88	12.8
40	28	22,311	-54.3		89	16.5
30	28	24,166	-51.7		87	22.0
25	27	25,352	-49.8		91	25.3
20	26	26,818	-47.2		88	25.8
15	22	28,731	-45.7		89	28.7
10	5	31,488	-42.1			

YAKUTAT, ALASKA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	12	9.9	94	92	4.1
1000	31	109	10.3	90	103	5.4
950	31	529	9.0	83	131	7.4
900	31	981	6.5	81	147	8.5
850	31	1,448	3.9	80	154	9.7
800	31	1,939	1.1	81	161	7.0
750	31	2,454	- 1.8	79	165	6.0
700	31	3,003	- 4.9	73	162	6.8
650	31	3,579	- 7.9	69	174	8.2
600	31	4,202	-11.0	64	188	9.9
550	31	4,861	-15.0	64	206	10.9
500	31	5,581	-19.2	62	213	13.0
450	31	6,350	-24.3	58	224	13.6
400	31	7,206	-30.1	52	231	14.4
350	31	8,144	-36.9	48	232	16.3
300	31	9,193	-44.6		237	18.8
250	31	10,395	-51.1		250	25.6
200	31	11,845	-50.1		263	19.8
175	31	12,718	-50.1		265	18.8
150	31	13,724	-50.1		269	15.9
125	31	14,914	-50.4		268	12.4
100	31	16,369	-50.5		272	9.5
80	31	17,825	-50.2		274	5.4
70	31	18,698	-50.1		276	3.7
60	31	19,704	-49.9		279	1.6
50	31	20,896	-49.8		32	.8
40	31	22,356	-49.3		70	1.4
30	31	24,245	-48.3		71	3.3
25	29	25,452	-47.1		79	4.3
20	28	26,932	-45.7		64	4.9
15	25	28,865	-42.4		76	6.0
10	17	31,620	-38.2			

+ YAP, CAROLINE IS.
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	17	28.0	82	214	2.1
1000	27	79	27.3	81	223	2.9
950	27	523	23.5	81	251	4.3
900	27	1,004	20.6	77	263	3.1
850	27	1,497	17.9	76	291	2.3
800	27	2,015	15.0	75	284	1.2
750	27	2,556	12.1	73	257	1.2
700	27	3,136	8.8	72	102	.6
650	27	3,740	5.5	73	135	2.3
600	27	4,398	2.0	70	131	4.5
550	27	5,090	- 1.7	64	114	6.0
500	27	5,850	- 5.8	61	101	7.0
450	27	6,665	-10.6	55	105	10.3
400	27	7,566	-16.1	48	99	13.2
350	27	8,558	-22.8	43	95	15.7
300	27	9,670	-31.1	36	87	18.1
250	27	10,934	-41.5		82	24.7
200	27	12,406	-54.2		72	30.9
175	27	13,248	-61.6		61	34.4
150	27	14,185	-69.1		61	36.9
125	27	15,253	-76.3		70	33.0
100	27	16,540	-74.3		81	25.4
80	27	17,857	-68.9		79	20.2
70	27	18,659	-67.0		79	19.4
60	27	19,594	-64.5		81	17.7
50	27	20,718	-61.2		84	14.2
40	25	22,106	-58.9		87	15.7
30	23	23,926	-54.4		94	26.6
25	19	25,100	-52.8		92	35.5
20	10	26,536	-50.3			
15	7	28,402	-48.4			
10						

YUCCA FLAT, NEV.
880 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,196	16.8	33	295	1.2
1000	31	88				
950	31	537				
900	31	1,010				
850	31	1,500	22.5	30	226	2.7
800	31	2,024	19.6	30	213	11.3
750	31	2,569	15.8	33	212	11.3
700	31	3,156	11.1	39	205	9.9
650	31	3,765	6.2	44	208	7.8
600	31	4,420	1.6	41	214	6.6
550	31	5,109	- 2.9	37	235	6.6
500	31	5,864	- 7.6		243	9.9
450	31	6,670	-13.0		255	11.3
400	31	7,563	-19.7		248	11.8
350	31	8,540	-26.9		252	16.3
300	31	9,633	-35.1		245	20.8
250	31	10,879	-44.3		242	22.7
200	31	12,342	-54.4		238	25.3
175	31	13,187	-59.5		242	27.6
150	30	14,139	-64.6		246	24.5
125	29	15,239	-68.6		252	19.0
100	29	16,576	-67.7		256	10.5
80	29	17,935	-63.3		192	.6
70	29	18,761	-60.0		85	2.9
60	29	19,731	-57.4		93	6.8
50	29	20,889	-55.3		88	10.5
40	27	22,318	-53.6		92	13.4
30	27	24,179	-50.8		90	17.7
25	27	25,370	-49.4		84	20.0
20	25	26,842	-47.2		91	23.3
15	18	28,773	-44.4		90	28.7
10	9	31,508	-40.0			

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

AUGUST 1964

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, N. MEX.

	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Aug.									
2-----	----	----	0.93	1.07	1.31	1.20	1.01	0.89	0.75
3-----	0.73	0.84	.97	1.12	1.32	1.14	----	----	----
4-----	.77	.87	.98	1.12	----	----	----	----	----
5-----	.79	.89	1.00	1.14	1.32	1.13	.99	.87	----
6-----	.72	.85	.96	1.09	1.30	----	----	.79	----
7-----	.74	.84	.94	1.08	1.28	----	----	----	----
8-----	.63	.74	.89	1.04	1.24	----	----	----	----
9-----	.63	.76	.87	1.05	----	----	----	----	----
10----	.69	.79	.91	----	1.26	----	----	----	----
11----	----	.80	----	----	----	----	----	----	----
14----	----	----	----	----	----	1.14	.93	----	----
15----	.78	.89	1.01	1.18	1.36	1.17	1.01	----	.77
16----	.76	.87	1.00	1.16	1.37	1.18	1.03	.90	.78
18----	.75	.83	.97	1.13	1.32	----	----	----	----
19----	.74	.85	.98	1.11	----	----	----	----	----
21----	.84	.96	1.09	1.27	1.44	----	----	----	----
22----	.77	.87	1.02	1.16	1.36	1.18	1.03	.92	.81
23----	.72	.84	.97	1.15	1.37	1.19	1.03	.88	.76
24----	.75	.88	1.02	1.19	1.37	1.15	1.01	.90	.77
25----	----	----	----	----	1.33	1.12	----	----	----
27----	----	----	----	1.11	1.32	----	.89	.76	.64
28----	.67	.79	.92	1.08	----	----	----	----	----
29----	.81	----	1.03	1.18	1.35	----	----	----	----
30----	.77	.87	1.02	1.18	1.39	1.18	1.03	.91	.78
31----	.87	.95	1.05	1.20	1.36	----	----	----	----
Averages	0.75	0.85	0.98	1.13	1.34	1.16	1.11	0.87	0.76

BLUE HILL OBS., MASS.

	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Aug.									
1-----	0.77	0.87	1.00	1.16	1.33	----	----	----	----
3-----	.77	.88	.99	1.12	----	----	----	----	----
4-----	.76	.86	.96	1.16	1.34	1.06	0.90	0.75	0.62
9-----	----	----	----	----	1.34	1.12	.94	.81	.66
13----	----	----	----	----	1.33	1.08	.87	.72	.59
14----	.60	.72	.86	1.03	----	----	----	----	----
15----	.62	.67	.84	1.06	1.33	1.06	.88	.76	.65
16----	----	----	----	.94	1.28	----	----	----	----
19----	----	----	.72	.96	1.23	1.06	.91	.77	.69
20----	.55	.67	.89	1.13	----	----	----	----	----
21----	.45	.65	.79	1.08	----	----	----	----	----
24----	.64	.74	.88	1.10	1.28	.95	.74	.59	.49
25----	.45	.55	.66	.86	----	----	----	----	----
27----	.82	.93	1.05	1.21	1.29	1.10	.90	.81	.67
28----	.75	.87	1.01	1.17	1.39	1.15	1.00	.87	.76
Averages	0.65	0.76	0.89	1.08	1.30	1.07	0.89	0.76	0.64

OMAHA, NEBR.

	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Aug.									
1-----	HS0.55	HS0.68	HS0.80	HS0.97	HS1.19	HM0.93	HS0.75	HS0.61	HS0.49
2-----	----	----	----	----	HS1.20	HS .96	HS .78	HS .61	HS .52
5-----	----	----	----	----	HS1.26	----	----	----	----
7-----	----	----	----	----	HS1.32	HS1.16	HS1.02	HS .88	HS .78
8-----	HS .79	HS .88	HS .96	HS1.11	HS1.24	----	----	----	----
9-----	----	----	----	----	----	----	----	HS .71	HS .60
10----	HM .64	HM .73	HM .87	HS1.04	HS1.19	----	----	----	----
11----	HS .70	HS .85	----	----	----	----	----	HS .86	HS .72
12----	HS .84	HS .94	HS1.06	HS1.22	----	----	----	HS .91	HS .80
18----	----	----	----	----	----	----	HM .75	HM .56	HM .44
19----	HI .48	HI .57	----	----	----	----	----	----	----
21----	----	----	----	1.14	1.33	----	----	----	----
23----	----	----	----	----	----	----	----	HS .79	HS .60
24----	----	----	----	HM .96	----	----	----	----	----
25----	----	----	----	----	HS1.33	----	HS .95	HS .83	HS .72
28----	.77	.87	1.10	1.20	1.34	HS1.13	HS .90	HS .81	HS .70
30----	----	HS .90	HS1.02	HS1.19	HS1.31	HS1.07	----	----	----
31----	----	----	----	----	HS1.28	----	----	----	----
Averages	0.68	0.80	0.97	1.10	1.27	1.05	0.86	0.76	0.64

Date	Sun's zenith distance								
	A.M.				*	P.M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

MADISON, WIS.

	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Aug.									
2-----	----	----	----	S 0.93	S 1.17	M 0.95	M 0.71	M 0.58	----
5-----	S 0.64	S 0.77	S 1.00	S 1.06	S 1.25	S 1.04	S .88	S .75	S .64
7-----	----	M .70	M .90	S 1.07	S 1.22	----	S .92	S .80	S .71
8-----	S .75	S .83	S .95	S 1.12	----	----	----	----	----
15----	----	----	----	M .92	----	----	----	----	----
24----	M .56	M .64	S .75	S .93	1.26	----	----	----	----
26----	S .85	S .94	S 1.01	S 1.10	S 1.26	----	----	----	----
29----	----	----	S .93	S 1.11	----	S 1.04	S .83	S .70	S .60
31----	S .80	S .89	S 1.03	----	1.28	----	----	----	----
Averages	0.72	0.80	0.94	1.03	1.24	1.01	0.84	0.71	0.65

TUSCON, ARIZ.

	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Aug.									
3-----	----	0.82	0.91	----	----	----	----	----	----
15----	0.60	.68	----	----	----	----	----	----	----
18----	----	.89	----	----	----	----	----	----	----
21----	.68	.76	----	----	----	----	----	0.73	----
22----	.69	.79	.92	----	----	----	----	.76	----
23----	.71	.81	.93	----	----	----	----	.71	----
28----	.72	.80	.93	----	----	----	----	----	0.74
29----	.72	.81	.94	----	----	----	----	----	----
30----	.77	.87	.98	----	----	----	----	.91	.81
31----	.82	.92	1.02	----	----	----	----	.89	.78
Averages	0.71	0.81	0.94	----	----	----	----	0.80	0.77

MAUNA LOA OBS., HAWAII

	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Aug.									
1-----	----	----	----	1.40	----	(1.35)	----	----	----
4-----	0.97	1.07	1.18	1.32	1.49	----	----	----	----
5-----	1.00	1.11	1.21	1.34	----	----	----	----	----
6-----	1.02	1.13	1.23	1.36	----	----	1.22	1.10	1.01
7-----	1.11	1.21	1.30	1.41	1.53	1.35	1.24	1.15	1.06
8-----	1.07	1.18	1.27	1.40	1.53	1.37	1.30	1.19	1.09
10----	HS1.02	HS1.11	1.21	1.34	----	----	----	----	----
11----	1.03	1.12	1.22	1.35	----	----	----	----	----
12----	(1.02)	(1.11)	(1.22)	----	----	(1.34)	(1.21)	(1.10)	(1.02)
14----	----	----	----	(1.35)	----	----	----	----	----
15----	.98	1.11	1.22	1.36	1.49	----	----	----	----
16----	1.07	1.18	1.26	1.39	----	----	----	----	----
17----	1.05	1.15	1.25	1.37	----	----	----	----	----
18----	1.10	1.18	1.28	1.40	----	1.38	1.25	1.16	1.07
19----	1.05	1.15	1.27	1.39	1.54	1.35	1.23	1.15	1.05
20----	1.07	1.15	1.26	1.38	1.54	1.34	1.22	1.11	1.02
21----	1.05	1.14	1.24	1.36	1.51	1.33	1.21	1.12	1.03
22----	1.03	1.12	1.22	1.35	1.52	1.34	1.22	1.13	1.04
23----	1.09	1.17	1.28	1.40	1.53	1.38	1.26	1.18	1.12
24----	1.12	1.21	1.31	1.43	1.56	1.39	1.28	1.18	1.13
25----	1.12	1.20	1.31	1.43	1.52	1.35	1.21	1.10	1.02
26----	1.05	1.14	1.24	1.36	----	----	----	----	----
27----	(1.01)	(1.10)	(1.20)	----	----	----	----	----	----
28----	.99	1.06	1.18	1.31	----	----	----	----	----
29----	1.00	1.08	1.20	1.34	1.52	1.37	1.24	1.15	1.07
30----	1.13	1.21	1.32	1.37	1.58	1.42	1.30	1.19	1.12
31----	1.12	1.21	1.30	1.44	1.58	1.40	1.31	1.21	1.13
Averages	1.05	1.15	1.25	1.38	1.53	1.37	1.25	1.15	1.07

GUAM, M. I.

	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observation due to cloudiness

HS	Slight haze
HM	Moderate haze
HI	Intense haze
S	Slight haze - indeterminable
M	Moderate haze - indeterminable
( )	Clouds present
*	Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

AUGUST 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	527	737	710	442	727	732	630	699	737	653	661	445	412	490	673	672	---	645	639	555	694	670*	660	652	552	407	576	579	518	635	540	609*
AMES IOWA	527	514	188	423	558	192	574	563	139	524	326	258	381	363	466	460	---	516	501	147	522	344	248	287	556*	544	478	572	478	571	542	425*
ANNETTE ALASKA	175	219	223	230	157	281	203	196	439	230	333	189	128	99	38	82	179	128	81	296	299	367	382	32	223	48	259	60	182	311	207	202
APALACHICOLA FLORIDA	426	636	610	373	475	502	261	478	592	300	556	596	339	500	616	481	513	364	246	515	440	322	599	618	623	616	623	632	620	450	453	496
ARGONNE NAT. LAB.	472	644	455	376	671	551	640	681	494	458	484	276	420	636	656	566	496	517	528	337	282	359	299	551	510	618	477	574	596	586	598	510
ASTORIA OREGON	295	207	315	493	746	498	402	520	446	712	165	366	351	663	579	551	524	475	233	650	588	649	641	603	184	242	211	498	221	424	468	449
ATLANTA GEORGIA	493	577	612	438	227	531	631	660	400	478	270	312	719	525	162	150	414	648	566	561	535	406	393	588	650	607	518	457	385	579	576	486
BARROW ALASKA	425	315	331	215	288	397	373	278	288	423	467	354	502	524	246	311	324	229	412	409	191	303	259	82*	152	324	162	174	264	305	233	308*
BETHEL ALASKA	220	372	208	363	348	126	478	129	323	307	452	234	308	143	115	277	192	329	394	308	230	270	208	280	272	176	208	190	205	95	100	253
BISMARCK N.DAK.	510	652	425	606	606	642	642	494	593	553	642	585	615	404	591	539	567	560	423	364	88	141	314	295	582	460	280	519	135	543	452	478
BLUE HILL MASS.	673	204	621	731	449	640	663	140	560	603	219	177	669	508	574	554	158	467	577	528	564	78	169	604	581	242	624	629	287	525	257	460
BOISE IDAHO	657	700	697	701	708	663	461	665	669	672	634	584	651	663	659	625	475	618	651	637	632	627	617	619	515	540	525	489	606	331	86	593
BOSTON MASSACHUSETTS	---	---	---	---	---	---	604	171	539	615	217	167	629	476	492	556	172	436	---	---	513	46	120	567	532	---	---	---	---	---	---	---
BROWNSVILLE TEXAS	707	699	510	677	592	532	575	590	660	709	700	613	605	664	644	617	651	671	664	641	596	507	612	542	644	669	659	545	561	605	592	621
BURLINGTON VERMONT	545	278	586	303	87	656	628	392	337	507	512	289	457	427	311	531	315	403	487	266	839	78	291	491	585	391	575	511	343	560	381	431
CANTON ISLAND P.I.	625	635	631	577	642	636	627	623	636	659	622	559	601	586	627	651	631	669	678	661	686	648	704	756	769	716	770	667	853	---	---	660
CAPE HATTERAS N.C.	711	408	567	122	558	701	649	647	379	290	248	495	599	545	450	117	232	639	562	522	578	625	571	262	394	585	570	115	293	90	371	448
CARIBOU MAINE	643	267	622	598	387	227	587	50	270	455	579	98	361	292	---	275	330	328	355	447	395	512	81	246	581	201	558	555	414	511	156	379
CHARLESTON S.C.	641	385	561	336	533	540	646	537	369	263	373	488	575	567	456	402	480	592	401	491	508	556	541	632	549	577	564	78	325	586	493	485
CLEVELAND OHIO	429	336	214	410	596	593	549	612	450	336	516	110	157	615	419	585	465	---	---	---	112	186	407	502	327	582	566	508	423	509	561	431
COLUMBIA MISSOURI	635	647	660	434	631	574	568	683	637	606	652	692	526	248	256	621	513	577	572	153	492	565	558	585	373	522	528	428	525	558	328	527
DAVIS CALIFORNIA	739	736	724	714	682	693	596	715	693	691	692	668	671	680	662	652	679	654	650	644	630	621	624	634	646	636	640*	635*	592	574	467	656*
DODGE CITY KANSAS	596	614	605	594	587	532	386	589	574	588	563	386	321	94	367	570	454	523	499	408	590	586	549	523	322	502	462	539	532	273	503	491
E. LANSING MICHIGAN	405	631	585	543	663	657	594	580	672	383	182	221	422	648	591	629	511	547	592	117	146	146	262	486	403	649	554	406	619	502	512	479
EL CENTRO CALIF NARF	526	483	578	502	269	507	529	381	340	404	419	471	496	509	515	515	477	480	491	524	512	499	463	419	474	482	493	511	516	493	516	477
EL PASO TEXAS	635	678	634	725	731	722	619	457	658	669	562	687	653	672	658	553	578	640	666	662	633	700	679	645	651	505	630	649	623	633	551	637
ELY NEVADA	734	720	709	460	425	472	682	696	669	446	380	470	565	695	583	638	676	492	657	695	688	677	652	585	580	619	670	628	664	593	632	608
EPPLEY,NEWPORT R.I.	559	210	512	665	308	591	572	186	620	566	212	195	587	532	553	478	122	437	506	499	543	218	175	546	468	159	577	584	253	464	187	422
FAIRBANKS ALASKA	519	437	457	270	380	---	518	557	501	540	454	483	460	293	152	178	463	371	281	382	246	485	229	353	241	278	---	320	281	191	131	360
FORT WORTH TEXAS	678	708	694	669	667	642	609	613	576	652	637	422	599	437*	98	203	201	342	483	491	327	148	427	335	472	404	456	465	453	454	474	479*
FRESNO CALIFORNIA	710	701	693	680	646	484	642	663	629	671	667	677	666	659	643	652	649	546	643	622	606	600	610	592	607	627	627	601	603	598	175	619
GLASGOW MONTANA	610	718	697	686	700	702	681	493	628	361	635	643	605	629	559	629	625	587	85	384	269	517	317	411	540	432	443	475	277	527	385	524
GRAND JUNCTION COLO.	343	608	426	515	521	---	578	679	649	628	406	409	642	664	686	476	680	665	507	681	678	669	664	566	445	413	640	561	665	542	463	569
GREAT FALLS MONTANA	557	653	634*	638	644	639	551	474	567	487	614	439	429	592	502	584	577	477	103	132	486	538	266	427	370	445	461	100	429	223	145	457*
GREENSBORO N.C.	412	564	606	242	456	602	570	604	631	373	327	487	665	475	467	98	621	587	543	624	583	358	323	593	531	530	460	274	227	235	290	463
GRIFFIN EXP.STA.GA.	614	679	711	472	253	661	675	651	602	569	370	328	755	546	343	278	586	695	710	608	493	527	429	601	700	559	535	431	326	642	637	548
INDIANAPOLIS INDIANA	664	643	---	675	733	681	551	742	659	683	548	263	484	728	656	682	536	624	610*	537	155	208	559	638	301	573	616	---	615	515	646	570*
LAKE CHARLES LA.	559	598	612	628	534	533	420	383	483	580	585	596	237	322	619	427	333	490	---	611	560	299	514	460	218	358	547	597	593	613	594	497
LAKELAND FLORIDA	565	559	670	619	464	---	633	544	536	473	310	592	518	298	500	441	552	499	333	375	423	597	650	533	534	547	300	456	553	538	615	507
LANDER WYOMING	611	703	649	692	533	700	607	546	643	668	451	506	649	640	665	557	619	593	549	490	562	631	610	388	608	527	589	453	613	605	603	589
LARAMIE WYOMING	479	434	292	495	299	274	590	421	596	481	608	562	502	466	491	272	591	588	156	535	249	538	531	543	550	377	361	550	591	554	525	468
LAS VEGAS NEVADA	712	697	666	376	434	673	677	---	---	---	473	545	644	637	656	709	701	310	660	670	672	673	673	650	561	608	633	642	624	638	642	616
LITTLE ROCK ARKANSAS	625	599	598	539	256	599	549	261	527	189	466	585	302	218	116	221	546	378	552	486	284	480	568	504	465	342	424	380	504	364	499	433
LOS ANGELES CALIF.	632	668	661	653	621	625	642	633	601	538	578	542	375	353	575*	660	623	621*	631*	647	616	643	627	563	498	542	413	528*	477*	384	373*	566*
MADISON WISCONSIN	538	674	575	593	686	453	691	726	354	537	479	321	666	688	641	425	630	436	422	271	454	362	166	455	686	638	477	530	605	610	619	529
MANHATTAN KANSAS	680	683	688	597	658	533	495	701	608	656	687	700	162	104	206	234	415	593	559	287	647	518	659	515	257	342	340	638	485	533	395	502
MAUNA LOA OB.HAWAII	723	363	461	814	613	741	837	839	523	754	500	744	814	806	742	672	786	822	821	787	754	807	826	829	729	368	276	338	796	822	814	694
MEDFORD OREGON	713	704	701	638	690	681	678	687	688	668	643	651	672	672	664	660	634	561	610	637	638	629	640	624	609	592	608	437	611	327	373	624
MIAMI FLORIDA	528	380	405	553	545	494	611	548	482	280	603	620	564	328	578	542	600	624	304	456	384	537	565	589	584	326	277	528	477	536	519	496
MIDLAND TEXAS	633	637	664	665	657	586	608	351	592	580	618	606	642	590	432	401	487	473	425	541	557	551	508	502	608	570	375	516	573	523	596	551
NASHVILLE TENNESSEE	499	554	612	473	558	601	532	261	---	---	---	572	664	208	---	231	593	502	631	592	516	336	554	540	375	367	569	510	578	578	565	503
NEW YORK N.Y. U	560	521	607	649	343	672	536	349	682	414	364	408	570	635	632	512	372	478	563	405	376	500	265	563	380	364	582	460	504	493	184	482
NORTH OMAHA NEBRASKA	673	657	---	615	685	184	698	674	352	629	548	671	302	221	453	375	136	616	610	171	649	343	395	409	585	575	408	626	207	616	514	487
OAK RIDGE TENNESSEE	494	523	515	411	402	499	519	373	587	316	273	535	566	362	89	67	547	440	479	526	461	380	234	474	444	455	463	515	209	356	459	418
OKLAHOMA CITY OKLA.	609	606	610	606	579	583	174	549	584	492	520	522	329	546	186	---	---	---	571	522	476	362	563	532	391	431	436	420	509	511	525	491

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

AUGUST 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	366	190	621	535	499	619	611	590	520	536	582	107	542	600	604	603	561	589	579	543	583	598	597	560	528	502	577	542	590	587	578	537
PORTLAND MAINE	635	145	455	670	213	563	664	270	705	505	419	94	638	522	428	564	426	400	434	386	585	61	92	541	581	257	581	575	631	513	219	444
RAPID CITY S.DAK.	550	626	578	615	577	623	618	546	536	605	625	619	390	545	290	383	575	522	291	487	165	552	473	343	556	505	228	449	394	542	425	491
RIVERSIDE CALIFORNIA	644	678	627	617	528	571	588	552	490	574	542	578	514	561	511	623	594	416	586	607	614	586	577	489	559	588	564	551	545	434	510	562
SAINT CLOUD MINN.	522	361	599	597*	659	462	687	684	122	553	267	303	657	652	301	612	605	617	420	171	447	69	555	72	575	592	163	551	189	214	521	445*
SALT LAKE CITY UTAH	696	767	730	755	498	617	672	716	727	725	450	547	697	741	559	709	700	693	696	759	714	707	703	685	647	622	702	339	694	647	673	664
SAN ANTONIO TEXAS	656	624	670	683	659	553	397	394	606	658	659	643	595	495	450	459	532	525	556	528	527	480	331	431	499	523	538	357	503	531	538	535
SANTA MARIA CALIF.	675	664	669	613	628	544	679	663	620	551	561	666	676	388	597	618	631	608	628	623	545	542	547	568	572	483	505	511	578	354	239	572
SAULT STE MARIE MICH	119	173	108	634	626	523	475	468	554	173	191	196	604	677	509	145	494	544	374	516	138	101	115	463	271	520	547	265	569	401	231	378
SEATTLE TACOMA WASH.	283	319	217	570	687	672	648	468	437	643	601	281	276	578	505	610	459	300	406	568	537	575	589	568	142	156	127	375	198	329	---	437
SEATTLE WASH. UNIV.	289	353	291	419	616	627	537	169	220	635	609	280	234	540	433	529	440	205	414	505	474	589	578	537	290	185	120	291	337	380	348	402
SHREVEPORT LOUISIANA	572	653	571	608	528	616	632	626	365	489	623	411	201	309	524	268	422	263	506	599	551	467	319	318	470	541	549	487	557	609	523	490
SPOKANE WASHINGTON	289	535	345	216	744	724	627	708	547	709	631	457	454	676	611	674	660	340	342	660	651	638	650	656	213	367	276	353	319	498	520	519
STATE COLLEGE PENN.	410	294	56	590	616	714	597	605	646	539	202	334	295	550	530	560	576	459	555	298	208	417	385	529	583	270	555	547	443	438	449	460
STERLING VIRGINA	235	417	85	---	---	---	490	470	688	232	213	558	444	573	628	294	552	307	616	571	550	555	350	550	530	436	360	232	356	286	411	428
STILLWATER OKLAHOMA	617	647	640	653	650	599	355	621	577	567	461	334	277	180	241	310	586	390	536	510	458	545	595*	580*	449	180	---	---	---	---	---	483*
SWAN ISLAND W.I.	623	589	666	688	562	669	642	477	210	653	658	617	650	666	494	668	650	---	---	---	576	668	639	662	695	681	607	635	469	659	319	600
TUCSON ARIZONA	249	461	643	584	534	523	624	529	557	462	584	306	615	594	553	609	477	568	639	533	579	650	610	582	547	219	437	627	595	605	587	538
WAKE ISLAND,PACIFIC	573	556	626	607	608	493	587	262	457	491*	606	562	558	517	187	329	309	451	250	438	571	577	576	298	583	---	456	318	423	512	529	477*

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

AUGUST 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Langleys. . .	365	344	439	367	204	364	362	200	352	314	294	325	269	288	310	314

Date.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	305	295	-42	-175	228	310	169	158	256	158	211	31	47	260	329	247

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. The instrument with which they were measured has not been checked by the Weather Bureau.

TOTAL OZONE DATA

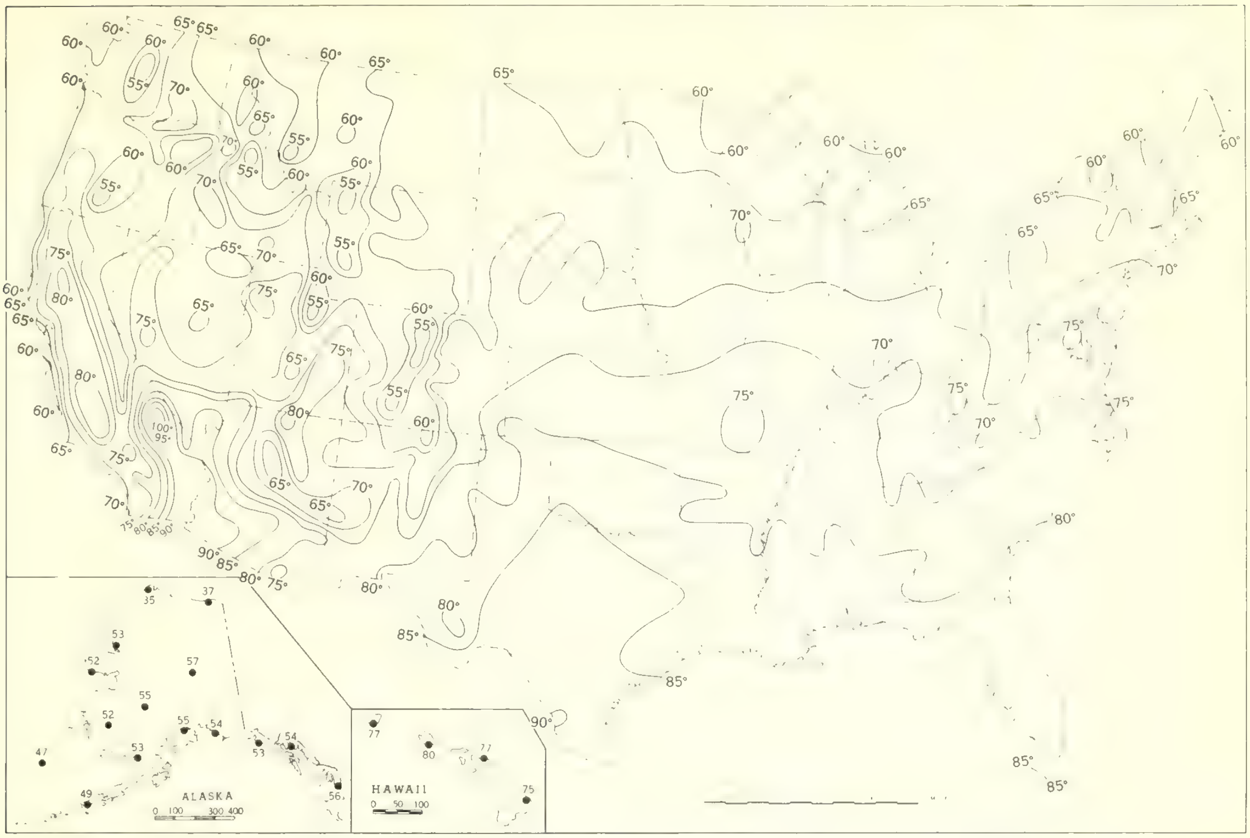
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λs Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

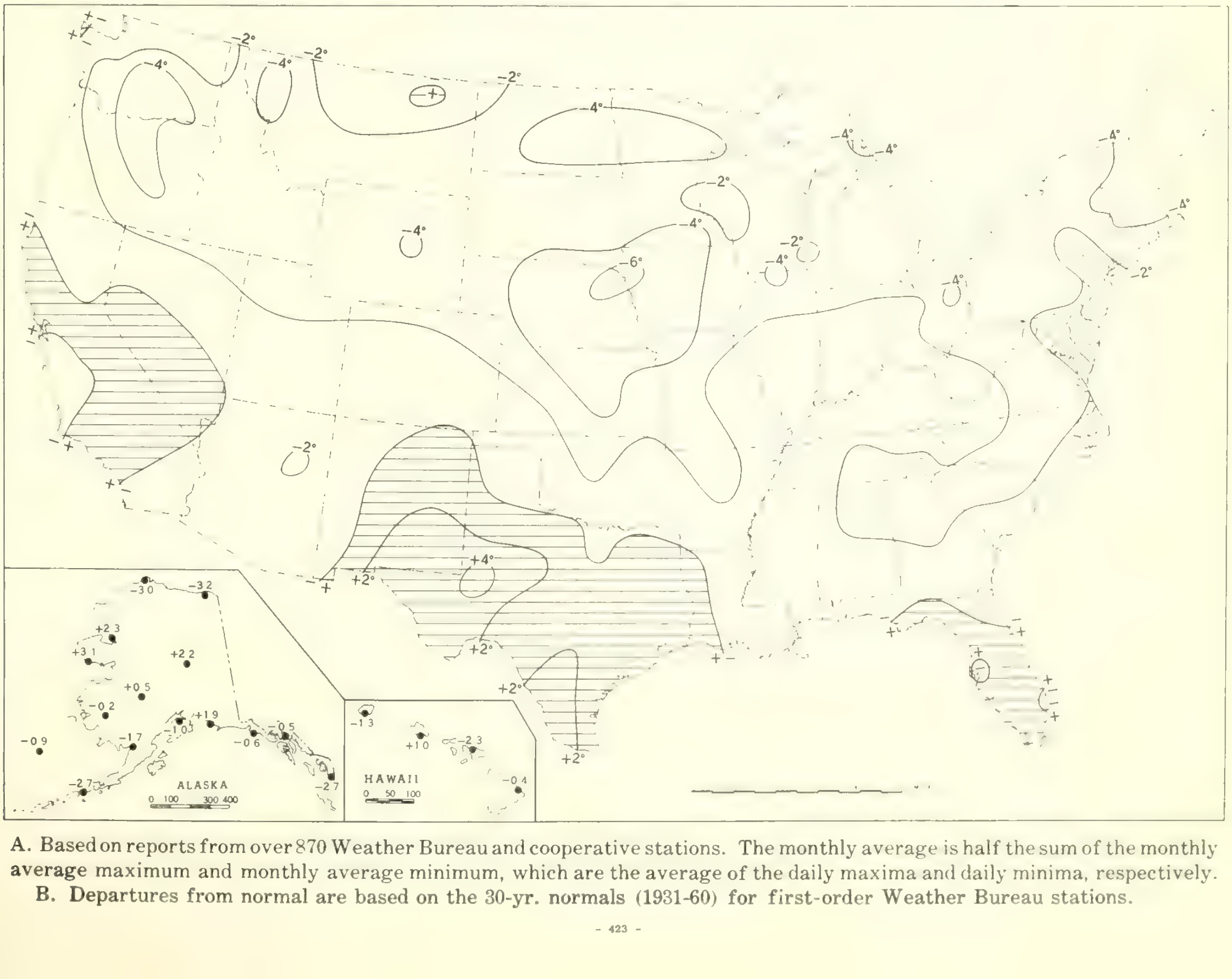
Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g , 350 milli-atmo-cm ozone implies an ozone layer 0. 350 centimeter thick The code λ s designates the type of measurement made

Chart I. A. Average Temperature (°F.) at Surface, August 1964.



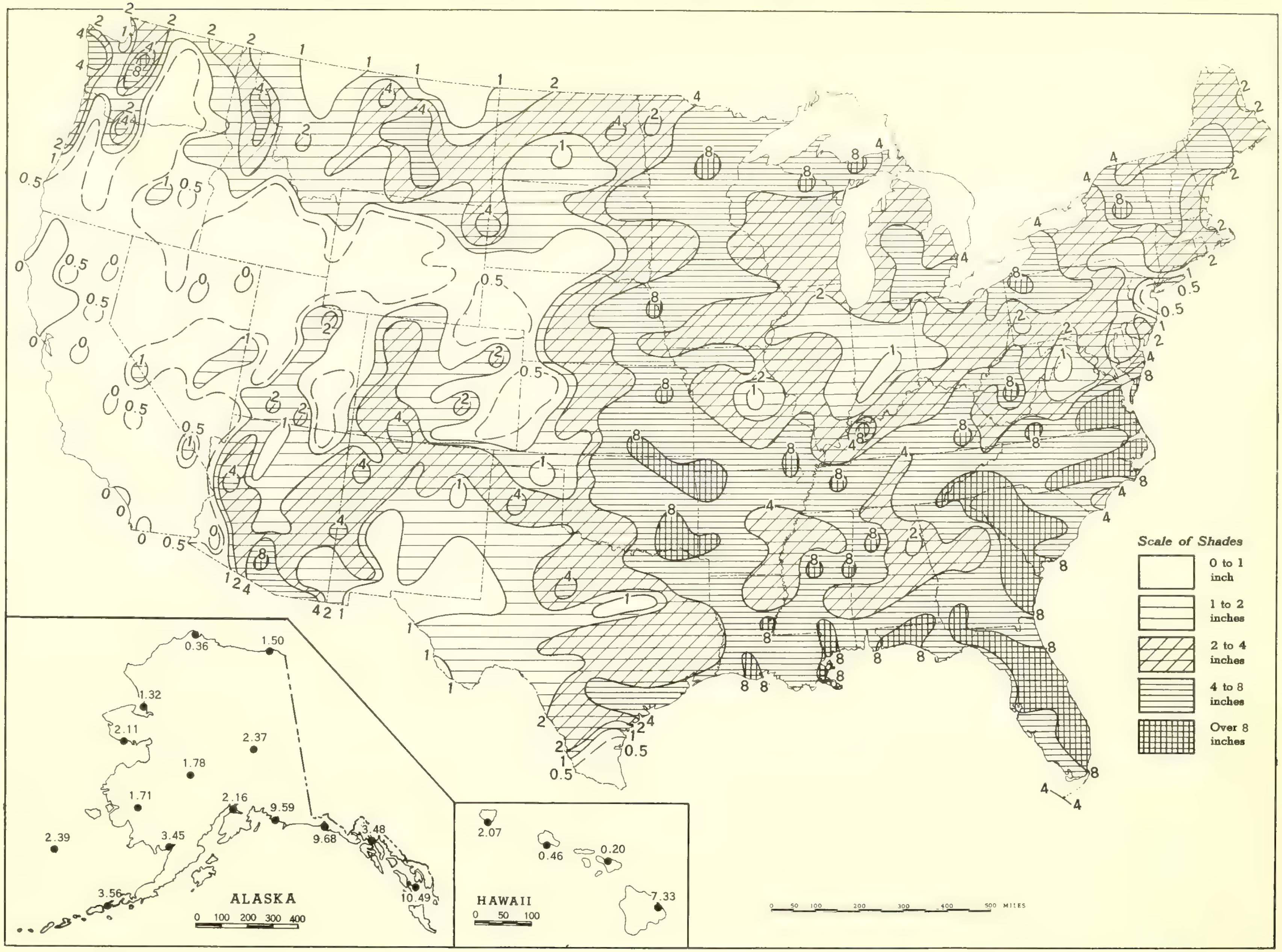
B. Departure of Average Temperature from Normal (°F.), August 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

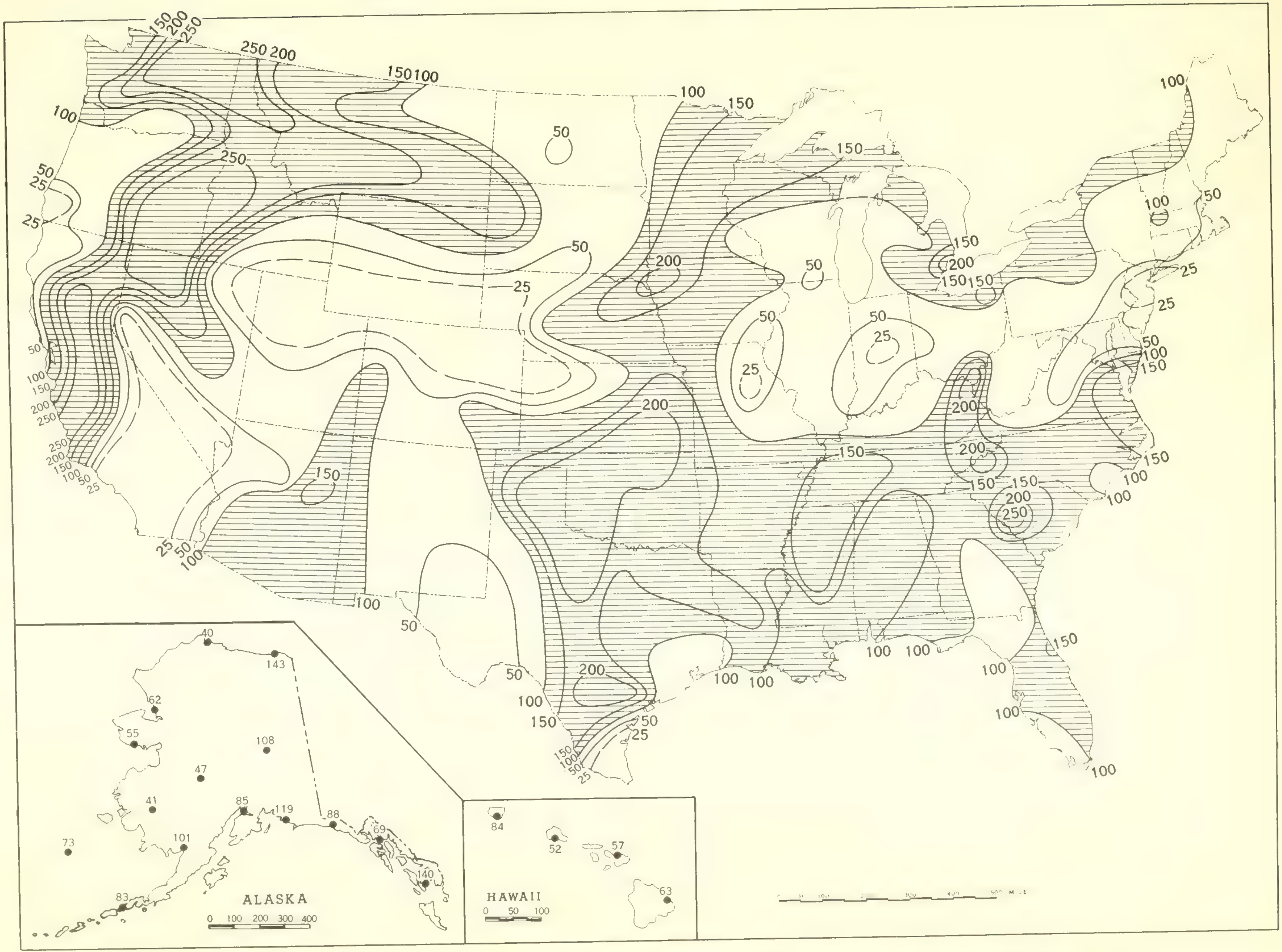
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), August 1964.



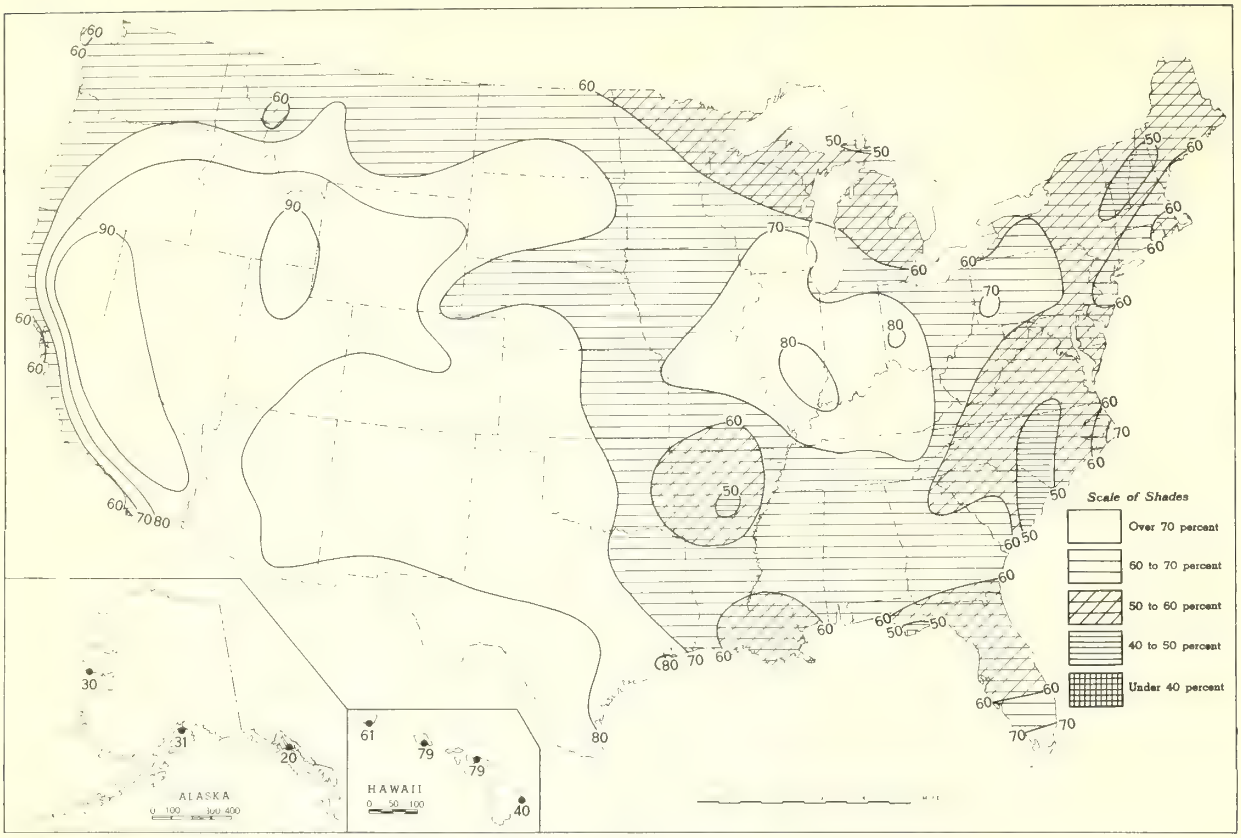
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, August 1964.

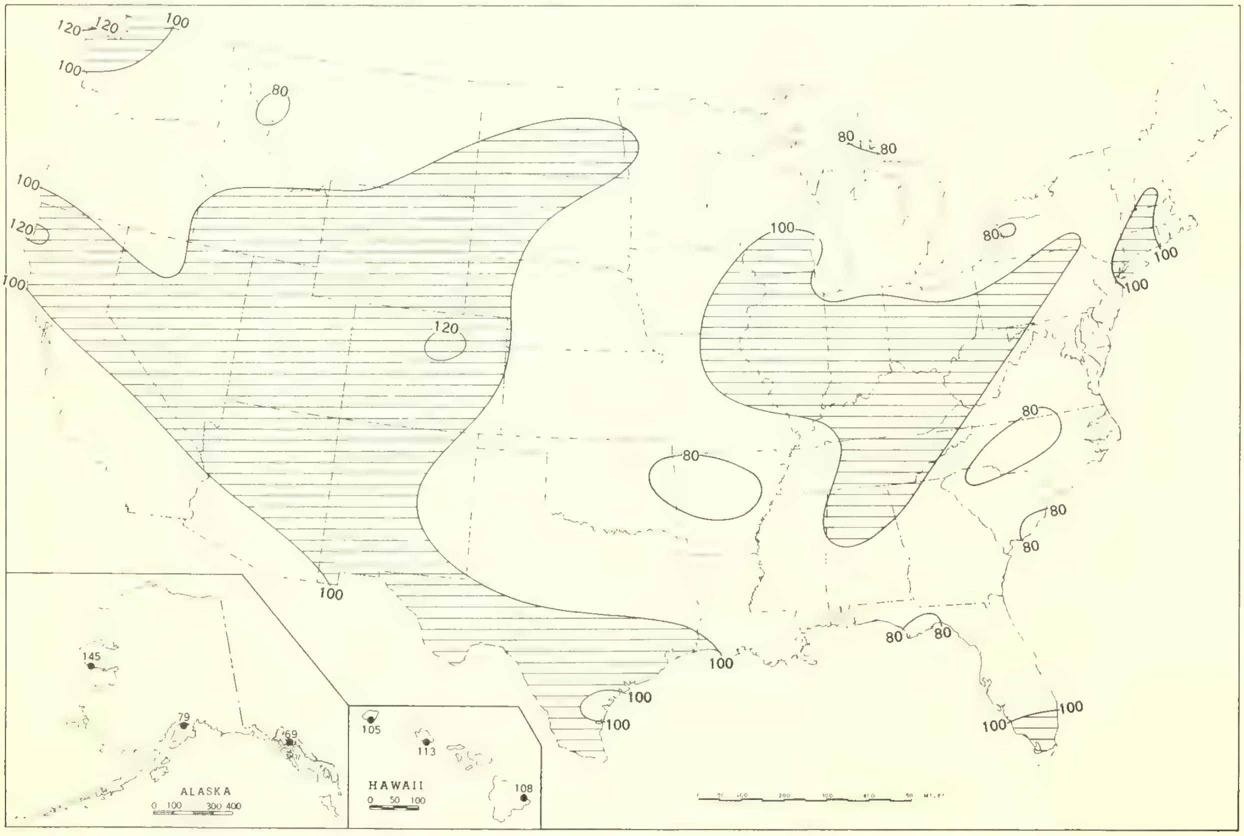


Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, August 1964.

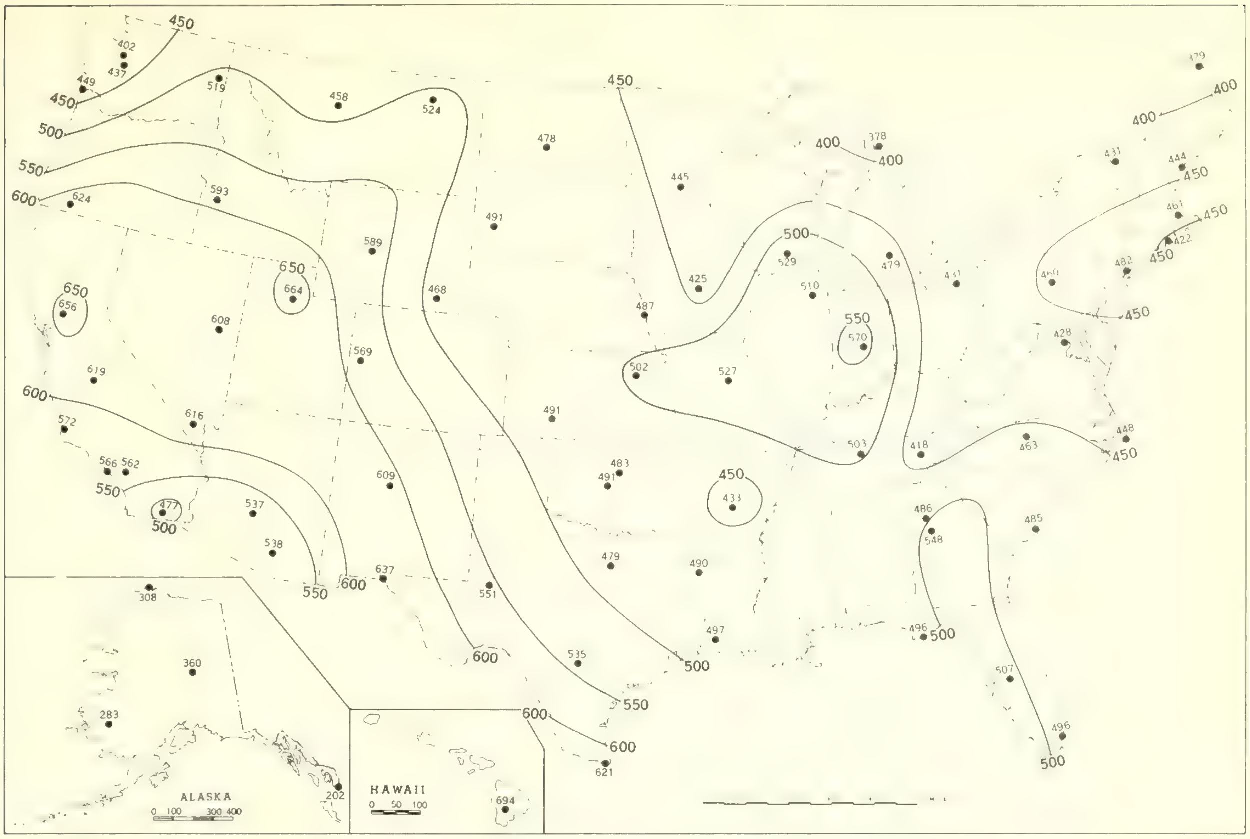


B. Percentage of Mean Monthly Sunshine, August 1964.

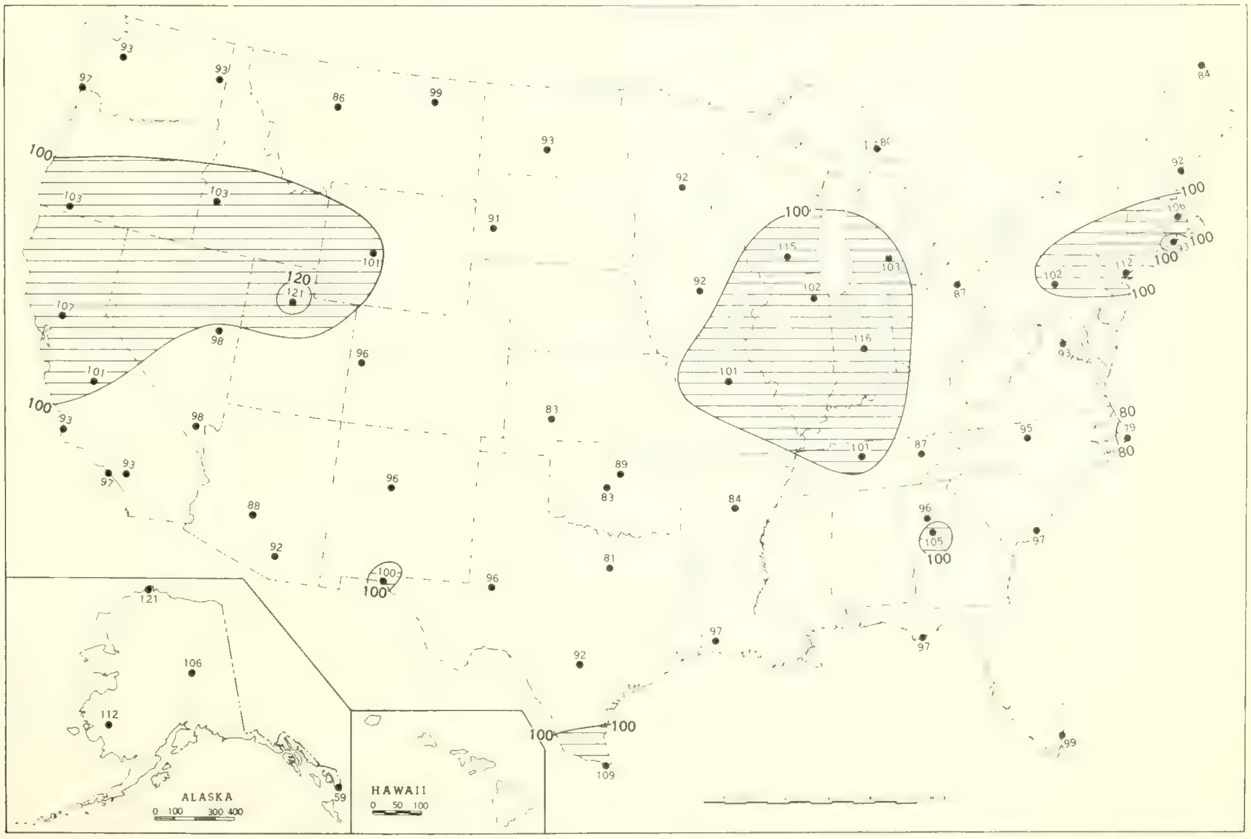


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, August 1964.

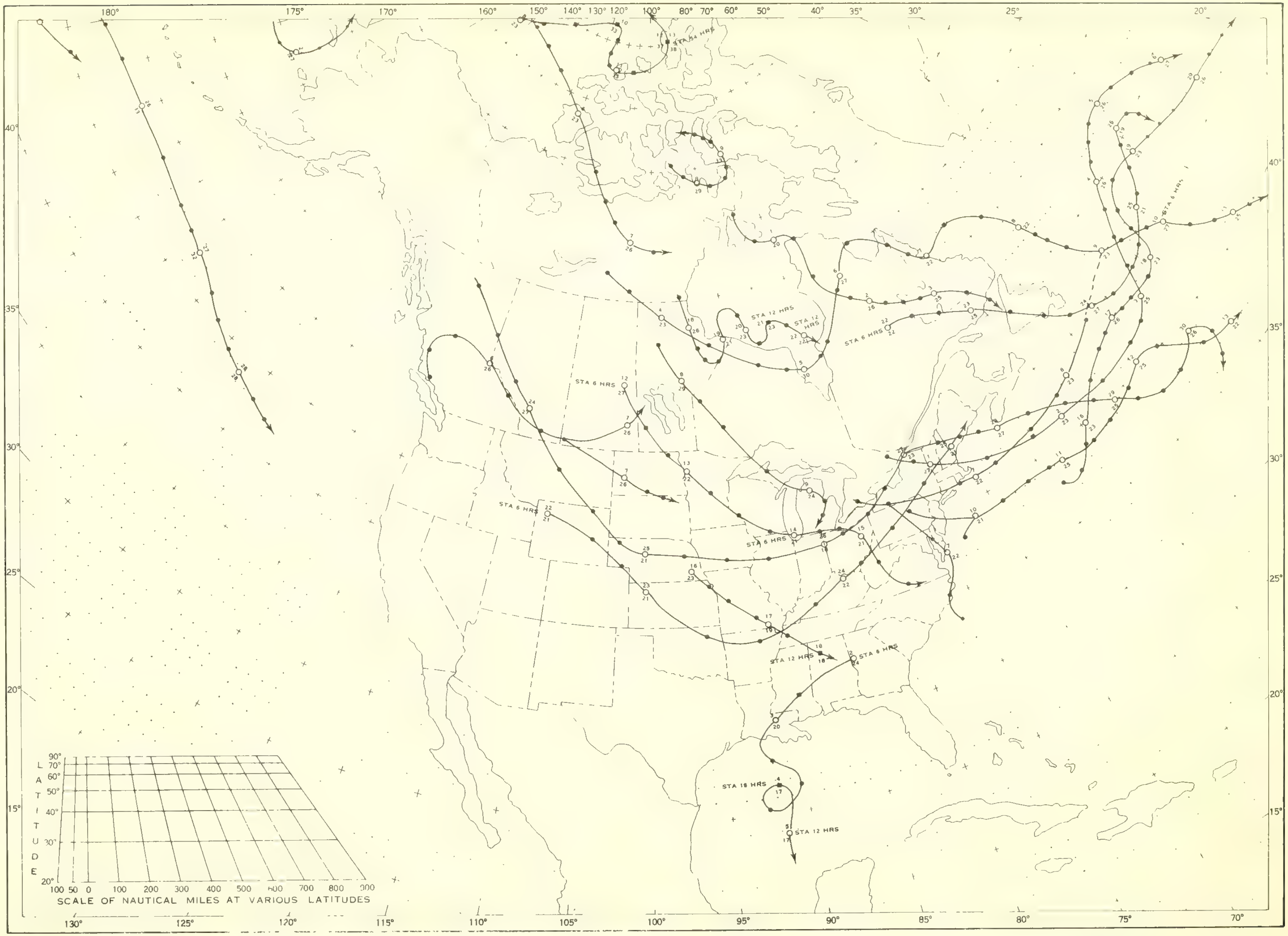


B. Percentage of Mean Daily Solar Radiation, August 1964.



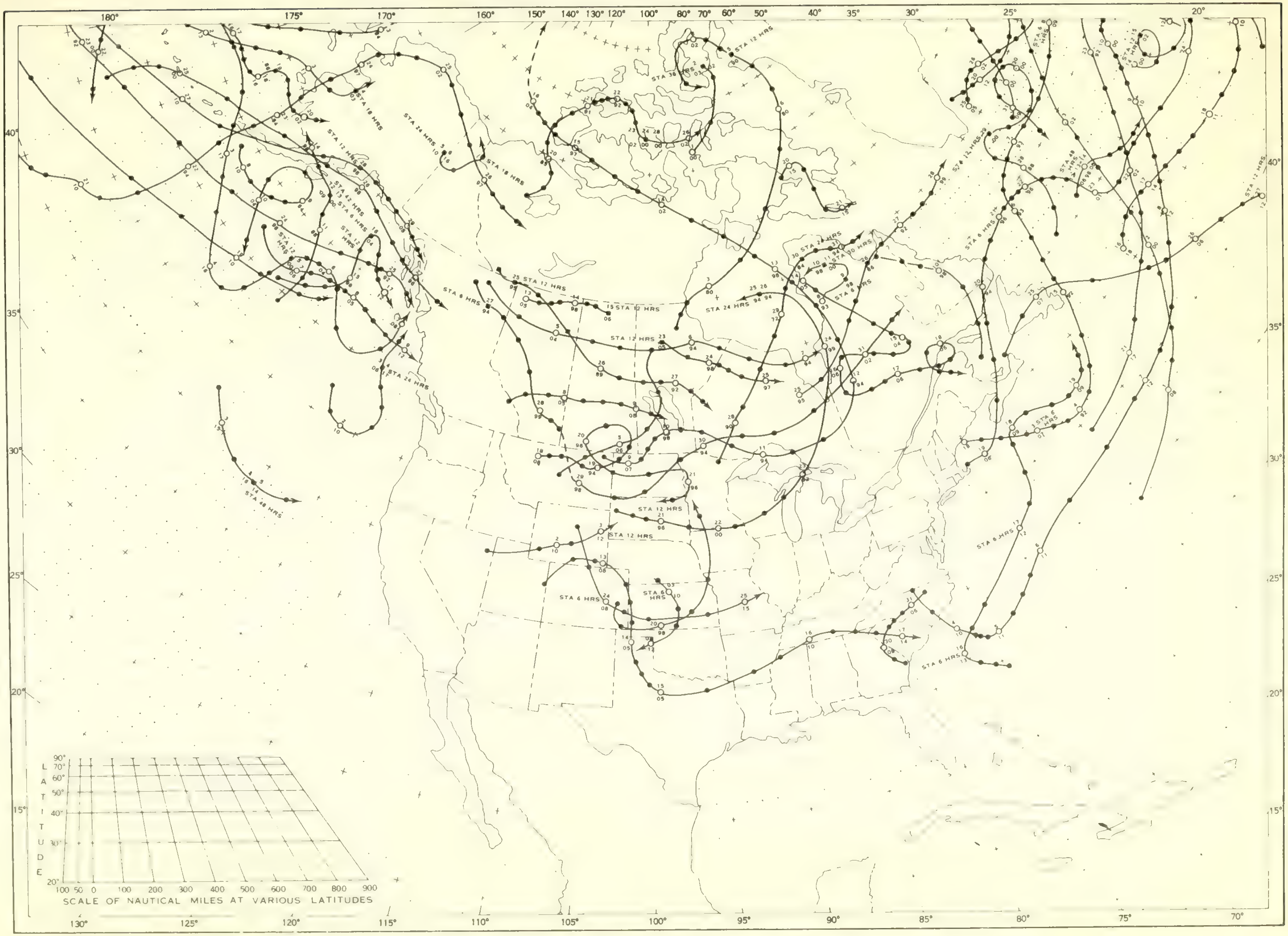
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, August 1964.



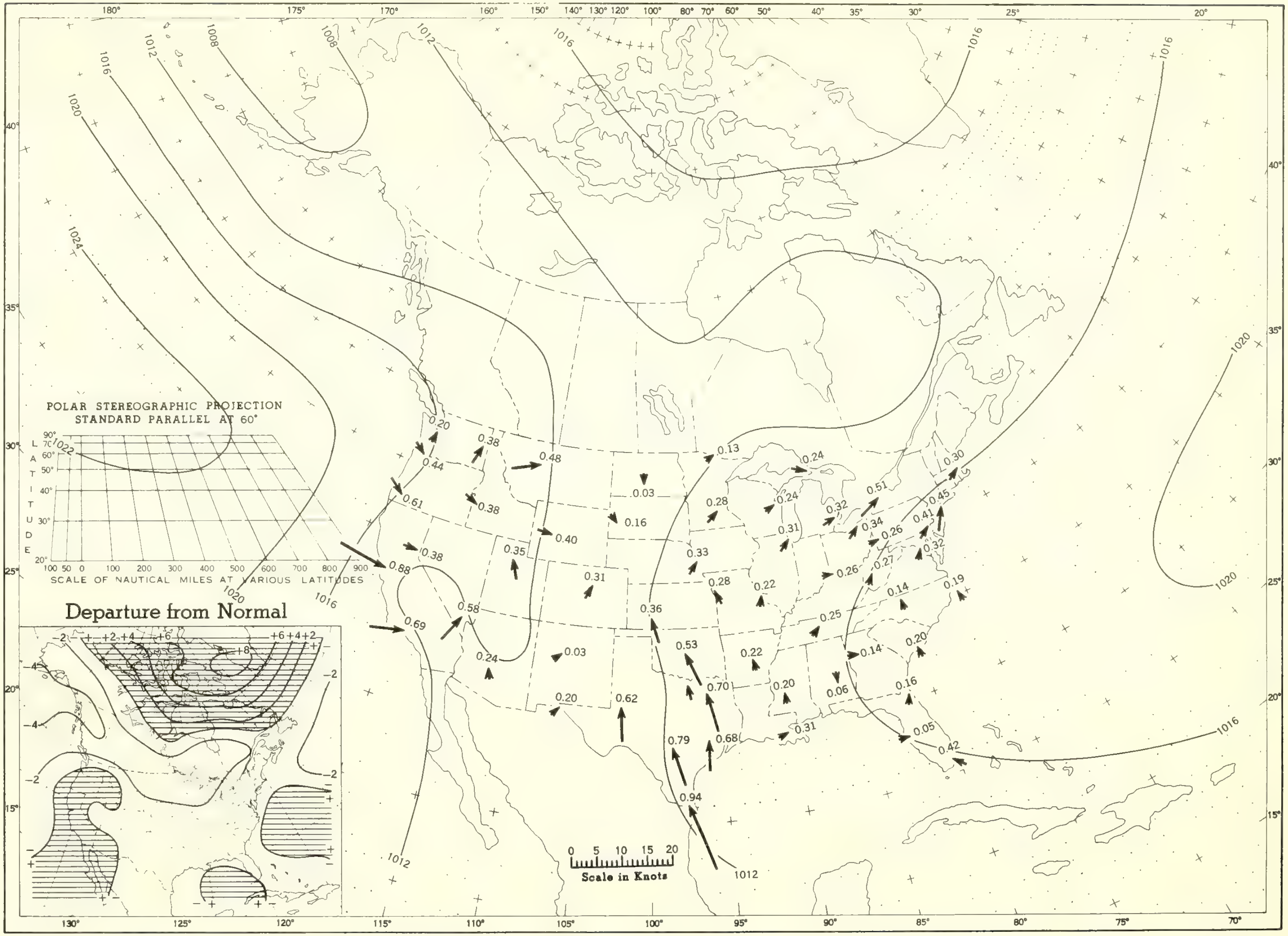
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, August 1964.



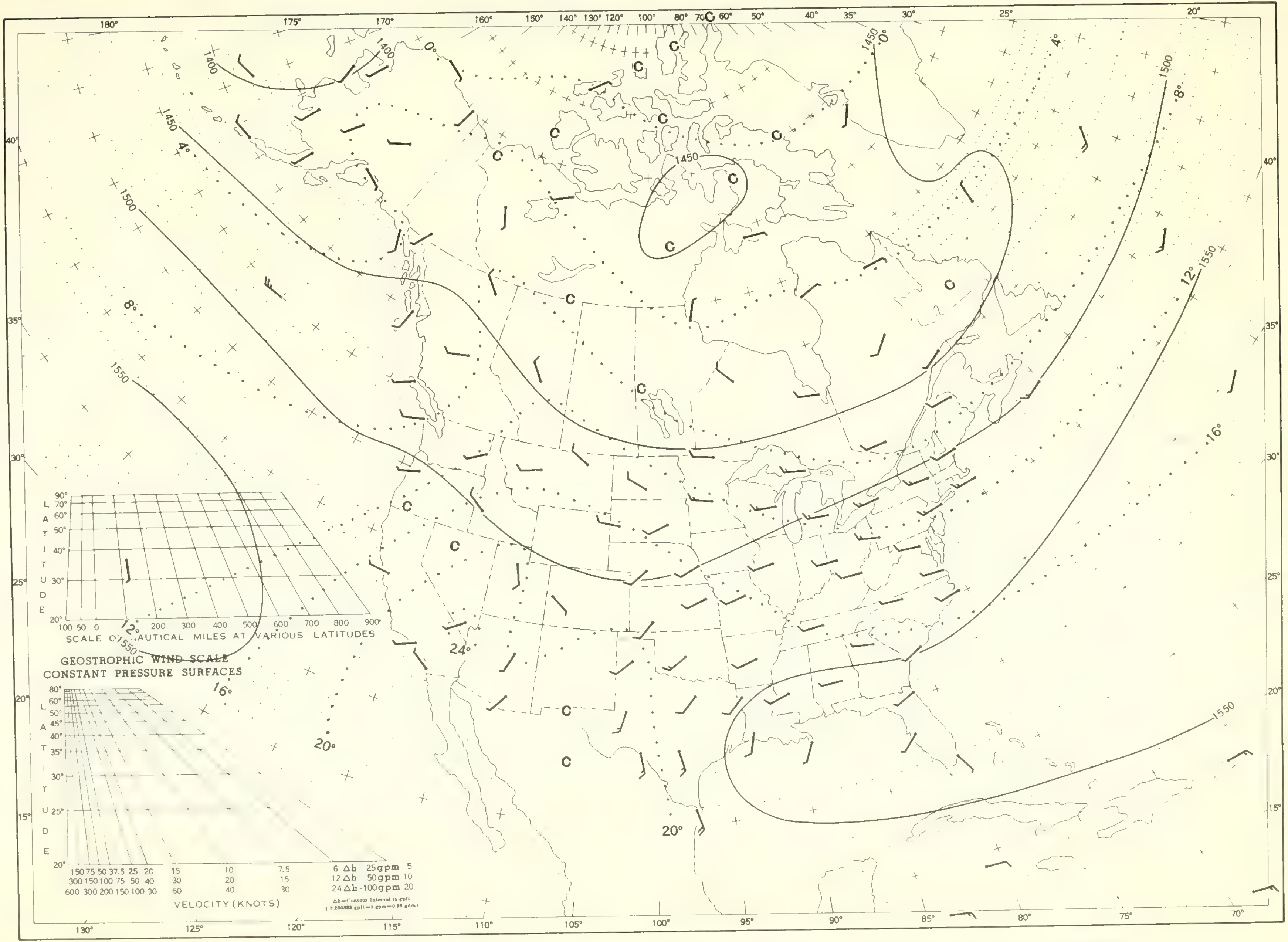
Circle indicates position of center at 7:00 a.m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, August 1964. Inset: Departure of Average Pressure (mb.) from Normal, August 1964.



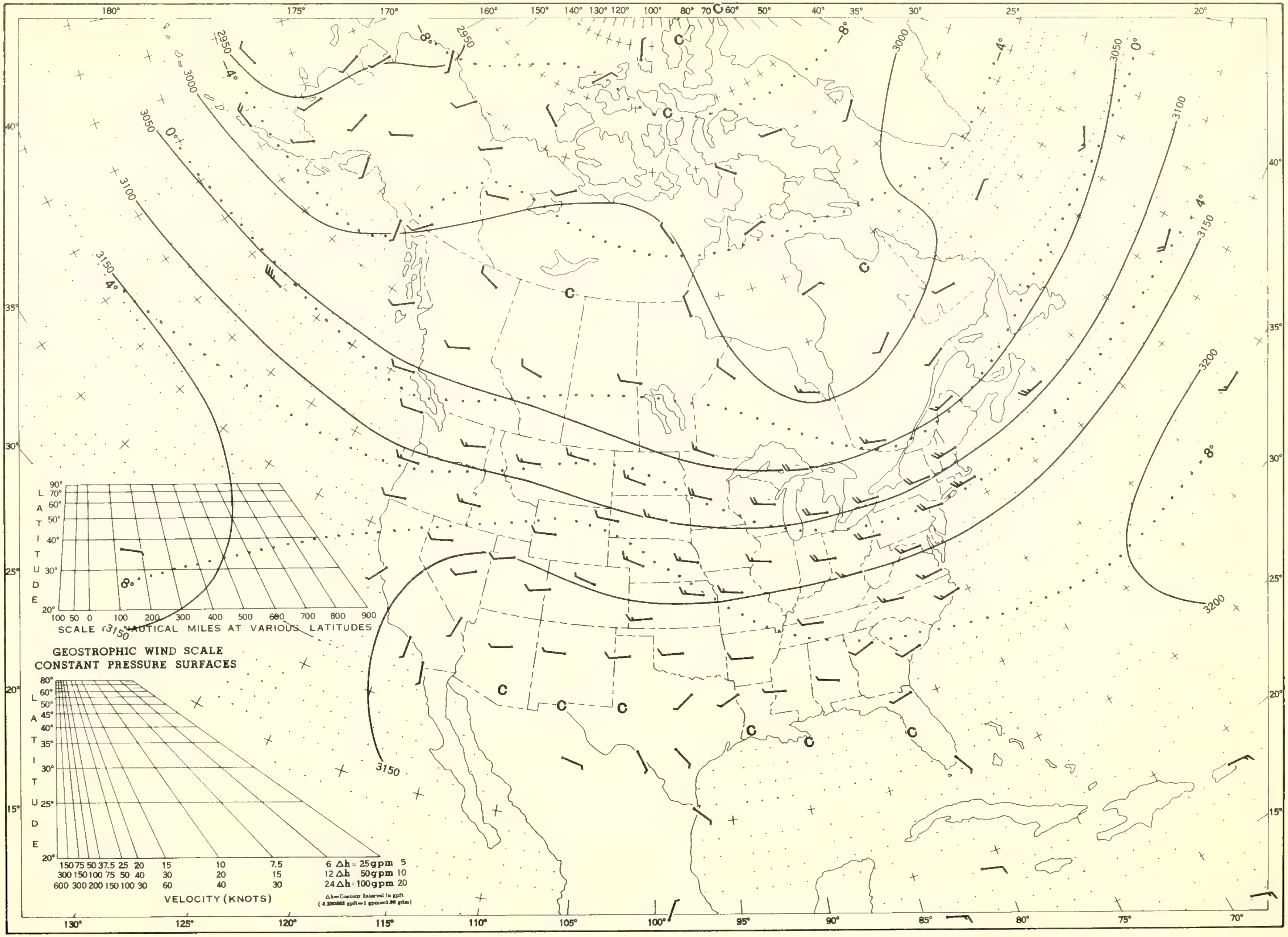
Average sea level pressures are obtained from the averages of 24 hourly readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, August 1964. Average Height and Temperature, and Resultant Winds.



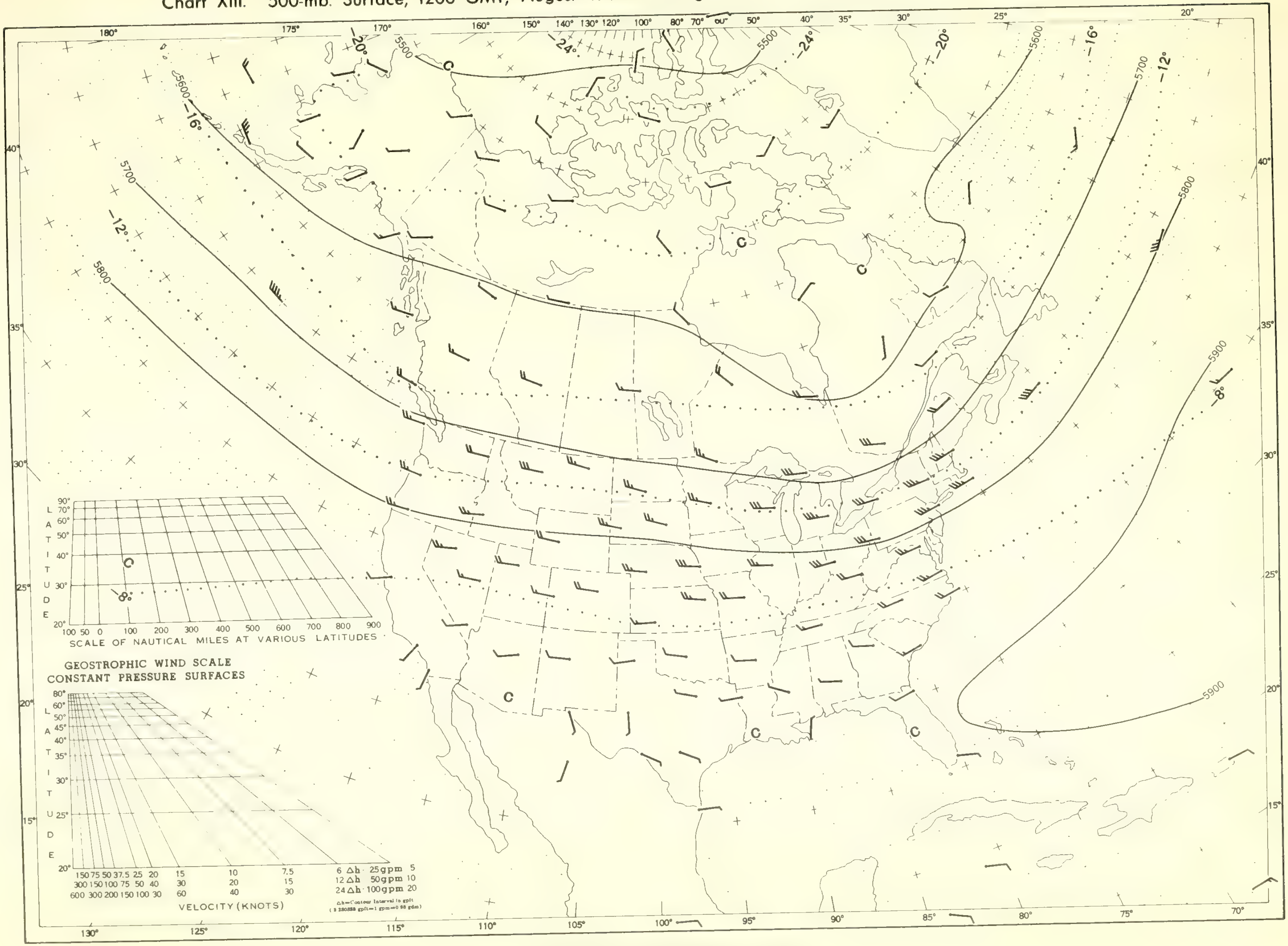
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, August 1964. Average Height and Temperature, and Resultant Winds.



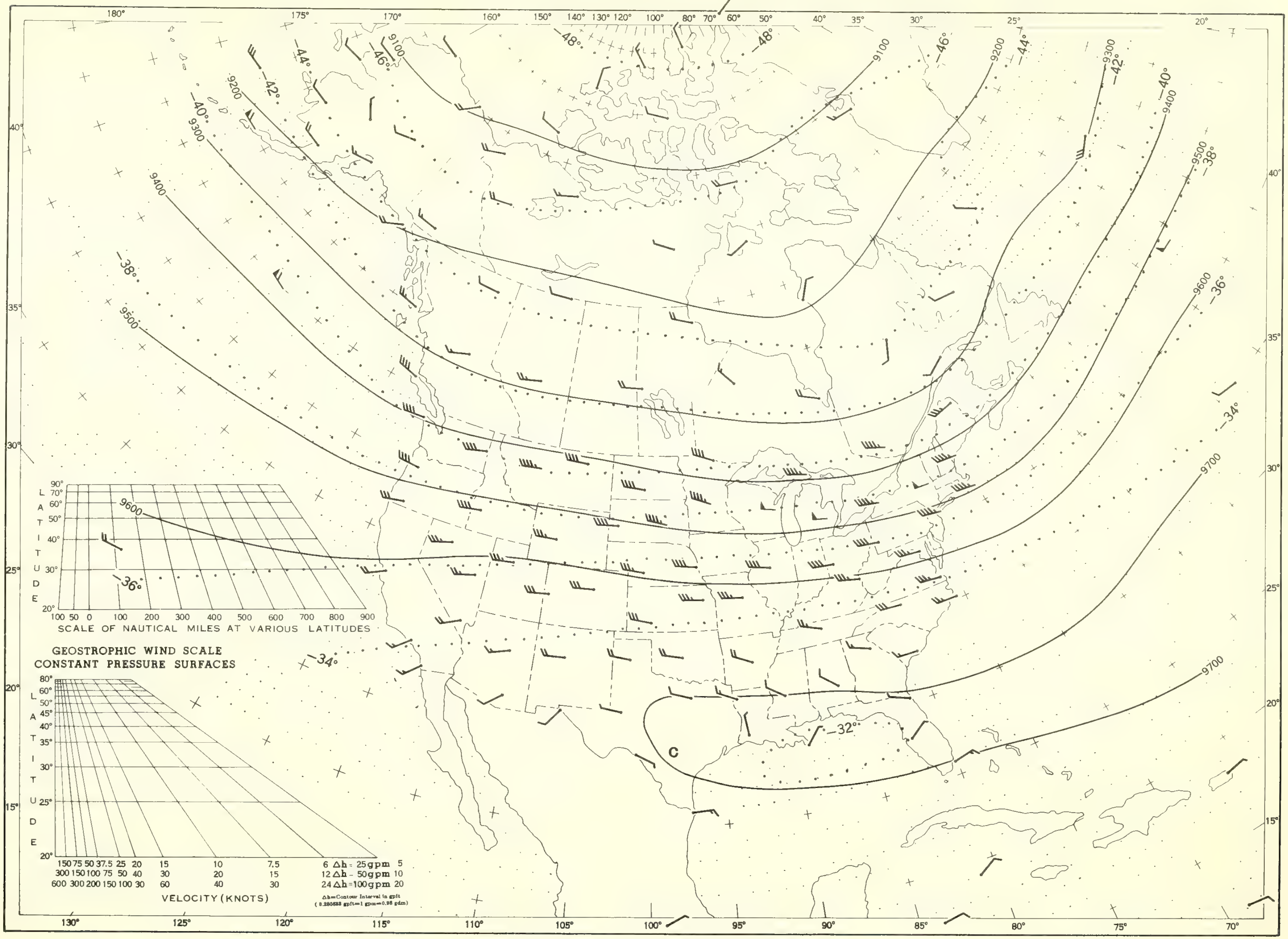
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, August 1964. Average Height and Temperature, and Resultant Winds.



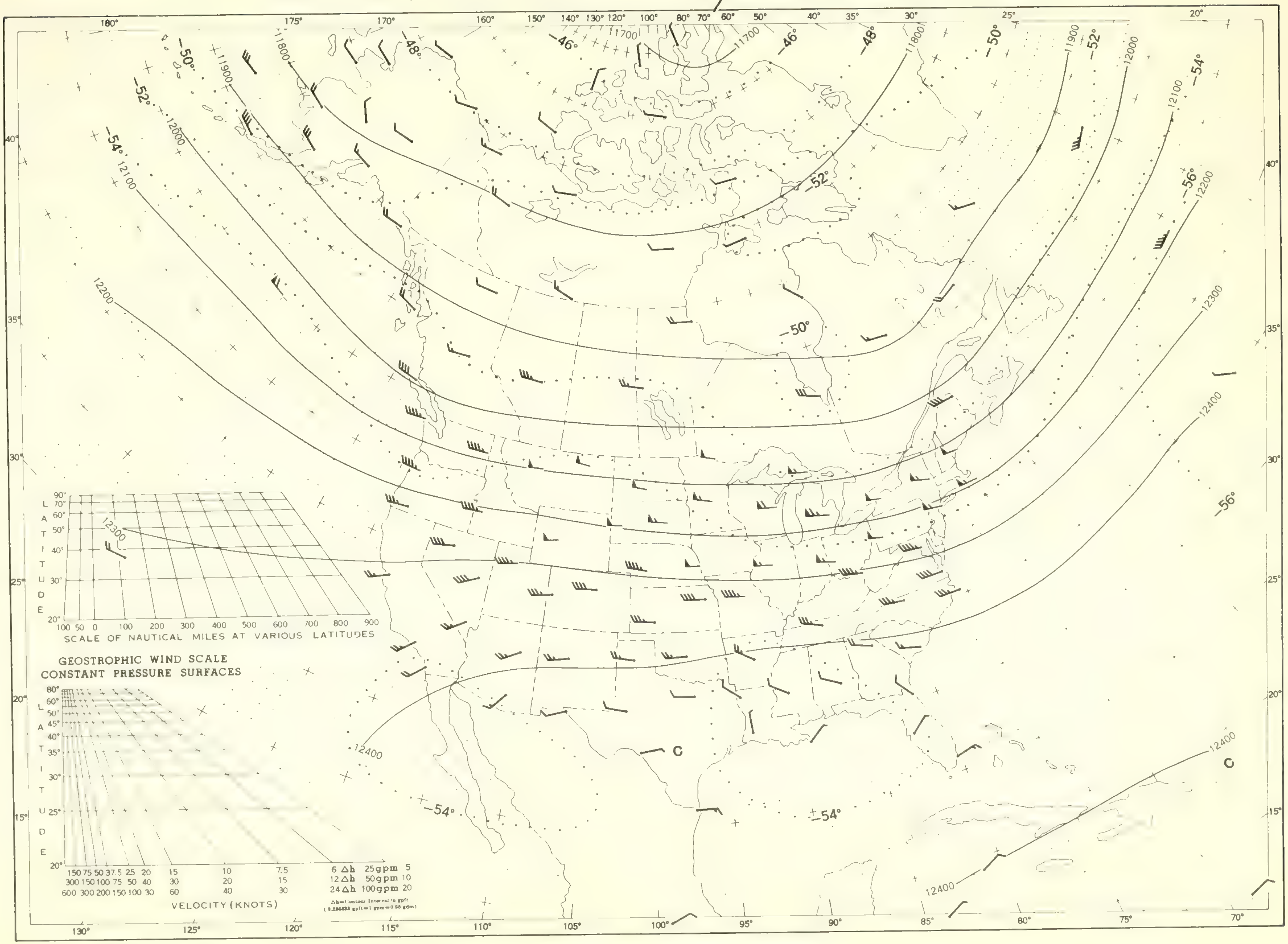
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, August 1964. Average Height and Temperature, and Resultant Winds.



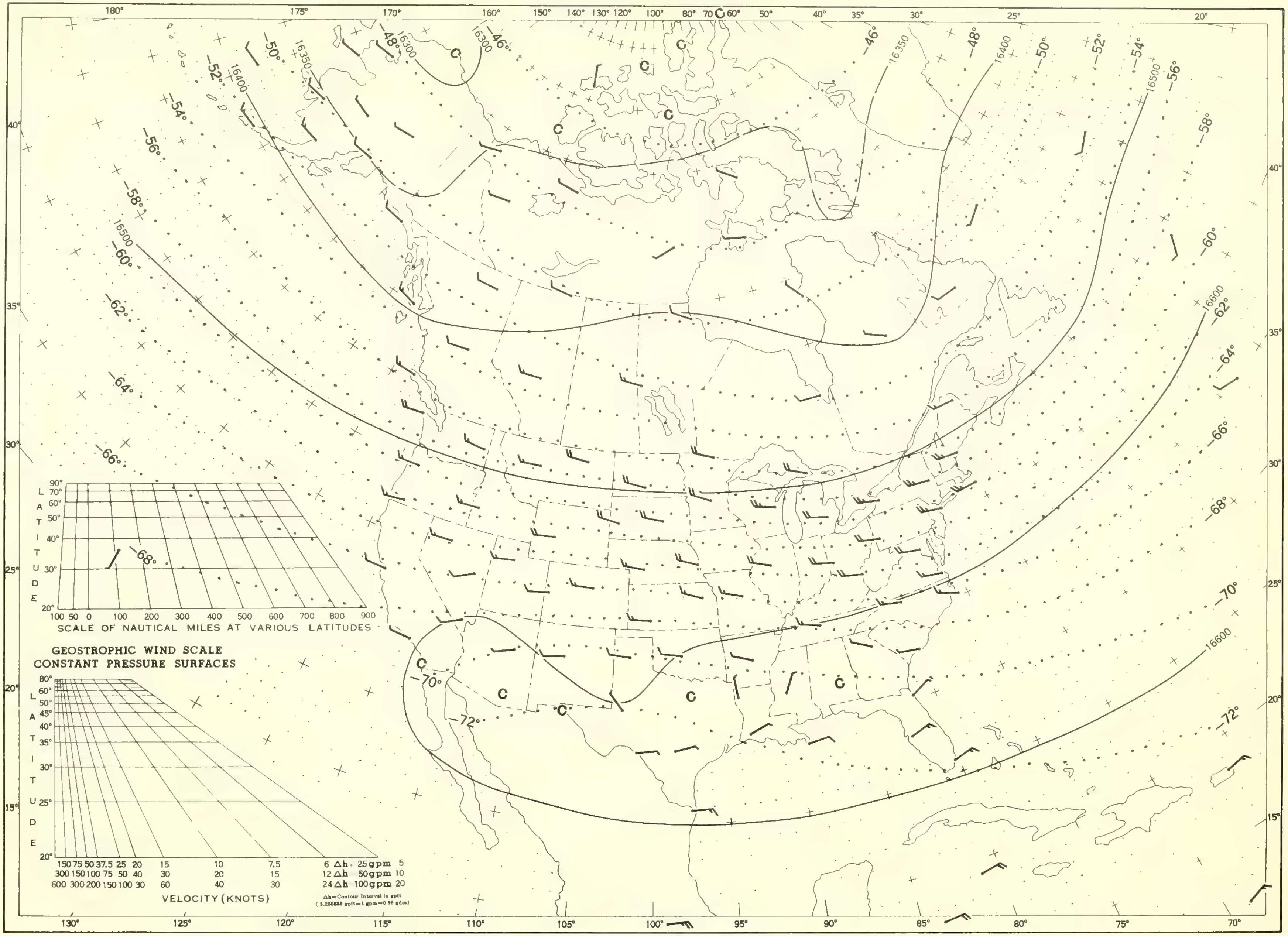
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, August 1964. Average Height and Temperature, and Resultant Winds.



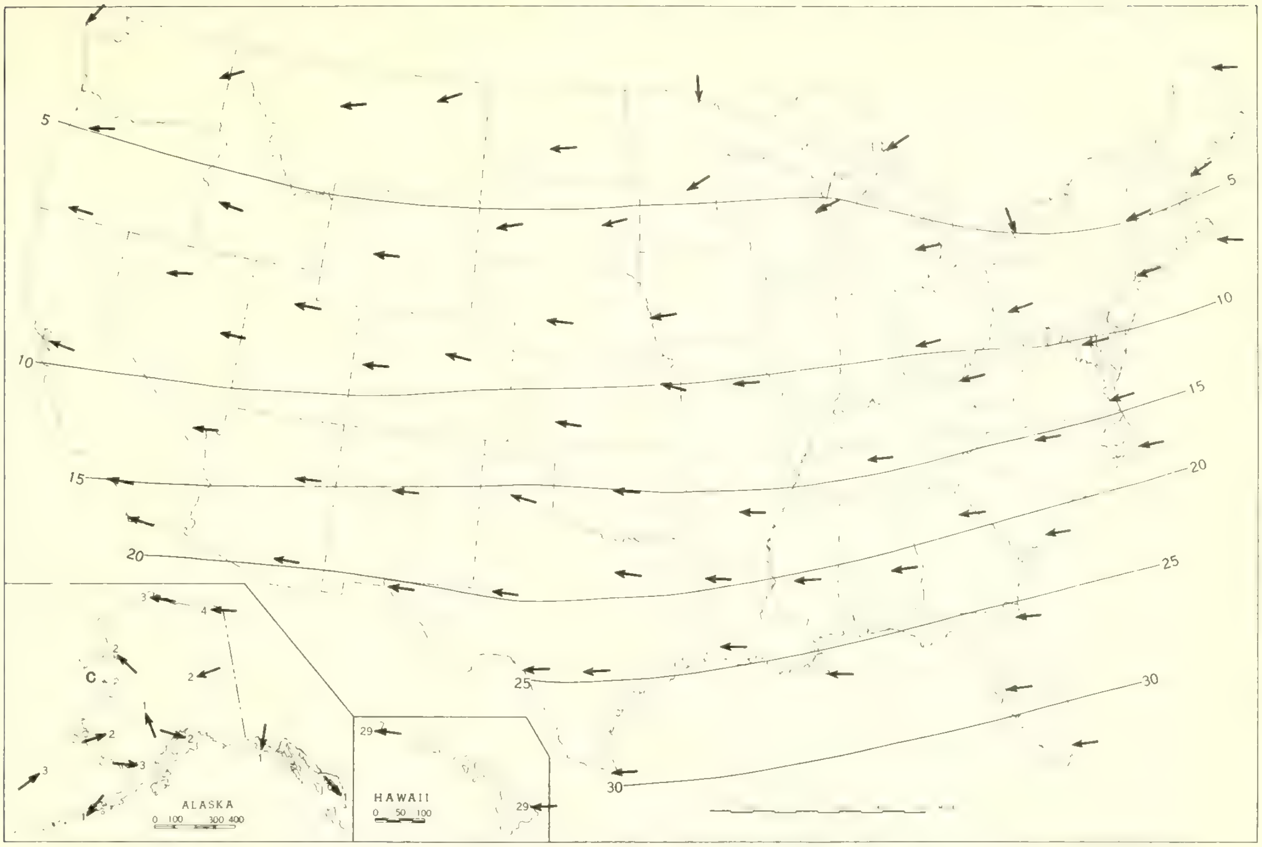
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, August 1964. Average Height and Temperature, and Resultant Winds.

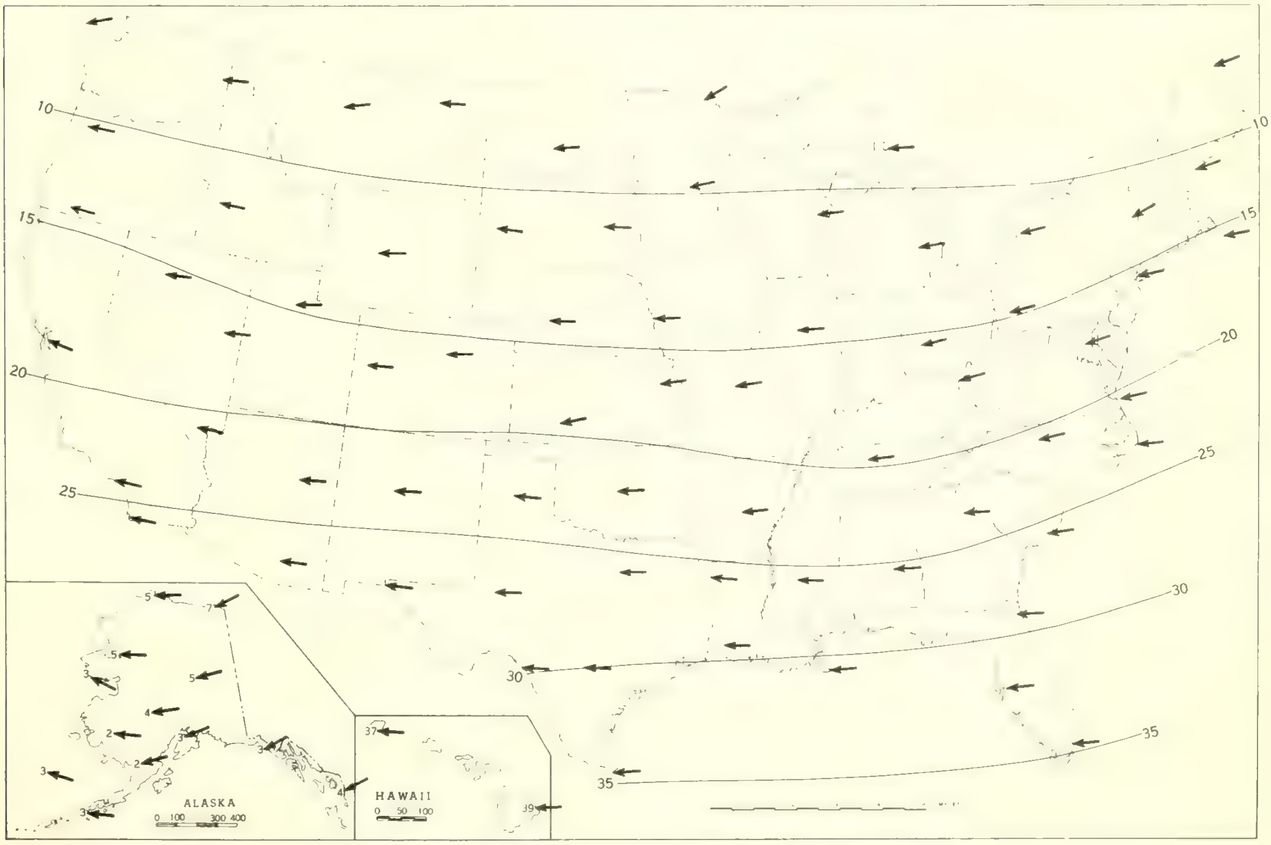


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, August 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, August 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville, N. C. 12/14/64-1850

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

SEPTEMBER 1964
Volume 15 No. 9

ASHEVILLE: 1965

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 9 SEPTEMBER 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

September temperatures averaged cooler than normal over most of the United States. Over parts of the northern Rocky Mountains and the northern Great Plains, the temperatures averaged more than 4° below normal. Rainfall exceeded the September normals over portions of the southern Rocky Mountains, the southern Great Plains, the upper Mississippi River Valley, and the Ohio River Valley. A wide area from California to the northern Great Plains received less than half the normal September rainfall; also a strip from central Illinois to New England.

TEMPERATURE.--Several cold fronts crossed the Canadian Border and advanced across the Great Plains and southeastward to the Gulf, each followed by a blast of polar continental air. This kept the temperatures over most of the Nation below normal during much of the month. At some locations in the northern Great Plains, September 1964 was one of the coolest Septembers in many years. It was the coolest September in 72 years at Missoula, Mont., and the fourth coolest in 30 years at Billings. Stations in the Far West, also, recorded that September was "cool". It was the coolest September since 1954 at Fresno, Calif., and since 1950 at Burbank.

Stations on the central Great Plains also recorded cooler than usual temperatures in September. Similarly, in the Northeast, September weather seemed ideal as the beginning of the transition from summer to autumn. Temperatures over the Northeast averaged mostly from near normal to about 2° cooler than normal. Over the Far Southwest, the weather was slightly cooler than usual but the days were warmer than most Septembers in southern Texas, northern Louisiana, central Mississippi, and the eastern side of the Florida Peninsula. Elsewhere over the South, temperatures were close to seasonal.

PRECIPITATION.--Hurricane Cleo left over 10 inches of rain over the tidewater sections of Virginia and North Carolina on August 31 and September 1. Local downpours provided up to 3 inches at spots from Kansas to Minnesota near the end of the first week of September. Hurricane Dora produced 8 to 19 inches of rain over a small area west of Jacksonville, Fla., and lesser amounts from Appalachicola, Fla., to Norfolk, Va., during the second week of September. Also, in the second week, heavy thunderstorms left from 6 to 10 inches of rain over north-central Iowa and nearby counties in Minnesota. From September 15 to 17, generous rains fell over portions of the central and southern Great Plains. The greatest amounts fell in Texas and southwestern Arkansas. Heavy showers on Monday, September 21, totaled 13.60 inches at Del Rio, Texas. From 2 to more than 4 inches fell over other parts of Texas, and portions of Oklahoma, Arkansas, the Missouri Bootheel, and southern Illinois. Much of the Southeast received generous rains the last few days of the month.

Portions of the Nation that were not favored with generous rains complained of the unusual dryness. At Olympia, Wash., September 1964 was one of the driest Septembers of record until the last day of the month when 1.27 inches fell. Burns, Oreg., received only 0.06 inch during the entire month. It was the driest September since 1956 at Pendleton, Oreg., and since 1932 at Pocatello, Idaho. California, Nevada, and Utah received less than half their usual September rainfall. Over 100,000 acres of forests in the Eureka, Calif., area burned as the result of three major fires. Substantial rains fell at scattered locations in Arizona and New Mexico. Winslow, Ariz., received 5.11 inches -- the greatest September rainfall of their record which began in 1867. The September normal for Winslow is 1.00 inch. Hail and high winds caused considerable crop damage in the Roswell, N. Mex., vicinity on the 22d. Parts of Texas received substantial rains. No rain fell at Dallas during the first half of the month but 10.67 inches fell during the last half. This is almost four times the September normal for Dallas. Cloudbursts between Laredo and Eagle Pass caused flooding at Laredo.

September was a windy month over the northern Great Plains. Some locations received generous rains; others received less rain than usual. It was the fourth wettest September in 91 years at Duluth, Minn. It was the wettest September since 1951 at Minneapolis-St. Paul but the driest since 1953 at St. Cloud. Hail up to 2-3/4 inches in diameter damaged windows, automobiles, power lines, and late crops in the Fargo, N. Dak., area on the 26th.

Parts of the Northeast received less than half the usual September rain. It was the second driest September of record at Syracuse, N. Y. Erie, Pa., received almost no rain during the first half of the month. Harrisburg, Pa., received some good soaking rains during the last few days. These tended to ease the droughty condition that had prevailed for a few months. Williamsport, Pa., received only 0.50 inch during the month. In contrast, Providence, R. I., received above-normal rain furnished by two hurricanes and Atlantic City, N. J., received the greatest September total in 21 years.

CONDENSED CLIMATOLOGICAL SUMMARY

SEPTEMBER 1964

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	99	3+	Valley Head	37	25	Fort Morgan	10.30	Gadsden Gas Plant	1.04
Alaska	Eldred Rock	79	9	Central No 2	10	30	Little Port Walter	17.50	Chitina	.05
Arizona	Cortaro 3SW	111	1	Fort Valley	26	22+	Amado 1SE	8.31	6 Stations	.00
Arkansas	3 Stations	99	9+	2 Stations	38	14+	Bluff City 3SW	9.81	Arkansas City	1.74
California	2 Stations	111	16+	do	8	2	Cohasset 1NNE	1.98	258 Stations	.00
Colorado	Lamar	103	2	Walden	9	27	Placerville	6.10	Parker 9 E	T
Connecticut	Hartford WBAP	94	11	Coventry	24	16	Lake Konomoc	3.39	Bridgeport WBAP	.54
Delaware	Dover	95	4	5 Stations	39	26	Georgetown 5SW	5.39	Wilmington Porter Resvr	2.46
Florida	Fountain 3SSE	102	2	2 Stations	55	25+	Mayo 5NW	25.16	Belle Glade Exp Sta	2.12
Georgia	Bainbridge	100	2	do	38	25	Folkston 9SW	10.99	Carnesville 3N	.47
Hawaii	Mana 1026, Kauai	92	2+	Mauna Loa Slope Obs	31	3	Pepeekeo A & F 140	23.80	9 Stations	.00
Idaho	Glenns Ferry	92	13	Warren	11	19	Burke 2ENE	3.56	4 Stations	.00
Illinois	5 Stations	98	10+	Barrington 1NW	25	29	Cairo WB City	5.40	Rantoul Chanute AFB	.36
Indiana	2 Stations	100	10	3 Stations	29	28+	Hobart	8.32	Elwood Water Works	.69
Iowa	Shenandoah	96	3	Elkader	23	28	Lorimor	10.44	Dubuque L and D Noll	1.43
Kansas	3 Stations	105	3+	Atwood	27	27	Osawatomie	6.57	Richfield 10WSW	.41
Kentucky	2 Stations	100	11+	2 Stations	30	14	Greenville 2W	7.59	2 Stations	1.48
Louisiana	Chatham	100	4	do	43	14	Hammond 3NW	14.85	Port Sulphur	.59
Maine	2 Stations	89	11	3 Stations	23	29	Fort Fairfield	4.06	Harim 2S	.72
Maryland	Cumberland	101	10	Oakland 1SE	23	14	Vienna	6.68	Crisfield Somers Cove	1.59
Massachusetts	Fitchburg 2S	92	12	2 Stations	25	20+	Nantucket WBAP	6.26	Turner Falls	.39
Michigan	Monroe Sewage Plant	95	10+	do	20	30+	East Jordan	6.83	Ann Arbor Univ of Mich	1.19
Minnesota	3 Stations	93	2	Bigfork	17	15	Windom 1E	9.57	Benson	.84
Mississippi	Merrill	100	4+	2 Stations	40	14	Nitta Yuma	7.89	Crawford 5WSW	.72
Missouri	2 Stations	99	10	do	32	28	Fisk	11.00	Saint Charles	.81
Montana	do	95	17+	Wisdom	9	19	Hungry Horse Dam	3.48	11 Stations	.00
Nebraska	4 Stations	103	3+	Harrisburg 10NW	16	27	North Loup	6.05	Chardon FAA AP	.08
Nevada	Sunrise Manor Las Vegas	105	12	Charleston	10	27	Caliente	.96	31 Stations	.00
New Hampshire	Windham	95	11	2 Stations	21	20	Dixville Notch	3.03	Marlow	.10
New Jersey	Flemington 1NE	98	12+	do	30	16	Bass River St Forest	7.07	Elizabeth	.58
New Mexico	2 Stations	103	10+	Cowles	17	28	McCauley Ranch	6.68	Pena Blanca	.00
New York	do	97	11	Roxbury	22	16	Bridgehampton	3.69	Glens Falls FAA AP	.10
North Carolina	Yanceyville 2NNE	96	5	Transou	30	26	Rosman	17.51	2 Stations	.83
North Dakota	2 Stations	93	2+	Moffit 4SE	18	11	Cavalier	5.16	Watauga S Dak 11S	.10
Ohio	Milford	101	10	2 Stations	28	14	Toledo Blade	3.88	Canton Repository	.28
Oklahoma	Wister Dam	107	3	Beaver	36	28	Clayton 2N	10.39	Kenton	.39
Oregon	Illahe 2N	102	24	Fremont	11	9	Brightwood	3.96	3 Stations	.00
Pennsylvania	Phoenixville 1E	102	10	Clermont 4NW	22	13	Maple Glen	5.22	Covington 2WSW	.19
Puerto Rico	Canovanas 2N	96	21+	Aibonito	60	25+	Guineo Reservoir	17.28	Manati	.86
Rhode Island	2 Stations	86	5	Kingston	33	16	Kingston	4.18	Woonsocket	2.79
South Carolina	Loris	95	10	2 Stations	40	26+	Caesars Head	10.61	Antreville	.43
South Dakota	Oahe Dam	104	2	4 Stations	17	27+	Canton	6.06	Zeona 2ESE	T
Tennessee	Clarksville	98	11	Mountain City 2	30	26	Center Hill Dam	9.06	Conasauga 1N	.70
Texas	Kaufman	106	4	Miami	36	28	McKinney	21.57	Ysleta	.31
Utah	Saint George Pwr House	100	5	Hardware Ranch	11	27	Cedar Breas Nat Mon	2.55	4 Stations	.00
Vermont	Bellow Falls	90	12	Chelsea	21	17+	Huntington Center	2.34	Cavendish	.33
Virginia	Woodstock	99	11	Burkes Garden	27	15	Diamond Springs	20.74	Damascus	.33
Washington	2 Stations	96	17+	2 Stations	25	11+	Clearwater	8.60	White Swan	.00
West Virginia	do	100	10	do	18	14	Beckley WBAP	8.27	Weirton	.91
Wisconsin	West Allis	99	3	Breed	20	28	Eau Pleine Reservoir	13.68	2 Stations	1.17
Wyoming	Yoder	98	1	Big Piney	9	27	Sybille Research Unit	.99	15 Stations	.00

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	992.5	1017.4	88	65	76.0	- 0.3	95	10+	46	25	11	0	61	65	3.26	- 0.07	2.64	7	2	0.0	0	7.2	9	32	NE	11	14	6	10	4.9	79
HUNTSVILLE	600	994.4	1017.4	85	63	73.8	- 0.7	94	10	47	25	9	0	59	64	4.49	1.40	2.62	6	2	0.0	0	6.8	14	38*	36	12	14	8	8	4.5	
MOBILE	211	1013.0	1015.3	88	69	78.2	0.3	98	2	54	14	8	0	67	75	2.19	- 4.06	1.37	6	3	0.0	0	9.6	6	23*	16	28+	11	6	13	5.6	
MONTGOMERY	195	1008.2	1016.3	87	66	76.3	- 0.8	97	1	51	25	9	0	66	75	5.38	1.41	4.07	7	3	0.0	0	7.6	6	27	N	11	10	10	10	5.5	65
ALASKA												B																				
ANCHORAGE	143	1006.5	1011.3	57	40	48.7		65	9	32	24	0	1	44	83	0.83		0.25	12	0	0.0	0	5.7	18	21*	22	22	3	4	23	8.2	43
ANNETTE	110	1014.4	1015.2	60	45	52.5	- 1.6	72	2	34	28	4	0	44	75	9.76	- 0.12	1.61	18	0	0.0	0	7.2	34	23*	14	29	8	4	18	6.8	
BARROW	22	1013.7	1014.4	30	24	27.0	- 3.5	43	8+	12	30	0	28	24	87	0.10	- 0.54	0.04	6	0	1.5	T	13.8	9	28*	12	7+	3	1	26	8.7	
BARTER ISLAND	39	1012.5	1014.4	34	29	31.2	- 0.9	49	1	17	30	0	25	28	87	0.43	- 0.51	0.21	9	0	1.4	T	12.6	10	33*	28	4	0	2	28	9.4	
BETHEL	125	1006.4	1007.8	54	41	47.2	2.6	64	6	31	23	0	1	43	88	1.47	- 1.12	0.35	10	0	0.0	0	11.2	12	52*	21	4	0	6	24	9.0	
COLD BAY	94	1007.3	1007.6	51	43	47.1	- 0.4	57	8	35	1	0	0	44	90	5.25	0.93	1.78	21	0	0.0	0	15.2	15	46*	17	24+	0	1	29	9.7	
CORDOVA	41	1007.3	1012.2	56	39	47.7	0.1	70	6	30	24	1	1	43	84	6.94	- 5.57	2.67	19	0	0.0	0	4.4	7	17*	6	21+	3	3	24	8.5	
FAIRBANKS	436	994.3	1011.4	55	35	44.9	1.3	70	11	24	16	1	11	36	76	0.85	- 0.25	0.37	9	0	0.0	0	5.6	34	24*	26	3	5	8	17	6.9	
JUNEAU	12	1014.5	1014.5	58	42	49.7	0.8	68	2	34	25+	0	0	45	86	2.59	- 4.08	0.39	13	0	0.0	0	8.1	12	28*	13	29	7	4	19	7.2	44
KING SALMON	43	1007.3	1008.6	56	40	48.1	0.2	71	6	32	6	2	1	42	82	2.40	- 0.68	0.81	16	0	0.0	0	10.0	9	51*	9	20	2	4	24	8.5	
KOTZEBUE	10	1007.8	1008.4	46	37	41.7	0.8	61	12	25	16	0	8	36	81	1.76	0.54	0.54	16	0	T	T	14.1	11	40*	11	4	3	3	24	8.6	
MC GRATH	334	997.2	1009.8	55	36	45.2	1.3	70	10	23	17+	1	9	39	81	0.69	- 1.92	0.21	9	0	0.0	0	5.0	21	21*	22	5+	1	5	24	8.8	
NOME	13	1005.5	1006.1	48	39	43.2	1.3	58	14	28	16	0	5	38	82	5.72	3.05	1.28	15	0	0.0	0	15.6	36	44*	23	4	2	3	25	9.0	
ST. PAUL ISLAND	22	1003.8	1004.8	46	40	43.1	- 1.5	50	7+	26	23	0	2	42	93	4.45	1.38	0.75	23	0	0.0	0	15.7	31	53*	14	23	0	2	28	9.7	
SHEMYA	122	1004.3	1007.5	47	42	44.7	- 3.6	50	6+	37	14	0	0	41	88	5.06	2.81	1.16	20	0	T	0	21.5	30	49*	25	23	3	9	18	7.9	
YAKUTAT	28	1013.4	1014.5	56	39	47.4	- 1.8	65	9+	30	24+	0	7	45	91	11.31	- 5.24	2.05	18	0	0.0	0	5.8	9	21*	15	21	7	2	21	7.8	
ARIZONA																																
FLAGSTAFF	6993	792.3	1015.6	72	41	56.7	- 1.8	81	11+	30	20	0	1	38	57	0.99	- 0.59	0.59	7	10	0.0	0	6.4	18	23*	2	22	10	13	7	4.5	
PHOENIX	1117	971.3	1009.6	94	68	80.9	- 1.9	103	5+	50	14	27	0	53	42	1.80	1.07	1.50	5	6	0.0	0	7.7	12	61Y	NNW	14	20	6	4	3.0	86
PRESCOTT	5014	848.0	1013.1	82	53	67.3	- 1.4	92	5	40	22	3	0	43	47	1.10	- 0.09	0.65	6	7	0.0	0	7.9	19	32	S	1	14	11	5	3.9	83
TUCSON	2584	924.1		87	65	76.3	- 4.1	98	4	56	27	11	0			5.11	4.11	3.05	11	11	0.0	0	8.3	18	34	NE	23	14	11	5	4.2	70
WINSLOW	4880	852.5	1014.1	83	54	68.4	- 2.3	91	4+	42	22	5	0	45	50	1.36	0.45	0.67	11	9	0.0	0	6.6	9	33*	32	15	11	15	4	4.4	
YUMA	194	1003.5	1008.7	98	71	84.7	- 3.4	106	5	64	30+	29	0	53	39	T	- 0.38	T	0	2	0.0	0	7.1	18	28	SE	9	25	3	2	1.7	95
ARKANSAS																																
FORT SMITH	449	1001.7	1016.7	84	62	73.0	- 1.9	95	1	49	14+	10	0	62	73	3.18	- 0.46	1.45	8	1	0.0	0	6.4	7	23	W	22	11	5	14	5.6	54
LITTLE ROCK	257	1004.2	1017.2	85	62	73.7	- 0.6	97	4	48	14	14	0	62	71	5.46	2.23	3.61	3	2	0.0	0	5.8	2	24	N	12	13	5	12	5.0	62
TEXARKANA	372	1003.1	1016.5	85	65	75.0	- 1.5	96	3	48	14	10	0	64	74	7.79	5.06	5.54	8	4	0.0	0	5.7	7								
CALIFORNIA																																
BAKERSFIELD	494	994.7	1012.3	88	60	74.0	- 2.5	100	24	51	28	14	0	47	41	T	- 0.08	T	0	0	0.0	0	6.8	30	20*	32	25	27	3	0	0.7	
BISHOP	4108	873.8		88	44	65.9	- 2.3	93	14+	37	9	10	0			0.00	- 0.19	0.00	0	0	0.0	0						29	0	1	0.5	
BLUE CANYON	5280	839.9		70	50	60.3	- 2.6	85	24	34	1	0	0			0.05	- 0.58	0.05	1	0	0.0	0	6.8		25*	11	24+	28	0	2	0.8	
BURBANK	724	986.6	1012.3	84	57	70.2	- 2.4	97	23+	49	8	7	0	53	63	T	- 0.27	T	0	0	0.0	0	6.9	19	23*	16	24	22	7	1	2.3	
EUREKA U	43	1015.1		61	49	55.2	- 1.2	83	24	45	18	0	0			0.07	- 0.57	0.04	2	0	0.0	0	6.1	NW#	29	NW	21	15	7	8	4.4	71
FRESNO	328	1000.2	1012.1	89	53	71.0	- 3.2	98	24	48	2	14	0	49	51	0.00	- 0.10	0.00	0	0	0.0	0	6.7	31	19	NW	17	29	1	0	0.4	99
LONG BEACH	34	1011.2	1012.9	77	58	67.4	- 3.9	91	9	52	30	2	0	55	71	T	- 0.06	T	0	1	0.0	0	6.8	28	22*	13	24	17	11	2	3.0	
LOS ANGELES	97	1009.3	1013.1	73	60	66.7	- 1.8	86	24	55	8	0	0	56	72	T	- 0.17	T	0	0	0.0	0	9.5	27	25Y	W	1	16	11	3	3.2	
MT SHASTA R	3544	893.7		76	41	58.7	- 2.8	91	24	31	2	1	1			0.13	- 0.74	0.13	1	0	0.0	0						28	1	1	0.8	
OAKLAND	6	1013.9	1014.3	72	57	64.1	- 1.0	89	22	53	30+	0	0	52	69	0.00	- 0.20	0.00	0	0	0.0	0	9.6	30	23*	29	8	20	9	1	2.5	
RED BLUFF	341	1000.5	1013.2	88	58	72.7	- 3.3	104	24	47	28	12	0	43	40	0.85	0.48	1.52	1	0	0.0	0	7.6	35	33	N	20	26	4	0	1.1	97
SACRAMENTO	17	1011.6	1013.2	87	54	70.3	- 1.3	103	23	46	28	12	0	48	54	0.00	- 0.19	0.00	0	0	0.0	0	8.7	22	32	NW	21	28	2	0	0.6	99
SACRAMENTO U	19			85	55	69.7	- 1.7	99	23	47	9	8	0			0.00		0.00			0.0	0										
SANDBERG R	4517	862.8		79	57	67.8	- 1.5	87	12	43	2+	0	0			0.00	- 0.21	0.00	0	0	0.0	0	11.3		33*	36	1	25	4	1	1.1	
SAN DIEGO	13	1009.4	1012.6	74	61	67.7	- 2.2	82	9	57	19	0	0	58	76	0.00	- 0.15	0.00	0	0	0.0	0	7.0	30	20	NW	8+	19	8	3	3.5	73
SAN FRANCISCO	8	1014.0	1014.7	73	54	63.5	- 0.4	92	24	48	30	3	0	49	67	T	- 0.19	T	0	0	0.0	0	10.7	29	31	W	17	21	9	0	2.1	
SAN FRANCISCO U	52			69	56	62.4	0.4	92	24	50	10	2	0			T	- 0.22	T	0	0	0.0	0	8.9	W#	28	SW	25					78
SANTA CATALINA	1568	957.6		77	61	69.3	- 0.9	95	24+	55	8	3	0			0.05	- 0.15	0.05	1	1	0.0	0						19	9	2	2.6	
SANTA MARIA	238	1005.7		73	48	60.4	- 2.4	93	24+	40	28	2	0			T	- 0.16	T	0	0	0.0	0						18	12	0	3.1	
STOCKTON	22	1011.7	1013.3	87	53	70.0	- 2.7	98	24	48	29+	12	0	44	44	0.00	- 0.19	0.00	0	0	0.0	0	8.4	29	33*	34	21	29	1	0	0.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days								No. of days		Snow, Sleet				Fastest mile							
		Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																	
ALAMOSA	7536	774.4		72	38	55.2	- 0.5	82	4+	29	30	0	5			1.06	0.29	0.56	9	8	0.0	0						9	15	6	4.8	
COLORADO SPRINGS	6145	813.0	1014.5	75	48	61.9	0.3	92	2	34	27	1	0	36	45	1.33	0.26	1.12	6	2	0.0	0	9.7	35	35*	21	2	11	10	9	4.9	
DENVER	5283	838.5	1013.2	79	46	62.5	- 0.5	92	5+	33	27	5	0	35	43	0.41	- 0.72	0.20	4	0	0.0	0	7.6	20	25	NE	26+	14	8	8	4.3	81
GRAND JUNCTION	4855	859.5	1013.0	81	52	66.6	- 1.2	91	1	39	22	2	0	36	38	0.36	- 0.55	0.16	6	5	0.0	0	8.7	13	33	SW	1	19	5	6	3.0	85
PUEBLO	4684	857.2	1013.3	83	52	67.1	0.5	98	2	38	28	9	0	41	45	1.11	0.27	0.88	9	1	0.0	0	9.4	12	50	N	19	13	10	7	4.6	75
CONNECTICUT																																	
BRIDGEPORT	7	1018.7	1019.5	74	56	64.9	- 0.6	86	9+	43	16	0	0	54	70	0.54	- 3.41	0.41	5	0	0.0	0	13.4	5	27*	21	27+	12	9	9	5.1	
HARTFORD	169	1013.1	1019.0	75	51	63.0	- 0.3	94	11	33	16	2	0	50	68	1.42	- 2.23	1.09	6	2	0.0	0	7.6	36	26	S	27+	9	10	11	6.0	65
NEW HAVEN	6	1018.4		74	55	64.2	0.3	86	9+	42	16+	0	0			1.37	- 2.56	1.19	7	0	0.0	0	7.8		27	NW	25	11	10	9	5.4	69
DELAWARE																																	
WILMINGTON	78	1015.6	1018.9	78	56	67.2	- 0.4	94	11	42	26	3	0	53	64	2.77	- 1.18	1.42	7	0	0.0	0	9.5	36	23*	24	24+	15	5	10	4.7	
DIST.OF COLUMBIA																																	
WASHINGTON U	72			79	59	68.8		95	4	48	14	4	0			3.20		1.19	6													
WASH NATL AP	14	1014.6	1018.5	81	59	69.9	0.2	94	11+	47	14	5	0	54	62	3.07	- 0.76	1.63	6	0	0.0	0	9.4	20	25	SSW	27+	14	5	11	4.8	64
FLORIDA																																	
APALACHICOLA U	13	1013.9		85	73	78.9	0.0	94	1	67	25	4	0			7.58	- 0.95	3.11	6	3	0.0	0	8.6					8	10	12	5.9	
DAYTONA BEACH	31	1013.4	1015.1	85	72	78.3	- 0.9	92	1	64	23	1	0	71	80	11.39	4.39	6.34	8	1	0.0	0	11.8	7	46*	26	9	3	15	12	6.8	
FORT MYERS	15	1013.7		90	73	81.5	0.2	93	1	70	23+	18	0			9.45	0.95	2.78	16	11	0.0	0	9.9		35*	24	12	2	19	9	6.1	
JACKSONVILLE	24	1013.1	1014.8	86	70	77.9	- 1.5	95	1	62	23+	6	0	69	77	10.31	2.75	6.26	8	2	0.0	0	12.0	5	82	N	9	8	13	9	5.7	56
KEY WEST	4	1013.1	1014.4	88	79	83.6	1.3	91	15	74	18	3	0	74	74	4.10	- 2.63	1.59	16	11	0.0	0	9.8	12	28	SE	29	1	19	10	6.6	72
LAKELAND U	214			87	72	79.3	- 0.9	94	1	68	22	5	0			5.50	- 1.05	1.59	11	8	0.0	0	8.6					8	10	12	6.1	47
MIAMI BEACH	9			86	77	81.2	- 0.5	92	8	72	22+	2	0			4.77	- 2.59	1.51	21		0.0	0	13.3					3	18	9	6.5	67
MIAMI	7	1013.1	1014.4	88	76	82.3	1.0	92	11+	73	23	7	0	73	77	4.22	- 5.25	1.15	16	5	0.0	0	9.0	8	28*	24	11	2	16	12	6.8	
ORLANDO	108	1010.5	1015.2	88	72	79.8	- 0.2	94	1	64	23	11	0	71	81	9.47	2.24	5.36	10	4	0.0	0	10.5	6	40*	24	9	3	17	10	6.4	
PENSACOLA	112			86	71	98.2	0.0	97	2+	60	14	5	0			2.57	- 5.12	1.29	6	4	0.0	0	7.6	4	29	NW	12+					
TALLAHASSEE	58	1012.5	1015.6	87	69	78.2	0.1	96	1	61	23	12	0	68	77	6.51	1.00	4.37	5	4	0.0	0	9.3	9	35*	34	10	4	17	9	6.2	
TAMPA	19	1012.8	1014.5	88	71	79.3	- 1.2	92	29+	65	22	9	0	70	79	5.89	- 1.00	1.73	9	7	0.0	0	12.6	6	51*	24	12	5	11	14	6.8	50
WEST PALM BEACH	15	1013.6	1014.7	89	75	81.6	- 0.5	92	10	70	19	12	0	73	78	11.72	2.06	2.74	21	7	0.0	0	10.3	7	35*	24	9	0	17	13	7.3	
GEORGIA																																	
ATHENS	802	989.4	1018.1	83	63	73.2	- 0.3	91	1	49	25	1	0	63	74	1.84	- 1.18	1.44	6	1	0.0	0	7.6	5	23*	4	12	12	8	10	5.1	
ATLANTA	1005	976.3	1017.8	82	63	72.6	- 0.5	91	1	50	25	1	0	62	74	1.38	- 1.88	1.28	3	0	0.0	0	7.3	6	34	NE	10	11	10	9	5.3	65
AUGUSTA	143	1010.4	1017.2	86	63	74.4	- 0.9	93	23+	48	25	6	0	63	75	2.59	- 0.41	2.05	5	1	0.0	0	6.9	33	28*	14	12	10	10	10	5.3	
COLUMBUS	385	1002.3		86	66	76.3	0.3	97	1	53	25	8	0			4.80	2.03	2.86	5	1	0.0	0	6.8		23*	6	12+	10	12	8	5.5	
MACON	354	1003.5	1017.0	87	63	74.9	- 1.5	96	1	46	26	8	0	64	76	1.46	- 1.31	1.01	4	0	0.0	0	8.2	9	35	E	11	10	10	10	5.4	63
ROME	637	995.0		86	59	72.6	0.2	94	10	42	26	11	0			2.36	- 0.94	1.41	4	1	0.0	0									4.5	
SAVANNAH	46	1014.1	1016.7	84	65	74.7	- 2.0	92	1	54	14	1	0	66	77	3.93	- 1.32	2.01	6	0	0.0	0	9.0	4	37	E	10	9	14	7	5.2	73
HAWAII																																	
HILO	31	1013.7	1015.5	82	68	75.0	- 0.5	86	24	63	17	0	0	68	81	12.62	4.12	1.45	29	0	0.0	0	8.4	27	23*	14	29	1	10	19	8.1	28
HONOLULU	7	1014.4	1014.8	87	74	80.2	1.0	89	6	70	30	0	0	62	56	0.97	- 0.02	0.37	9	0	0.0	0	10.2	6	25	NE	28+	7	16	7	5.8	62
KAHULUI	48	1011.8	1014.6	85	69	77.0	- 1.4	90	24	65	30	1	0	67	76	0.20	- 0.05	0.09	7	0	0.0	0	11.8	6	29	NE	30+	7	15	8	5.4	75
LIHUE	115	1014.4	1016.3	83	73	77.8	- 0.3	84	24+	69	30+	0	0	69	76	2.17	0.09	0.69	22	0	0.0	0	10.5	6	22	E	29	1	18	11	7.0	
IDAHO																																	
BOISE	2838	919.8	1015.4	74	45	59.6	- 3.1	86	16	33	19	0	0	37	47	0.70	0.31	0.69	3	0	0.0	0	7.3	13	26	NW	25	19	7	4	2.7	89
IDAHO FALLS 42NW R	4790			74	33	53.5	- 2.6	84	5	18	27	0	14			0.06	- 0.57	0.06	1				8.0		37A	SW	25					
IDAHO FALLS 46W R	4933	848.8		72	35	53.5	- 3.0	82	13+	19	27	0	11			T	- 0.35	T	0	0	0.0	0	8.2		42A	WSW	25					
LEWISTON	1413	964.2		74	48	60.7	- 2.8	90	16	40	19	1	0			0.87	- 0.03	0.32	5	0	0.0	0						12	8	10	5.1	
POCATELLO	4454	863.8	1015.5	75	39	57.3	- 3.0	86	13+	26	27	0	3	28	36	T	- 0.61	T	0	0	0.0	0	9.8	21	34	SW	25	21	5	4	2.8	90
ILLINOIS																																	
CAIRO U	314	1004.6		82	63	72.0	- 0.5	93	10	50	14	6	0			5.40	2.39	2.17	6	4	0.0	0	6.8	S#	30	N	11	14	7	9	4.6	71
CHICAGO O HARE	658	993.2	1017.8	75	51	63.3	- 0.3	94	9+	32	29+	5	2	53	73	3.95	1.21	1.35	10	4	0.0	0	10.2	20	37*	20	26	8	11	11	5.9	
CHICAGO MIDWAY	607	995.2	1018.1	76	56	65.9	- 0.2	94	10+	40	28	5	0	53	67	2.50	- 0.23	0.84	7	4	0.0	0	9.4	21	33	S	26+	10	10	10	5.5	57
MOLINE	582	995.5	1017.7	77	54	65.6	0.3	94	3	35	28	4	0	54	69	3.99	0.74	1.14	12	5	0.0	0	8.0	18	37	W	23	12	11	7	5.0	61

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CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	F.	F.	°F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
PEORIA	652	995.6	1017.9	77	54	65.4	- 1.0	93	10	38	28	5	0	53	68	3.63	0.58	1.94	7	3	0.0	0	8.5	18	31	W	23	16	5	9	4.6	70
ROCKFORD	728	990.2	1017.3	74	51	62.7	- 1.1	90	9+	33	28	2	0	52	71	3.32	- 0.19	1.04	9	3	0.0	0	9.9	18	36*	26	23	12	7	11	5.2	
SPRINGFIELD	588	994.3	1017.5	81	57	69.0	1.4	97	10	39	13	8	0	53	61	1.24	- 1.69	0.59	7	1	0.0	0	9.2	18	30	S	26	16	5	9	4.2	76
INDIANA																																
EVANSVILLE	381	1002.7	1018.5	82	55	68.4	- 1.7	96	10+	37	14	7	0	56	71	3.50	0.63	1.81	6	1	0.0	0	6.4	32	19	W	24+	16	4	10	4.5	69
FORT WAYNE	791	987.6	1018.8	77	52	64.7	- 0.1	94	10+	37	14	5	0	52	67	1.58	- 1.09	1.00	8	2	0.0	0	7.8	21	29	W	23	14	6	10	4.7	69
INDIANAPOLIS	793	988.7	1018.5	80	55	67.2	0.7	96	7	37	14	7	0	52	61	1.27	- 1.97	1.06	6	0	0.0	0	8.0	23	25	W	24+	13	8	9	4.9	74
SOUTH BEND	773	989.6	1018.2	74	52	63.0	- 0.8	93	10+	33	13	5	0	51	68	3.39	0.32	1.66	10	4	0.0	0	9.3	22	27*	26	23	12	6	12	5.3	
IOWA																																
BURLINGTON	694	992.3	1017.9	77	56	66.3	0.3	93	3	40	29	4	0	55	71	5.00	1.81	2.21	10	6	0.0	0	9.1	20	42	W	22	14	7	9	4.7	74
DES MOINES	938	986.3	1017.6	73	55	63.6	- 2.8	90	3+	33	28	2	0	57	82	4.28	1.40	1.16	13	8	0.0	0	10.7	14	39	NW	23	15	5	10	4.8	58
DUBUQUE	1065	992.1		71	52	61.1	- 0.6	87	3	35	28	0	0			2.48	- 1.26	0.90	9	4	0.0	0						9	10	11	5.6	
SIOUX CITY	1095	975.0	1016.2	73	53	63.0	- 2.5	90	2	35	27	1	0	55	78	3.03	0.29	0.92	11	9	0.0	0	10.2	18	42	SE	5	10	8	12	5.6	62
WATERLOO	868	984.7	1016.6	72	50	60.9	- 2.0	90	2	29	28	1	2	53	78	5.17	1.37	2.65	8	4	0.0	0	9.2	18	38*	27	23	11	7	12	5.6	
KANSAS																																
CONCORDIA	1470	965.9	1015.5	78	56	67.3	- 2.3	95	9	40	27	7	0	56	71	3.67	0.94	2.27	11	7	0.0	0	11.8	16	36	S	26+	12	8	10	5.0	65
DODGE CITY	2582	927.9	1015.0	80	56	68.2	- 2.1	99	9+	39	28	8	0	54	66	1.75	0.22	0.82	7	4	0.0	0	14.5	19	34	SW	25	10	7	13	5.5	70
GOODLAND	3645	888.7	1014.3	80	50	65.0	- 0.5	102	2	35	27	9	0	44	55	1.56	0.32	1.48	4	2	0.0	0	13.6	17	39*	23	1	18	5	7	4.0	
TOPEKA	876	981.0	1016.4	79	58	68.1	- 1.3	92	3	37	29	3	0	60	76	1.13	- 1.85	0.65	6	7	0.0	0	8.8	18	30	SW	25	11	11	8	4.7	65
WICHITA	1321	967.3	1015.3	81	61	70.8	- 0.5	97	10	45	28	9	0	60	71	2.66	- 0.56	1.42	7	4	0.0	0	12.7	18	50	NE	10	15	5	10	4.6	66
KENTUCKY																																
COVINGTON	869	986.5	1018.2	81	54	67.1	- 0.1	98	10	37	14	8	0	52	63	1.65	- 1.18	0.67	4	0	0.0	0	6.4	25	21*	29	23	14	6	10	4.6	
LEXINGTON	979	983.1	1018.6	80	56	68.2	- 1.1	96	10+	41	14	7	0	51	58	4.91	2.11	3.50	6	0	0.0	0	7.9	14	22*	33	11	14	7	9	4.2	
LOUISVILLE	474	999.0	1018.0	81	57	69.1	- 0.4	96	10	41	14	6	0	56	67	4.16	1.53	2.19	6	0	0.0	0	6.5	18	32	S	21	15	5	10	4.6	69
LOUISIANA																																
ALEXANDRIA	92	1011.3	1015.8	85	63	74.1	- 2.9	94	3	45	14	8	0	66	82	6.91	3.78	3.75	9	7	0.0	0	4.3	4	18*	22	27	13	8	9	5.4	
BATON ROUGE	64	1012.7	1015.8	87	68	77.4	- 0.5	94	2+	56	14	8	0	67	76	3.52	0.00	1.32	8	7	0.0	0	5.5	9	29*	10	6	10	11	9	5.3	
LAKE CHARLES	14	1014.0	1015.5	87	69	78.2	- 0.5	96	1	55	14	9	0	69	78	6.14	2.12	4.10	8	7	0.0	0	7.4	4	21*	6	24+	9	12	9	5.4	
NEW ORLEANS	3	1013.2	1015.4	87	67	77.0	- 1.3	95	1	54	15	7	0	69	80	4.93	- 0.10	1.69	7	6	0.0	0	6.5	6	23*	24	17	14	6	10	4.9	
NEW ORLEANS AUDUBON	6	1008.5		89	71	79.9	1.0	97	3+	59	14	14	0			3.88	- 2.53	1.46	8	5			3.9		14	NE	6	10	11	9	5.0	69
SHREVEPORT	252	1007.6	1016.7	88	69	78.5	- 0.3	96	4+	56	28	17	0	66	70	2.51	0.23	1.30	9	2	0.0	0	7.8	13	35*	17	5	12	7	11	5.4	64
MAINE																																
CARIBOU	624	993.9		61	40	50.8	- 3.0	72	7	29	29	0	3			1.33	- 2.20	0.36	11	0	0.0	0						9	7	14	5.9	
PORTLAND	61	1015.1	1019.1	68	43	55.6	- 3.1	89	11	27	20	0	6	46	74	1.02	- 2.50	0.71	7	2	0.0	0	7.5	36	29	NW	11	10	8	12	5.4	64
MARYLAND																																
BALTIMORE	148	1014.2	1019.0	80	56	68.1	0.0	95	11+	42	26	4	0	53	64	2.61	- 0.72	1.25	6	0	0.0	0	8.4	27	29	W	25	16	5	9	4.7	64
BALTIMORE U	14			80	62	71.2	0.6	97	4	51	29+	4	0			3.49	- 0.14	1.79	6													
MASSACHUSETTS																																
BLUE HILL OBS R	629	994.7		70	52	60.8	- 1.6	85	11+	40	16	0	0			3.49	- 0.46	1.01	6	0	0.0	0	13.9	SSW								59
BOSTON	15	1014.5	1019.2	70	54	62.0	- 3.3	87	11	42	20	0	0	52	72	2.65	- 0.81	1.16	8	1	0.0	0	11.2	35	33*	SW	27	15	1	14	5.3	64
NANTUCKET	43	1018.5	1019.0	67	55	60.9	- 2.0	77	1	44	16	0	0	55	81	6.26	2.75	2.54	12	2	0.0	0	12.0	5	42	NE	14	10	4	16	6.1	54
PITTSFIELD	1170			70	45	57.8	- 0.3	87	11	29	16	0	1			0.96	- 3.54	0.41	7		0.0	0										
WORCESTER	986	982.6	1019.3	69	49	59.3	- 1.5	85	11	38	20	0	0	48	69	1.78	- 2.14	0.72	8	2	0.0	0	8.7	5	29*	20	27	12	6	12	5.4	
MICHIGAN																																
ALPENA	689	994.9		68	44	55.6	- 0.4	82	3	26	16+	0	6			3.65	0.04	1.03	14	6	0.0	0	6.4	24	32	SW	26	5	9	16	6.8	64
DETROIT	619	991.9	1018.6	74	55	64.4	- 0.7	92	8	39	28	2	0	52	67	2.12	- 0.32	0.65	12	0	0.0	0	9.7	36	34	W	23	6	11	13	5.8	59
DETROIT M WAYNE CO	633	994.9	1019.2	71	50	60.7	- 3.6	89	8	34	28	0	0	50	70	1.31	- 1.01	0.38	11	1	0.0	0	8.9	24				9	8	13	6.0	
DETROIT WILLOW RUN	711	990.8	1018.6	72	50	61.2	- 3.6	91	8	35	28	2	0	52	76	1.41	- 0.88	0.50	11	0	0.0	0	8.7	35	32*	22	26+	9	7	14	6.0	
FLINT	766	991.0	1019.1	71	49	60.1	- 0.6	88	10	32	28	0	1	51	74	2.23	- 0.71	1.05	12	3	0.0	0	8.7	26	27*	27	27+	8	7	15	6.1	
GRAND RAPIDS	784	992.4	1018.2	72	50	61.4	- 0.8	89	10+	32	28	0	1	53	79	3.16	0.18	0.74	11	4	0.0	0	9.1	28	54	SW	23	7	8	15	6.6	53
LANSING	841	986.3	1018.3	73	50	61.3	- 0.7	91	10	32	28+	2	2	53	78	1.90	- 0.70	0.77	12	3	0.0	0	8.8	30	34	W	23	9	8	13	5.9	48

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
MARQUETTE U	677	989.2		63	49	56.0	-1.7	77	6+	34	28	0	0			3.91	0.63	0.95	12	4	0.0	0	8.5	NW#	33	SW	26	3	9	18	7.4	46
MUSKEGON	627	995.3	1018.4	72	52	61.8	-1.2	89	9	34	29+	0	0	52	74	3.59	0.53	0.85	12	7	0.0	0	8.9	12	37*	21	26	10	7	13	6.0	
SAULT STE MARIE	721	993.9	1016.7	63	45	53.9	-1.9	77	3	29	16	0	5	48	81	3.70	-0.11	0.69	14	6	0.1	T	10.2	31	40*	29	27	2	12	16	7.6	41
MINNESOTA																																
DULUTH	1428	974.2	1015.9	62	43	52.4	-1.8	81	3	27	15	0	3	44	78	6.58	3.72	3.66	12	6	T	0	9.6	10	42	W	26	5	9	16	7.1	47
INTERNATIONAL FALLS	1179	972.6	1014.0	63	39	51.1	-1.8	79	9	24	15	0	6	45	82	3.32	0.42	1.10	13	6	0.3	T	10.8	14	33*	14	30	6	6	18	7.0	
MINNEAPOLIS	834	982.2	1015.8	69	49	58.9	-1.5	90	2	35	28	1	0	52	79	5.21	2.78	2.49	9	7	0.0	0	10.6	18	36	WSW	26	9	10	11	5.9	54
ROCHESTER	1297	979.5	1017.1	68	48	57.6	-3.1	87	2	33	28	0	0	51	79	5.99	2.89	2.66	12	8	0.0	0	12.5	16	37*	29	23	7	10	13	6.2	
ST CLOUD	1034	977.1		68	47	57.4	-1.4	89	2	33	15	0	0			1.38	-1.03	0.55	11	4	0.0	0						11	6	13	5.9	
MISSISSIPPI																																
JACKSON	310	1004.4	1016.4	89	66	77.1		97	4	48	14	16	0	64	69	3.67		1.63	6	2	0.0	0	8.0	34	23*	N	11	11	10	9	5.0	
MERIDIAN	290	1003.3	1016.8	88	63	75.3	-0.6	95	3+	45	14	10	0	64	75	2.15	-1.18	1.24	6	4	0.0	0	5.7	36	21*	2	11	12	6	12	5.4	
VICKSBURG U	234	1007.0		85	67	76.3	-0.3	94	3	55	14+	10	0			4.98	2.48	3.44	7	4	0.0	0	6.9		34	S	5	9	12	9	5.2	66
MISSOURI																																
COLUMBIA	778	988.1	1016.5	82	60	70.6	1.3	97	10+	41	28	8	0	55	62	2.96	-0.92	1.40	8	5	0.0	0	9.5	18	33	NW	24	17	4	9	4.3	68
KANSAS CITY	742	981.5	1016.2	79	60	69.4	-1.9	91	3+	41	28	3	0	58	68	3.07	-0.18	0.98	8	7	0.0	0	8.5	18	26	SE	26	15	7	8	4.5	71
ST JOSEPH	811	982.3		78	57	67.1	-1.5	89	3+	36	28	0	0			2.24	-1.20	1.15	9	3	0.0	0	6.8	18	23*	30	26+	15	6	9	4.3	
ST LOUIS	535	997.1	1017.8	80	58	69.3	-0.2	96	10	42	28	5	0	58	70	1.47	-1.29	0.97	6	1	0.0	0	9.2	18	29	SE	17	18	2	10	4.3	61
ST LOUIS RFC	465			81	62	71.5	-0.2	95	10	47	28	5	0			1.79	-1.20	0.80	5		0.0	0										
SPRINGFIELD	1265	970.4	1017.3	80	58	69.0	-1.4	90	10	41	28+	1	0	60	76	2.14	-1.71	0.68	10	2	0.0	0	8.3	16	23	NE	11	15	4	11	4.6	60
MONTANA																																
BILLINGS	3567	891.4	1015.2	69	44	56.4	-4.0	88	17	33	11	0	0	36	51	0.06	-1.13	0.06	1	0	0.0	0	10.9	23	42	NW	25	11	14	5	4.6	66
GLASGOW	2277	940.2		68	42	55.0	-1.7	90	17	29	27	1	1			0.52	-0.44	0.31	7	1	T	0						6	10	14	6.3	
GREAT FALLS	3662	889.0	1016.6	65	43	53.9	-3.5	86	17	34	19	0	0	36	57	0.28	-0.92	0.19	7	0	T	0	12.5	23	47	W	30	4	12	14	6.8	58
HAVRE	2582	926.1		64	41	52.5	-3.1	87	17	32	27+	0	3			1.49	0.48	0.47	10	2	T	T	9.1	SW#	42	NW	17	4	10	16	6.8	54
HELENA	3828	874.5	1017.0	67	40	53.8	-2.2	84	17	27	27	0	4	35	54	0.16	-0.79	0.14	3	0	0.0	0	8.6	27	34	W	30+	10	8	12	5.7	67
KALISPELL	2965	912.6	1017.9	64	36	50.1	-4.6	76	16	26	27+	0	8	38	68	1.87	0.83	0.95	13	3	0.0	0	7.2	2	28	30	25	7	4	19	7.0	
MILES CITY	2629		1015.2	70	43	56.5	-4.5	89	17	29	27	0	2	38	54	0.23	-0.73	0.10	3	0	0.0	0	9.4	32	40*	32	25					
MISSOULA	3190	903.4	1018.3	66	36	51.1	-4.3	78	16	23	19	0	9	38	67	0.51	-0.51	0.36	3	1	0.0	0	6.0	32	33	N	25	6	12	12	6.2	62
NEBRASKA																																
GRAND ISLAND	1841	949.8	1016.0	74	50	62.2	-3.0	96	2	30	27	4	1	52	74	1.27	-0.88	0.33	12	8	0.0	0	11.6	18	32*	1	19	14	6	10	4.6	
LINCOLN U	1150			76	56	65.7	-2.5	94	2	39	27	5	0			2.95	0.08	0.92	12	6	0.0	0	10.4	NE#	35	S	26	12	8	10	5.3	51
NORFOLK	1544	960.4		73	52	62.6	-2.4	93	2	34	27	2	0			2.35	0.10	0.62	13	9	0.0	0						11	5	14	5.4	
NORTH PLATTE	2775	915.8	1014.3	78	48	63.1	-0.6	95	2+	23	27	4	1	48	65	1.02	-0.65	0.40	6	5	0.0	0	9.5	11	41	N	19	11	14	5	4.6	73
OMAHA	978	976.6	1016.3	76	55	65.3	-1.6	93	2	36	28	1	0	57	76	2.60	-0.03	0.78	12	6	0.0	0	7.7	16	34	NW	23	11	8	11	5.2	59
OMAHA N OMAHA AP	1323	968.3		73	54	63.4	-2.2	91	2	35	27	1	0			3.25	0.73	1.53	13	6	0.0	0						11	9	10	5.5	
SCOTTSBLUFF	3957	879.7	1014.8	78	42	59.6	-2.7	96	1	23	27	4	2	40	55	0.09	-1.12	0.05	4	3	0.0	0	9.5	12	33*	32	26	17	9	4	3.6	
VALENTINE	2587	924.3		76	46	61.0	-0.8	102	1	29	27	3	2			1.51	0.26	1.16	5	6	0.0	0	11.4	S#	49	NW	26	17	8	5	4.1	66
NEVADA																																
ELKO	5050	845.8		77	31	54.2	-3.7	85	13+	23	19	0	19	22	33	0.14	-0.20	0.14	1	0	0.0	0	5.5	24	26*	25	25	23	6	1	1.9	
ELY	6253	810.4	1014.5	76	33	54.4	-3.1	84	13	23	22+	0	13	22	33	0.09	-0.47	0.09	1	1	T	0	8.9	19	38	S	1	23	7	0	1.8	93
LAS VEGAS	2162	945.3	1010.3	93	64	78.4	-1.6	102	12+	51	20	25	0	29	18	T	-0.34	T	0	0	0.0	0	10.2	23	45*	NW	21	25	4	1	1.1	97
RENO	4404	863.6	1016.4	81	35	58.1	-0.7	94	25	29	2	2	7	33	44	0.00	-0.23	0.00	0	0	0.0	0	5.8	29	27	SW	16	26	3	1	0.9	100
WINNEMUCCA	4299	868.8		78	34	56.0	-2.6	88	25+	23	19	0	12			0.03	-0.31	0.00	1	0	0.0	0	7.7	15	29	N	20	23	5	2	1.7	93
NEW HAMPSHIRE																																
CONCORD	339	1008.5	1019.3	71	44	57.4	-1.9	90	11	27	16	1	4	47	73	0.42	-3.33	0.14	6	0	0.0	0	6.5	32	29*	33	11	14	4	12	5.5	60
MT WASHINGTON OBS	6262	808.6		44	32	37.7	-3.3	58	23	19	28	0	16			4.86	-2.14	1.39	14	2	0.7	T	27.8	W#	92Y	W	28	5	10	15	6.8	40
NEW JERSEY																																
ATLANTIC CITY	58	1017.3	1019.5	77	58	67.6	0.4	92	4	46	26	2	0	56	70	5.91	2.60	3.08	7	2	0.0	0	9.9	23	24*	20	27+	13	6	11	5.2	59
ATLANTIC CITY U	11			75	63	69.2	0.8	92	5	53	28+	1	0			5.55	2.15	2.20	10				13.0		35*	NNE	14					
NEWARK	11	1018.0	1019.3	78	59	68.9	0.6	96	11	50	16	3	0	52	59	1.30	-2.46	1.01	6	0	0.0	0	10.5	4	27*	24	24	12	9	9	4.8	
TRENTON U	56	1011.0		77	57	67.1	0.0	92	11+	48	26	3	0			4.58	1.08	2.14	6	1	0.0	0	8.5	N#	29	SW	27	14	8	8	4.4	69

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station		Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile							
	Elevation (ground)	Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	849.5	1013.0	81	57	69.3	-0.7	93	3+	47	28	6	0	49	55	1.57	0.62	0.39	10	10	0.0	0	6.3	12	36	E	26	11	14	5	4.4	68
CLAYTON	4969	847.2		77	52	64.6	-1.4	93	2	36	27	5	0			1.38	-0.27	0.50	11	10	0.0	0						16	4	10	4.2	
RATON	6379	808.1		76	47	61.4	-0.5	89	2	31	28	0	1			0.76	-0.92	0.38	14	7	0.0	0						11	8	11	4.9	
ROSWELL	3617	893.8		85	60	72.1	2.4	99	3	47	28	11	0			2.05	0.23	0.78	14	8	0.0	0	7.9		31	W	15	13	10	7	4.7	61
SILVER CITY	5373	836.8		79	55	66.8	-3.2	92	3	46	28+	4	0			4.04	2.58	1.99	13	11	0.0	0						11	14	5	4.5	
NEW YORK																																
ALBANY	277	1014.0	1019.6	73	49	61.0	-0.6	88	11+	32	16	0	1	48	65	0.40	-3.18	0.15	4	1	0.0	0	7.0	17	33	NW	27	10	9	11	5.5	59
BINGHAMTON	1590	960.6	1019.6	73	50	61.2	1.7	92	10	35	16	1	0	48	65	0.66	-2.29	0.24	6	0	0.0	0	9.6	36	32	SW	24	9	12	9	5.3	69
BUFFALO	705	990.4	1018.6	72	50	60.9	-0.5	88	8	35	16	0	0	49	69	0.77	-2.36	0.31	7	3	0.0	0	9.4	18	41	SW	27	8	9	13	6.0	68
NEW YORK U	132	1008.5		77	57	67.2	-1.3	92	11+	48	16+	3	0			1.69	-2.18	1.12	7	0	0.0	0	8.8	N#	26	NE	22+	15	6	9	4.3	65
NEW YORK LA GUARDIA	11	1016.9	1019.0	76	60	68.1	-0.7	92	11+	51	16	3	0	52	60	1.78	-2.14	1.03	7	0	0.0	0	11.9	2	31	SW	24	12	9	9	5.0	
ROCHESTER	547	999.4	1019.3	73	49	61.2	-1.2	93	8	34	16	3	0	49	67	0.58	-1.95	0.18	7	0	0.0	0	8.2	23	32	SW	24	9	13	8	5.5	65
SCHENECTADY	217			72	50	60.7	-1.7	86	10+	37	16	0	0			0.23	-3.32	0.10	3	0	0.0	0			25*	SW	27+					
SYRACUSE	417	996.9	1018.8	74	50	61.6	-0.8	93	8	35	16	2	0	50	67	0.75	-2.09	0.39	6	1	0.0	0	8.5	9	34	NW	5	8	12	10	5.6	53
NORTH CAROLINA																																
ASHEVILLE	2140	940.2		77	54	65.3		85	5	39	26	0	0			6.82		4.40	8	2	0.0	0	5.6	15	23*	35	25	11	7	12	5.6	61
CAPE HATTERAS R	7	1016.2	1016.9	80	67	73.7	-0.4	88	12	50	15	0	0	66	79	5.51	-0.38	3.47	12	4	0.0	0	11.0	6	41	NNE	21	8	14	8	5.5	74
CHARLOTTE	735	990.9	1018.7	81	61	70.9	-2.0	89	5	48	14	0	0	60	73	2.32	-1.17	1.19	4	1	0.0	0	6.8	4	27	NE	13	13	8	9	4.8	74
GREENSBORO	897	987.7	1019.5	79	57	67.9	-2.2	89	5	44	26	0	0	59	76	1.03	-2.63	0.87	5	0	0.0	0	6.3	4	26	NE	13	15	5	10	4.7	67
RALEIGH	433	1006.4	1018.3	81	58	69.3	-1.9	90	5	45	26+	1	0	61	77	5.29	1.44	2.74	6	2	0.0	0	7.6	36	25*	3	13	15	4	11	4.7	70
WILMINGTON	28	1015.1	1017.9	85	65	74.8	-0.4	90	5	53	26	1	0	66	76	3.58	-2.71	3.39	5	1	0.0	0	7.4	3	28	N	13	8	10	12	5.5	73
WINSTON SALEM	963	984.2	1019.1	80	59	69.7	-1.7	90	5	48	14	1	0	59	72	0.95	-2.60	0.59	6	0	0.0	0	6.2	5	21*	2	13	15	4	11	4.6	
NORTH DAKOTA																																
BISMARCK	1647	954.3	1014.9	69	39	53.9	-4.8	91	1	20	11	1	6	37	56	0.66	-0.53	0.56	3	2	0.0	0	12.0	31	43	W	3	10	7	13	5.9	69
FARGO	896	980.1	1014.7	68	43	55.4	-3.4	90	2	28	11	1	3	45	72	1.70	0.22	0.66	8	6	0.0	0	11.0	16	52	N	26	11	6	13	5.6	63
WILLISTON	1899	946.6		67	40	53.5	-3.7	91	17	24	27+	1	8			0.40	-0.72	0.26	3	1	0.0	0	12.0	NW#	47	NW	22	6	13	11	5.9	53
OHIO																																
AKRON	1208	981.3	1019.5	75	52	63.4	-0.5	93	10	39	14+	3	0	49	64	0.58	-2.04	0.28	5	0	0.0	0	7.4	6	22*	22	27	11	8	11	5.6	
CINCINNATI OBS	761			81	57	68.6	-0.4	97	10	43	14	7	0			2.35	-0.36	1.37	5	1	0.0	0	4.7	N#	17	W	23					64
CINCINNATI U	553	995.3		81	58	69.8	-0.8	98	10	46	28	7	0			1.46	-1.16	0.63	5	1	0.0	0										
CLEVELAND	777	991.0	1018.7	73	54	63.5	0.1	93	10	38	13	2	0	52	69	0.74	-2.16	0.34	6	0	0.0	0	8.8	18	24	W	23	8	9	13	6.0	62
COLUMBUS	812	989.5	1019.3	78	52	65.0	-0.9	96	10	38	13	5	0	52	67	1.66	-0.99	0.76	6	0	0.0	0	7.0	36	26	W	24	12	7	11	5.3	61
COLUMBUS U	724			78	57	67.6	-0.3	96	9	45	14+	5	0			1.76	-0.56	1.21	6	0	0.0	0										
DAYTON	1002	986.3	1018.8	80	55	67.1	0.3	97	10	38	13	5	0	51	61	1.04	-1.55	0.75	5	0	0.0	0	8.1	2	29	W	23	13	5	12	5.0	74
MANSFIELD	1297			75	52	63.6	0.3	93	10+	39	14	3	0			1.13	-1.85	0.69	5	0	0.0	0						11	7	12	5.2	
TOLEDO	676	995.8	1018.7	75	50	62.5	-0.9	94	10+	33	14	4	0	50	68	1.61	-0.52	0.81	9	0	0.0	0	7.7	24	33	NW	27	11	7	12	5.8	65
YOUNGSTOWN	1178	976.9	1019.5	74	51	62.1	-0.4	92	10	35	13	3	0	48	64	0.94	-1.95	0.60	7	0	0.0	0	9.2	13	23*	25	24	9	9	12	5.7	
OKLAHOMA																																
OKLAHOMA CITY	1280	972.6	1015.6	82	62	72.3	-1.5	99	10	45	28	10	0	60	70	2.96	-0.06	1.30	8	6	0.0	0	11.5	16	38	SW	26	10	7	13	5.7	61
TULSA	650	992.1	1016.4	83	63	73.0	-0.8	95	10	43	28	11	0	62	72	3.33	-0.68	1.17	8	3	0.0	0	10.0	18	33	SW	26+	12	6	12	5.5	57
OREGON																																
ASTORIA	8	1017.9	1018.5	66	49	57.4	-0.6	78	11	41	26	0	0	52	84	2.73	-0.40	0.74	14	0	0.0	0	7.7	15	23*	21	30	7	6	17	6.6	
BURNS U	4151	873.9		73	38	55.6	-3.2	83	16+	29	19	0	3			0.06	-0.44	0.06	2	0	0.0	0						19	9	2	3.1	
EUGENE	359	1004.6	1018.2	76	46	61.0	-0.5	86	24+	37	18	0	0	48	68	0.73	-0.54	0.43	4	0	0.0	0	6.6	36	24*	36	26	10	13	7	4.8	
MEACHAM	4050			63	41	52.2	-3.5	78	16	31	18	0	2			1.74	0.28	0.61	7	0	0.0	0						12	8	10	5.0	
MEDFORD	1298	969.6	1017.2	81	41	61.1	-3.1	97	24	34	21	2	0	42	57	0.15	-0.45	0.04	2	1	0.0	0	4.6	30	17*	30	16	23	5	2	2.1	
PENDLETON	1482	963.2	1016.8	76	49	62.7	-1.5	89	16	42	27	0	0	38	44	0.15	-0.48	0.08	4	2	0.0	0	10.9	26	39*	26	1	17	7	6	3.8	
PORTLAND	21	1012.6	1018.2	70	47	58.4	-3.8	81	12+	39	26+	0	0	49	74	1.61	-0.02	0.67	9	0	0.0	0	7.1	32	29	S	30	9	8	13	6.1	54
PORTLAND U	30			71	53	62.2	-2.3	84	12	46	26	0	0			1.54	-0.20	0.51	8		0.0	0										
ROSEBURG	515	999.4		78	45	61.5	-1.3	90	24	40	28+	1	0			0.44	-0.56	0.38	4	0	0.0	0	4.3	N#	17	SW	30+	14	11	5	4.1	75
SALEM	196	1011.3	1018.8	73	44	58.8	-3.7	85	11	35	21	0	0	48	73	0.74	-0.64	0.58	7	0	0.0	0	6.3	36	24*	3	26	8	12	10	5.5	
SEXTON SUMMIT R	3836	885.6		69	46	57.4	-2.3	88	24	38	21	0	0			0.27	-0.98	0.19	3	0	0.0	0	11.0					26	2	2	1.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	°F.	F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
CANTON ISLAND	8	1008.9	1009.3	86	77	81.6	- 2.0	87	30+	74	1	0	0	71	73	0.33	- 0.91	0.20	5	0	0.0	0	15.4	10	26*	9	14	17	7	6	4.3	
ENIWETOK	13	1008.8		87	76	81.7	- 1.6	89	29+	72	1	0	0			11.86	5.62	1.98	26	1	0.0	0	11.5									
TAGUAC GUAM R	361	1009.0		86	72	78.7	- 0.6	88	14+	67	6	0	0			19.30	5.94	4.35	27	8	0.0	0	5.1	SE								29
JOHNSTON	7	1011.8	1012.5	84	76	79.9	- 1.7	85	29+	73	19+	0	0	72	76	1.06	- 1.29	0.28	14	0	0.0	0	12.5	8	35	E	10	2	7	21	7.7	34
KOROR R	94	1006.2	1008.9	88	76	82.0	1.0	91	24+	73	27+	5	0	76	87	7.06	- 7.27	1.54	24	0	0.0	0	5.0	18	18	SE	10+	0	1	29	9.8	63
KWAJALEIN	8	1008.2	1009.1	86	75	80.5	- 1.4	88	9+	72	30	0	0	76	87	19.76	9.57	2.18	25	0	0.0	0	10.0	7	28*	9	25	0	4	26	8.9	
PONAPE R	123	1004.2	1008.7	87	73	79.9	0.4	90	15	70	10	1	0	75	89	15.44	- 0.37	1.76	27	3	0.0	0	4.4	14	22	NE	8	0	3	27	9.1	45
TRUK MOEN ISLAND	5	1007.9	1008.2	86	74	80.2	- 0.2	90	21	72	7+	1	0	75	84	16.88	4.30	2.75	23	3	0.0	0	7.0	12	23	N	4	0	2	28	9.6	50
WAKE	11	1012.0	1012.4	87	77	82.2	- 0.3	89	8	73	13+	0	0	74	78	6.92	1.68	1.86	20	2	0.0	0	11.1	6	23*	7	22+	3	13	14	6.9	
YAP R	55	1007.0	1008.0	88	75	81.7	0.3	91	22	84	6	6	0	76	85	12.55	- 1.46	3.33	23	1	0.0	0	4.6	22	29	NE	31	0	6	24	9.1	51
PENNSYLVANIA																																
ALLENTOWN	376	1005.3	1019.5	78	54	65.8	1.1	95	11	42	26+	4	0	50	63	2.17	- 1.58	1.00	4	0	0.0	0	9.7	36	36*	23	24	15	8	7	4.3	
ERIE	732	992.9	1019.0	72	53	62.7	- 0.6	93	10	40	29	3	0	50	66	1.97	- 1.59	1.42	7	2	0.0	0	13.1	17	32*	19	27	11	9	10	5.4	
HARRISBURG	335	1005.8	1019.6	79	53	66.2	- 0.7	97	11	39	14	5	0	51	63	1.77	- 1.05	0.96	5	0	0.0	0	7.8	13	28	W	24	14	7	9	4.6	71
PHILADELPHIA	5	1014.8	1019.2	78	56	67.2	0.5	94	11	40	26	3	0	53	66	2.42	- 1.04	1.45	8	0	0.0	0	9.2	22	29	W	24	15	5	10	4.9	62
PITTSBURGH	1137	988.7	1019.3	76	52	63.7	- 0.5	94	10	37	14	4	0	49	63	0.74	- 1.80	0.35	6	0	0.0	0	7.9	36	25*	25	24	9	9	12	5.6	60
PITTSBURGH U	749			77	56	66.3	- 1.0	94	10+	44	14	4	0			0.87	- 1.80	0.36	6		0.0	0										58
READING U	266	1007.1		79	57	67.7	0.2	95	11	43	14	4	0			1.32	- 2.00	0.91	6	1	0.0	0	9.7	N#	43	E	19	17	5	8	4.2	67
SCRANTON	930	985.5	1019.6	76	51	63.8	1.3	93	10	37	16+	4	0	47	60	0.82	- 2.15	0.68	3	0	0.0	0	7.7	11	26	SW	24	14	8	8	4.6	66
WILLIAMSPORT	527	1001.0	1020.0	78	51	64.5	0.4	94	10	39	14	4	0	51	67	0.50	- 2.77	0.28	5	0	0.0	0	6.2	27	23*	27	25	12	8	10	5.0	
RHODE ISLAND																																
BLOCK ISLAND	110	1014.2		69	57	63.0	- 1.0	83	5	45	14	0	0			3.73	0.53	1.55	8	0	0.0	0						7	11	12	6.0	
PROVIDENCE	51	1012.8	1018.8	72	53	62.5	- 0.7	86	5	41	20+	0	0	52	71	3.95	0.43	1.42	9	2	0.0	0	10.1	2	29*	36	14	10	6	14	5.9	50
SOUTH CAROLINA																																
CHARLESTON	41	1015.1	1017.0	85	66	75.4	- 0.2	90	24+	53	14	3	0	67	78	4.11	- 1.72	2.49	5	0	0.0	0	8.6	2	46Y	SW	12	10	10	10	5.4	63
CHARLESTON U	9			83	70	76.5	- 0.6	90	1	59	14	1	0			2.71	- 3.61	1.34	6		0.0	0	11.8		47	S	12					
COLUMBIA	217	1005.0	1017.7	85	63	73.8	- 1.5	92	23	49	26	7	0	63	74	6.93	2.62	3.56	5	1	0.0	0	6.9	2	23*	2	12	14	7	9	4.5	78
FLORENCE	146	1011.9	1017.6	84	63	73.5	- 1.4	92	30+	50	26	5	0	63	76	8.10	4.00	5.33	5	1	0.0	0	8.2	2	28*	22	12	12	10	8	4.9	
GNVLE SPARTANBURG	957	981.9	1018.7	83	62	72.4	- 0.8	91	23	50	26	1	0	60	69	0.93	- 2.95	0.43	6	0	0.0	0	6.2	4	31	NE	13	13	7	10	4.9	68
SOUTH DAKOTA																																
HURON	1282	967.8	1014.8	76	46	61.2	- 0.7	98	9	30	27	3	1	46	63	0.86	- 0.67	0.45	4	2	0.0	0	13.1	15	57	NW	23	14	5	11	5.0	68
RAPID CITY	3165	901.7	1015.3	74	44	59.0	- 2.6	95	8+	27	27	2	2	36	49	0.69	- 0.26	0.49	2	2	0.0	0	12.6	34	61	NW	25	16	9	5	3.6	80
SIOUX FALLS	1418	964.2	1015.7	71	48	59.3	- 2.5	93	2	30	27	1	1	52	78	4.06	1.45	1.34	7	9	0.0	0	11.1	19	32*	19	30	12	7	11	5.4	
TENNESSEE																																
BRISTOL	1507	964.8	1018.8	81	56	68.6	- 0.5	91	11+	41	26	4	0	56	70	3.14	0.52	2.51	6	0	0.0	0	5.2	5	20*	1	12	14	4	12	4.9	
CHATTANOOGA	670	990.8	1018.1	85	60	72.6	- 1.2	93	10	44	25	7	0	62	75	2.06	- 1.04	1.52	6	2	0.0	0	4.4	2	24	N	12	15	6	9	4.7	74
KNOXVILLE	980	983.5	1018.7	81	59	70.0	- 2.2	89	10	47	26+	0	0	59	73	1.10	- 1.44	0.58	5	0	0.0	0	5.6	6	25	N	12	12	7	11	4.8	68
MEMPHIS	263	1002.6	1017.1	83	63	72.9	- 1.0	90	10+	49	25+	4	0	62	71	2.74	- 0.08	2.08	6	0	0.0	0	6.6	2	27	N	12	14	9	7	4.4	72
MEMPHIS U	271			83	66	74.2	- 0.8	94	6	50	28	5	0			1.87	- 0.94				0.0	0										
NASHVILLE	577	997.6	1017.3	83	59	71.3	- 1.5	95	10	44	25+	9	0	59	69	2.65	- 0.22	1.90	6	0	0.0	0	6.9	2	23	NW	12	13	8	9	4.7	66
OAK RIDGE	905	986.9		81	56	68.8	- 2.2	91	11+	40	26	2	0			3.14	- 0.16	2.03	4	1	0.0	0	5.4		29Y		12	14	5	11	4.6	
TEXAS																																
ABILENE	1762	954.1	1014.3	84	68	76.1	0.2	95	10	51	28	12	0	61	62	2.11	0.04	0.98	8	4	0.0	0	9.2	16	30	N	27	15	1	14	5.3	54
AMARILLO	3604	889.9	1013.8	80	59	69.6	- 2.2	93	10+	42	28	10	0	54	64	3.95	2.06	2.36	9	7	0.0	0	11.6	21	30	S	6	13	6	11	4.9	63
AUSTIN	597	993.4	1014.9	89	71	79.9	0.8	98	2	60	28+	13	0	67	72	6.29	2.85	2.73	8	8	0.0	0	7.9	18	32	NW	16	5	12	13	6.4	56
BROWNSVILLE	16	1010.5	1013.0	91	75	83.2	2.0	96	17+	67	28	25	0	73	77	4.94	- 0.05	1.62	10	9	0.0	0	9.9	12	27	SE	16	5	13	12	6.2	66
CORPUS CHRISTI	41	1012.7	1014.0	90	72	80.9	0.1	99	11	62	28	19	0	73	81	6.98	2.58	3.24	14	8	0.0	0	10.2	12	26	S	16	4	17	9	6.2	51
DALLAS	481	997.3	1015.6	86	69	77.2	- 0.7	97	3+	55	28	11	0	64	69	10.67	7.85	4.73	7	4	0.0	0	9.5	16	33	N	27	10	7	13	6.1	45
DEL RIO	1026	979.2	1013.2	90	70	79.8		101	11	59	29	16	0	66	69	15.79		4.50	13	10	0.0	0	10.3	12	29	12	21	6	9	15	6.4	
EL PASO	3918	886.0	1011.4	86	64	75.2	0.7	98	3	50	28	11	0	54	52	2.40	1.26	1.79	7	9	0.0	0	7.1	18	32	NE	11	20	5	5	3.3	81
FORT WORTH	537	995.2	1015.7	87	67	76.9	- 1.5	100	3	55	29+	12	0	63	68	9.52	6.98	4.75	10	3	0.0	0	7.2	14	31*	1	27	9	8	13	6.1	
GALVESTON U	7			85	76	80.5	0.4	92	11	66	29	2	0			4.38	- 0.71	2.50	9	1	0.0	0	8.9		26	NW	17					70
HOUSTON U	41			88	73	80.3	0.5	96	2	62	28	14	0			5.34	1.53	1.51	13		0.0	0										
HOUSTON	50	1012.1	1014.7	88	71	79.3	0.1	96	11+	63	28	13	0	69	76	6.76	2.50	3.17	14	8	0.0	0	8.4	12	28*	20	17	4	15	11	6.4	61

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
LAREDO	500	997.9	1013.1	93	74	83.3	0.6	99	10+	62	28	24	0	69	68	2.87	0.01	0.73	12	11	0.0	0	9.4	14	35*	16	4	8	13	9	5.5	
LUBBOCK	3243	904.1	1014.7	81	61	70.9	- 0.5	95	10	43	28	11	0	58	70	2.46	0.10	1.16	8	4	0.0	0	11.4	18	35*	6	27	13	5	12	5.3	
MIDLAND	2851	915.5	1012.5	86	67	76.5	1.1	100	10	50	28	13	0	60	64	2.19	0.40	0.96	8	2	0.0	0	10.5	16	25*	4	27	13	7	10	5.2	
PORT ARTHUR	16	1013.4	1014.9	89	70	79.1	0.9	97	1	58	14	17	0	70	80	5.57	0.69	3.44	8	5	0.0	0	7.5	4	31	SW	17	9	12	9	5.6	62
SAN ANGELO	1903	947.3	1013.3	87	68	77.1	- 1.2	99	2+	56	29+	14	0	62	65	2.80	0.14	0.77	11	4	0.0	0	6.9	18	21*	6	16	12	4	14	5.6	
SAN ANTONIO	788	990.1	1014.7	89	71	80.0	1.4	97	11	60	28	14	0	68	72	4.15	0.66	1.17	9	7	0.0	0	8.1	14	29	SE	8	6	17	7	5.8	76
VICTORIA	104	1009.8		89	72	80.0	0.9	96	11+	62	28+	14	0			7.64	3.41	2.91	16	12	0.0	0	7.9		44Y		8	5	15	10	6.4	
WACO	500	994.2	1014.9	88	69	78.7	- 0.3	99	11	56	28	14	0	64	68	5.49	2.72	2.49	10	6	0.0	0	8.7	18	23*	34	27+	11	6	13	5.7	
WICHITA FALLS	994	978.7	1015.2	86	64	75.1	- 2.3	104	4	46	28	12	0	61	67	6.26	3.93	2.63	8	5	0.0	0	9.8	12	32*	13	15	13	5	12	5.2	
UTAH																																
MILFORD	5028	844.9		79	41	60.1	- 3.0	90	5	26	20	1	2			0.80	0.37	0.32	5	3	0.0	0						23	4	3	1.8	
SALT LAKE CITY	4220	868.2	1015.1	79	44	61.5	- 2.9	91	6	31	19	2	1	30	36	0.13	- 0.40	0.09	2	4	0.0	0	9.3	16	43	SW	6	20	7	3	2.7	95
WENDOVER	4237	870.6		76	50	63.1	- 3.6	89	25+	38	20	0	0			T	- 0.32	T	0	0	0.0	0						23	6	1	1.7	
VERMONT																																
BURLINGTON	327	1004.2	1018.5	68	44	55.8	- 2.6	82	23	30	29+	0	4	47	73	1.49	- 1.82	0.46	8	1	0.0	0	8.0	18	32	S	27	6	14	10	6.2	61
VIRGINIA																																
LYNCHBURG	916	994.3		78	55	66.1	- 2.6	89	5	41	14	0	0			1.26	- 2.10	0.40	10	1	0.0	0	5.9		26	NE	13	16	4	10	4.3	68
NORFOLK	26	1017.5	1018.8	79	63	70.8	- 1.8	87	11+	52	26+	0	0	62	76	12.26	8.04	4.74	9	2	0.0	0	12.2	21	63	NE	13	13	5	12	5.2	61
RICHMOND	162	1012.9	1019.1	78	56	67.1	- 3.1	90	11+	44	25+	2	0	58	78	2.56	- 1.09	1.38	7	0	0.0	0	6.9	2	18	N	22+	15	6	9	4.6	66
ROANOKE	1174	977.8	1019.7	79	55	66.8	- 2.3	91	5	39	26	1	0	55	69	2.70	- 0.56	1.52	8	0	0.0	0	4.5	18	17*	29	24	16	4	10	4.5	
WASHINGTON																																
OLYMPIA	195	1010.9	1018.2	68	44	55.9	- 2.6	78	12+	35	27+	0	0	49	82	2.26	0.17	1.37	9	0	0.0	0	7.6	20	28*	19	30	5	9	16	7.0	
SEATTLE TACOMA	400	1004.1	1018.2	66	51	58.5	- 1.4	77	12	44	9	0	0	48	72	2.27	0.22	1.00	10	0	0.0	0	9.0	1	29*	23	30	6	8	16	6.8	
SEATTLE U	14			67	54	60.6	- 0.6	78	12	50	28+	0	0			2.01	0.36	1.37	10		0.0	0			38	SW	29					61
SPOKANE	2356	947.4	1016.2	68	43	55.2	- 5.7	84	16	35	9	0	0	38	59	1.03	0.28	0.68	8	1	0.0	0	9.4	6	33	SW	30	11	7	12	5.3	65
STAMPEDE PASS R	3958	881.4		54	41	47.2	- 4.7	68	24	35	30	0	0			8.23	3.84	3.40	17	0	1.6	0						8	5	17	6.6	
TATOOSH ISLAND R	101	1014.9	1017.8	58	49	53.3	- 1.5	64	12	45	9	0	0	50	90	7.04	3.49	2.19	10	1	0.0	0	13.4	6	47	S	30	8	4	18	6.8	65
WALLA WALLA U	949	978.9		75	52	63.2	- 2.8	91	16	45	19+	1	0			0.94	0.16	0.42	5	1	0.0	0	5.5	55	23	W	17	15	8	7	3.9	76
YAKIMA	1052	977.6	1016.4	74	41	57.1	- 4.2	83	24	32	27	0	1	39	53	0.03	- 0.32	0.03	1	0	0.0	0	8.3	27	30*	28	30	14	10	6	4.0	
WEST INDIES																																
SAN JUAN P.R.	15	1011.5	1014.3	89	76	82.2	1.7	93	20	72	1	10	0	74	79	5.10	- 1.66	1.98	15	10	0.0	0	7.2	7	23	NE	2	0	18	12	6.6	54
SWAN ISLAND	28	1010.3		88	79	83.4	0.4	90	21+	74	25	3	0			4.00	- 1.19	1.06	14	9	0.0	0						2	17	11	6.4	
WEST VIRGINIA																																
BECKLEY	2504	931.6	1019.2	75	51	63.4		88	11+	37	14	0	0	51	70	8.27		5.34	8	1	0.0	0	6.5	14	23*	28	24	12	6	12	5.4	
CHARLESTON	939	983.6	1018.9	81	54	67.5	- 0.7	96	9	40	15	6	0	52	65	2.53	- 0.39	1.34	7	0	0.0	0	5.0	4	27*	23	24	11	8	11	5.1	
ELKINS	1970	951.0	1020.2	75	47	61.3	- 1.3	90	10+	31	15	2	2	52	78	4.20	1.13	1.83	9	1	0.0	0	4.9	16	22*	25	24	12	7	11	5.6	
HUNTINGTON	827	988.7	1018.7	79	52	65.7	- 2.5	94	10	36	14	4	0	54	71	4.53	1.99	2.74	6	0	0.0	0	4.5	2	21*	28	24	13	5	12	5.0	
PARKERSBURG U	615			78	54	66.3	- 1.8	95	10	37	14	4	0			2.94	0.23	1.59	7	0	0.0	0			29	NW	23					64
WISCONSIN																																
GREEN BAY	682	994.1	1017.0	67	50	58.5	- 2.0	86	3	31	28	0	1	52	82	6.74	3.82	2.99	15	9	0.0	0	8.5	18	38	S	26	8	7	15	6.4	44
LA CROSSE	652	990.8	1017.1	70	52	61.0	- 1.2	88	3	34	28	0	0	54	80	5.48	2.00	2.20	10	6	0.0	0	10.6	18	38*	26	23	7	9	14	6.5	
MADISON	858	982.2	1017.4	71	48	59.6	- 1.4	90	9	27	28	1	4	52	78	1.85	- 1.47	0.56	11	5	0.0	0	7.6	19	46	W	23	8	10	12	6.1	57
MILWAUKEE	672	992.7	1017.6	70	52	61.2	0.9	91	7+	34	28	2	0	53	75	1.74	- 0.98	0.58	11	6	0.0	0	9.5	27	43	W	23	12	10	8	5.6	56
WYOMING																																
CASPER	5319	837.9	1014.4	73	39	56.1	- 3.6	86	1	22	27	0	3	28	40	0.34	- 0.56	0.28	3	1	0.0	0	12.0	25	41*	23	25	18	9	3	3.3	
CHEYENNE	6126	815.1	1015.1	72	42	56.9	- 1.7	85	5+	27	27+	0	2	32	45	0.33	- 0.77	0.23	3	3	0.0	0	12.2	29	38	W	9	19	4	7	3.4	74
LANDER	5563	835.5	1013.9	74	41	57.6	- 1.4	91	8	26	27	1	3	29	39	0.55	- 0.48	0.55	2	0	0.0	0	8.0	24	52	SW	1	18	6	6	3.4	85
SHERIDAN	3964	884.9	1015.8	71	40	55.2	- 3.6	91	8	22	27	2	3	35	52	0.06	- 1.11	0.05	2	0	T	0	8.8	31	49	NW	25	13	9	8	4.5	68

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	189	992.5	1017.4	31.1	18.3	24.4	-0.2	35.0	10+	7.8	25	11	0	16.1	65	83	- 2	67	7	2	0	0	3.2	9	14.3	NE	11	14	6	10	4.9	79
HUNTSVILLE	183	994.4	1017.4	29.4	17.2	23.2	-0.4	34.4	10	8.3	25	9	0	15.0	64	114	36	67	6	2	0	0	3.0	14	17.0*	36	12	14	8	8	4.5	
MOBILE	64	1013.0	1015.3	31.1	20.6	25.7	0.2	36.7	2	12.2	14	8	0	19.4	75	56	-103	35	6	3	0	0	4.3	6	10.3*	16	28+	11	6	13	5.6	
MONTGOMERY	59	1008.2	1016.3	30.6	18.9	24.6	-0.4	36.1	1	10.6	25	9	0	18.9	75	137	36	103	7	3	0	0	3.4	6	12.1	N	11	10	10	10	5.5	65
ALASKA																																
ANCHORAGE	44	1006.5	1011.3	13.9	4.4	9.3		18.3	9	0.0	24	B 0	1	6.7	83	21		6	12	0	0	0	2.5	18	9.4*	22	22	3	4	23	8.2	43
ANNETTE	34	1014.4	1015.2	15.6	7.2	11.4	-0.9	22.2	2	1.1	28	4	0	6.7	75	248	- 3	41	18	0	0	0	3.2	34	10.3*	14	29	8	4	18	6.8	
BARROW	7	1013.7	1014.4	- 1.1	- 4.4	- 2.8	-1.9	6.1	8+	11.1	30	0	28	- 4.4	87	3	- 14	1	6	0	38	T	6.2	9	12.5*	12	7+	3	1	26	8.7	
BARTER ISLAND	12	1012.5	1014.4	1.1	- 1.7	- 0.4	-0.5	9.4	1	- 8.3	30	0	25	- 2.2	87	11	- 13	5	9	0	36	T	5.6	10	14.8*	28	4	0	2	28	9.4	
BETHEL	38	1006.4	1007.8	12.2	5.0	8.4	1.4	17.8	6	- 0.6	23	0	1	6.1	88	37	- 28	9	10	0	0	0	5.0	12	23.2*	21	4	0	6	24	9.0	
COLD BAY	29	1007.3	1007.6	10.6	6.1	8.4	-0.2	13.9	8	1.7	1	0	0	6.7	90	133	24	45	21	0	0	0	6.8	15	20.6*	17	24+	0	1	29	9.7	
CORDOVA	12	1007.3	1012.2	13.3	3.9	8.7	0.1	21.1	6	1.1	24	1	1	6.1	84	176	-141	68	19	0	0	0	2.0	7	7.6*	6	21+	3	3	24	8.5	
FAIRBANKS	133	994.3	1011.4	12.8	1.7	7.2	0.7	21.1	11	- 4.4	16	1	11	2.2	76	22	- 6	9	9	0	0	0	2.5	34	10.7*	26	3	5	8	17	6.9	
JUNEAU	4	1014.5	1014.5	14.4	5.6	9.8	0.4	20.0	2	1.1	25+	0	0	7.2	86	66	-104	10	13	0	0	0	3.6	12	12.5*	13	29	7	4	19	7.2	44
KING SALMON	13	1007.3	1008.6	13.3	4.4	8.9	0.1	21.7	6	0.0	6	2	1	5.6	82	61	- 17	21	16	0	0	0	4.5	9	22.8*	9	20	2	4	24	8.5	
KOTZEBUE	3	1007.8	1008.4	7.8	2.8	5.4	0.4	16.1	12	- 3.9	16	0	8	2.2	81	45	14	14	16	0	T	T	6.3	11	17.9*	11	4	3	3	24	8.6	
MC GRATH	102	997.2	1009.8	12.8	2.2	7.3	0.7	21.1	10	- 5.0	17+	1	9	3.9	81	18	- 49	5	9	0	0	0	2.2	21	9.4*	22	5+	1	5	24	8.8	
NOME	4	1005.5	1006.1	8.9	3.9	6.2	0.7	14.4	14	- 2.2	16	0	5	3.3	82	145	77	33	15	0	0	0	7.0	36	19.7*	23	4	2	3	25	9.0	
ST. PAUL ISLAND	7	1003.8	1004.8	7.8	4.4	6.2	-0.8	10.0	7+	- 3.3	23	0	2	5.6	93	113	35	19	23	0	0	0	7.0	31	23.7*	14	23	0	2	28	9.7	
SHEMYA	37	1004.3	1007.5	8.3	5.6	7.1	-2.0	10.0	6+	2.8	14	0	0	5.0	88	129	71	29	20	0	T	0	9.6	30	21.9*	25	23	3	9	18	7.9	
YAKUTAT	9	1013.4	1014.5	13.3	3.9	8.6	-1.0	18.3	9+	- 1.1	24+	0	7	7.2	91	287	-133	52	18	0	0	0	2.6	9	9.4*	15	21	7	2	21	7.8	
ARIZONA																																
FLAGSTAFF	2131	792.3	1015.6	22.2	5.0	13.7	-1.0	27.2	11+	- 1.1	20	0	1	3.3	57	25	- 15	15	7	10	0	0	2.9	18	10.3*	2	22	10	13	7	4.5	
PHOENIX	340	971.3	1009.6	34.4	20.0	27.2	-1.1	39.4	5+	10.0	14	27	0	11.7	42	46	27	38	5	6	0	0	3.4	12	27.3Y	NNW	14	20	6	4	3.0	86
PRESCOTT	1528	848.0	1013.1	27.8	11.7	19.6	-0.8	33.3	5	4.4	22	3	0	6.1	47	28	- 2	17	6	7	0	0	3.5	19	14.3	S	1	14	11	5	3.9	83
TUCSON	788	924.1		30.6	18.3	24.6	-2.3	36.7	4	13.3	27	11	0			130	104	77	11	11	0	0	3.7	18	15.2	NE	23	14	11	5	4.2	70
WINSLOW	1487	852.5	1014.1	28.3	12.2	20.2	-1.3	32.8	4+	5.6	22	5	0	7.2	50	35	11	17	11	9	0	0	3.0	9	14.8*	32	15	11	15	4	4.4	
YUMA	59	1003.5	1008.7	36.7	21.7	29.3	-1.9	41.1	5	17.8	30+	29	0	11.7	39	T	- 10	T	0	2	0	0	3.2	18	12.5	SE	9	25	3	2	1.7	95
ARKANSAS																																
FORT SMITH	137	1001.7	1016.7	28.9	16.7	22.8	-1.1	35.0	1	9.4	14+	10	0	16.7	73	81	- 12	37	8	1	0	0	2.9	7	10.3	W	22	11	5	14	5.6	54
LITTLE ROCK	78	1004.2	1017.2	29.4	16.7	23.2	-0.3	36.1	4	8.9	14	14	0	16.7	71	139	57	92	3	2	0	0	2.6	2	10.7	N	12	13	5	12	5.0	62
TEXARKANA	113	1003.1	1016.5	29.4	18.3	23.9	-0.8	35.6	3	8.9	14	10	0	17.8	74	198	129	141	8	4	0	0	2.5	7								
CALIFORNIA																																
BAKERSFIELD	151	994.7	1012.3	31.1	15.6	23.3	-1.4	37.8	24	10.6	28	14	0	8.3	41	T	- 2	T	0	0	0	0	3.0	30	8.9*	32	25	27	3	0	0.7	
BISHOP	1252	873.8		31.1	6.7	18.8	-1.3	33.9	14+	2.8	9	10	0			0	- 5	0	0	0	0	0						29	0	1	0.5	
BLUE CANYON	1609	839.9		21.1	10.0	15.7	-1.4	29.4	24	1.1	1	0	0			1	- 15	1	1	0	0	0	3.0		11.2*	11	24+	28	0	2	0.8	
BURBANK	221	986.6	1012.3	28.9	13.9	21.2	-1.3	36.1	23+	9.4	8	7	0	11.7	63	T	- 7	T	0	0	0	0	3.1	19	10.3*	16	24	22	7	1	2.3	
EUREKA U	13	1015.1		16.1	9.4	12.9	-0.7	28.3	24	7.2	18	0	0			2	- 14	1	2	0	0	0	2.7	NW#	13.0	NW	21	15	7	8	4.4	71
FRESNO	100	1000.2	1012.1	31.7	11.7	21.7	-1.8	36.7	24	8.9	2	14	0	9.4	51	0	- 3	0	0	0	0	0	3.0	31	8.5	NW	17	29	1	0	0.4	99
LONG BEACH	10	1011.2	1012.9	25.0	14.4	19.7	-2.2	32.8	9	11.1	30	2	0	12.8	71	T	- 2	T	0	1	0	0	3.0	28	9.8*	13	24	17	11	2	3.0	
LOS ANGELES	30	1009.3	1013.1	22.8	15.6	19.3	-1.0	30.0	24	12.8	8	0	0	13.3	72	T	- 4	T	0	0	0	0	4.2	27	11.2Y	W	1	16	11	3	3.2	
MT SHASTA R	1080	893.7		24.4	5.0	14.8	-1.6	32.8	24	- 0.6	2	1	1			3	- 19	3	1	0	0	0						28	1	1	0.8	
OAKLAND	2	1013.9	1014.3	22.2	13.9	17.8	-0.6	31.7	22	11.7	30+	0	0	11.1	69	0	- 5	0	0	0	0	0	4.3	30	10.3*	29	8	20	9	1	2.5	
RED BLUFF	104	1000.5	1013.2	31.1	14.4	22.6	-1.8	40.0	24	8.3	28	12	0	6.1	40	22	12	39	1	0	0	0	3.4	35	14.8	N	20	26	4	0	1.1	97
SACRAMENTO	5	1011.6	1013.2	30.6	12.2	21.3	-0.7	39.4	23	7.8	28	12	0	8.9	54	0	- 5	0	0	0	0	0	3.9	22	14.3	NW	21	28	2	0	0.6	99
SACRAMENTO U	6			29.4	12.8	20.9	-0.9	37.2	23	8.3	9	8	0			0		0			0	0										
SANDBERG R	1377	862.8		26.1	13.9	19.9	-0.8	30.6	12	6.1	2+	0	0			0	- 5	0	0	0	0	0	5.1		14.8*	36	1	25	4	1	1.1	
SAN DIEGO	4	1009.4	1012.6	23.3	16.1	19.8	-1.2	27.8	9	13.9	19	0	0	14.4	76	0	- 4	0	0	0	0	0	3.1	30	8.9	NW	8+	19	8	3	3.5	73
SAN FRANCISCO	2	1014.0	1014.7	22.8	12.2	17.5	-0.2	33.3	24	8.9	30	3	0	9.4	67	T	- 5	T	0	0	0	0	4.8	29	13.9	W	17	21	9	0	2.1	
SAN FRANCISCO U	16			20.6	13.3	16.9	0.2	33.3	24	10.0	10	2	0			T	- 6	T	0	0	0	0	4.0	W#	12.5	SW	25					78
SANTA CATALINA	478	957.6		25.0	16.1	20.7	-0.5	35.0	24+	12.8	8	3	0			1	- 4	1	1	1	0	0						19	9	2	2.6	
SANTA MARIA	73	1005.7		22.8	8.9	15.8	-1.3	33.9	24+	4.4	28	2	0			T	- 4	T	0	0	0	0						18	12	0	3.1	
STOCKTON	7	1011.7	1013.3	30.6	11.7	21.1	-1.5	36.7	24	8.9	29+	12	0	6.7	44	0	- 5	0	0	0	0	0	3.8	29	14.8*	34	21	29	1	0	0.6	
COLORADO																																
ALAMOSA	2297	774.4		22.2	3.3	12.9	-0.3	27.8	4+	- 1.7	30	0	5			27	7	14	9	8	0	0						9	15	6	4.8	
COLORADO SPRINGS	1873	813.0	1014.5	23.9	8.9	16.6	0.2	33.3	2	1.1	27	1	0	2.2	45	34	7	28	6	2	0	0	4.3	35	15.6*	21	2	11	10	9	4.9	
DENVER	1610	838.5	1013.2	26.1	7.8	16.9	-0.3	33.3	5+	0.6	27	5	0	1.7	43	10	- 18	5	4	0	0	0	3.4	20	11.2	NE	26+	14	8	8	4.3	81
GRAND JUNCTION	1480	859.5	1013.0	27.2	11.1	19.2	-0.7	32.8	1	3.9	22	2	0	2.2	38	9	- 14	4	6	5	0	0	3.9	13	14.8	SW	1	19	5	6	3.0	85

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1428	857.2	1013.3	28.3	11.1	19.5	0.3	36.7	2	3.3	28	9	0	5.0	45	28	7	22	9	1	0	0	4.2	12	22.4	N	19	13	10	7	4.6	75
CONNECTICUT																																
BRIDGEPORT	2	1018.7	1019.5	23.3	13.3	18.3	-0.3	30.0	9+	6.1	16	0	0	12.2	70	14	- 87	10	5	0	0	0	6.0	5	12.1*	21	27+	12	9	9	5.1	
HARTFORD	52	1013.1	1019.0	23.9	10.6	17.2	-0.2	34.4	11	0.6	16	2	0	10.0	68	36	- 57	28	6	2	0	0	3.4	36	11.6	S	27+	9	10	11	6.0	65
NEW HAVEN	2	1018.4		23.3	12.8	17.9	0.2	30.0	9+	5.6	16+	0	0			35	- 65	30	7	0	0	0	3.5		12.1	NW	25	11	10	9	5.4	69
DELAWARE																																
WILMINGTON	24	1015.6	1018.9	25.6	13.3	19.6	-0.2	34.4	11	5.6	26	3	0	11.7	64	70	- 30	36	7	0	0	0	4.2	36	10.3*	24	24+	15	5	10	4.7	
DIST.OF COLUMBIA																																
WASHINGTON U	22			26.1	15.0	20.4		35.0	4	8.9	14	4	0			81		30	6													
WASH NATL AP	4	1014.6	1018.5	27.2	15.0	21.1	0.1	34.4	11+	8.3	14	5	0	12.2	62	78	- 19	41	6	0	0	0	4.2	20	11.2	SSW	27+	14	5	11	4.8	64
FLORIDA																																
APALACHICOLA U	4	1013.9		29.4	22.8	26.1	0.0	34.4	1	19.4	25	4	0			193	- 24	79	6	3	0	0	3.8					8	10	12	5.9	
DAYTONA BEACH	9	1013.4	1015.1	29.4	22.2	25.7	-0.5	33.3	1	17.8	23	1	0	21.7	80	289	112	161	8	1	0	0	5.3	7	20.6*	26	9	3	15	12	6.8	
FORT MYERS	5	1013.7		32.2	22.8	27.5	0.1	33.9	1	21.1	23+	18	0			240	24	71	16	11	0	0	4.4		15.6*	24	12	2	19	9	6.1	
JACKSONVILLE	7	1013.1	1014.8	30.0	21.1	25.5	-0.8	35.0	1	16.7	23+	6	0	20.6	77	262	70	159	8	2	0	0	5.4	5	36.7	N	9	8	13	9	5.7	56
KEY WEST	1	1013.1	1014.4	31.1	26.1	28.7	0.7	32.8	15	23.3	18	3	0	23.3	74	104	- 67	40	16	11	0	0	4.4	12	12.5	SE	29	1	19	10	6.6	72
LAKELAND U	65			30.6	22.2	26.3	-0.5	34.4	1	20.0	22	5	0			140	- 27	40	11	8	0	0	3.8					8	10	12	6.1	47
MIAMI BEACH	3			30.0	25.0	27.3	-0.3	33.3	8	22.2	22+	2	0			121	- 66	38	21		0	0	5.9					3	18	9	6.5	67
MIAMI	2	1013.1	1014.4	31.1	24.4	27.9	0.6	33.3	11+	22.8	23	7	0	22.8	77	107	-133	29	16	5	0	0	4.0	8	12.5*	24	11	2	16	12	6.8	
ORLANDO	33	1010.5	1015.2	31.1	22.2	26.6	-0.1	34.4	1	17.8	23	11	0	21.7	81	241	57	136	10	4	0	0	4.7	6	17.9*	24	9	3	17	10	6.4	
PENSACOLA	34			30.0	21.7	36.8	0.0	36.1	2+	15.6	14	5	0			65	-130	33	6	4	0	0	3.4	4	13.0	NW	12+					
TALLAHASSEE	18	1012.5	1015.6	30.6	20.6	25.7	0.1	35.6	1	16.1	23	12	0	20.0	77	165	25	111	5	4	0	0	4.2	9	15.6*	34	10	4	17	9	6.2	
TAMPA	6	1012.8	1014.5	31.1	21.7	26.3	-0.7	33.3	29+	18.3	22	9	0	21.1	79	150	- 25	44	9	7	0	0	5.6	6	22.8*	24	12	5	11	14	6.8	50
WEST PALM BEACH	5	1013.6	1014.7	31.7	23.9	27.6	-0.3	33.3	10	21.1	19	12	0	22.8	78	298	52	70	21	7	0	0	4.6	7	15.6*	24	9	0	17	13	7.3	
GEORGIA																																
ATHENS	244	989.4	1018.1	28.3	17.2	22.9	-0.2	32.8	1	9.4	25	1	0	17.2	74	47	- 30	37	6	1	0	0	3.4	5	10.3*	4	12	12	8	10	5.1	
ATLANTA	306	976.3	1017.8	27.8	17.2	22.6	-0.3	32.8	1	10.0	25	1	0	16.7	74	35	- 48	33	3	0	0	0	3.5	6	15.2	NE	10	11	10	9	5.3	69
AUGUSTA	44	1010.4	1017.2	30.0	17.2	23.6	-0.5	33.9	23+	8.9	25	6	0	17.2	75	66	- 10	52	5	1	0	0	3.1	33	12.5*	14	12	10	10	10	5.3	
COLUMBUS	117	1002.3		30.0	18.9	24.6	0.2	36.1	1	11.7	25	8	0			122	52	73	5	1	0	0	3.0		10.3*	6	12+	10	12	8	5.5	
MACON	108	1003.5	1017.0	30.6	17.2	23.8	-0.8	35.6	1	7.8	26	8	0	17.8	76	37	- 33	26	4	0	0	0	3.7	9	15.6	E	11	10	10	10	5.4	63
ROME	194	995.0		30.0	15.0	22.6	0.1	34.4	10	5.6	26	11	0			60	- 24	36	4	1	0	0									4.5	
SAVANNAH	14	1014.1	1016.7	28.9	18.3	23.7	-1.1	33.3	1	12.2	14	1	0	18.9	77	100	- 34	51	6	0	0	0	4.0	4	16.5	E	10	9	14	7	5.2	73
HAWAII																																
HILO	9	1013.7	1015.5	27.8	20.0	23.9	-0.3	30.0	24	17.2	17	0	0	20.0	81	321	105	37	29	0	0	0	3.8	27	10.3*	14	29	1	10	19	8.1	28
HONOLULU	2	1014.4	1014.8	30.6	23.3	26.8	0.6	31.7	6	21.1	30	0	0	16.7	56	25	- 1	9	9	0	0	0	4.6	6	11.2	NE	28+	7	16	7	5.8	62
KAHULUI	15	1011.8	1014.6	29.4	20.6	25.0	-0.8	32.2	24	18.3	30	1	0	19.4	76	5	- 1	2	7	0	0	0	5.3	6	13.0	NE	30+	7	15	8	5.4	75
LIHUE	35	1014.4	1016.3	28.3	22.8	25.4	-0.2	28.9	24+	20.6	30+	0	0	20.6	76	55	2	18	22	0	0	0	4.7	6	9.8	E	29	1	18	11	7.0	
IDAHO																																
BOISE	865	919.8	1015.4	23.3	7.2	15.3	-1.7	30.0	16	0.6	19	0	0	2.8	47	18	8	18	3	0	0	0	3.3	13	11.6	NW	25	19	7	4	2.7	89
IDAHO FALLS 42NW R	1460			23.3	0.6	11.9	-1.4	28.9	5	- 7.8	27	0	14			2	- 14	2	1				3.6		16.5A	SW	25					
IDAHO FALLS 46W R	1504	848.8		22.2	1.7	11.9	-1.7	27.8	13+	7.2	27	0	11			T	- 9	T	0	0	0	0	3.7		18.8A	WSW	25					
LEWISTON	431	964.2		23.3	8.9	15.9	-1.6	32.2	16	4.4	19	1	0			22	- 1	8	5	0	0	0						12	8	10	5.1	
POCATELLO	1358	863.8	1015.5	23.9	3.9	14.1	-1.7	30.0	13+	- 3.3	27	0	3	- 2.2	36	T	- 15	T	0	0	0	0	4.4	21	15.2	SW	25	21	5	4	2.8	90
ILLINOIS																																
CAIRO U	96	1004.6		27.8	17.2	22.2	-0.3	33.9	10	10.0	14	6	0			137	61	55	6	4	0	0	3.0	5#	13.4	N	11	14	7	9	4.6	71
CHICAGO O HARE	201	993.2	1017.8	23.9	10.6	17.4	-0.2	34.4	9+	0.0	29+	5	2	11.7	73	100	31	34	10	4	0	0	4.6	20	16.5*	20	26	8	11	11	5.9	
CHICAGO MIDWAY	185	995.2	1018.1	24.4	13.3	18.8	-0.1	34.4	10+	4.4	28	5	0	11.7	67	64	- 6	21	7	4	0	0	4.2	21	14.8	S	26+	10	10	10	5.5	57
MOLINE	177	995.5	1017.7	25.0	12.2	18.7	0.2	34.4	3	1.7	28	4	0	12.2	69	101	19	29	12	5	0	0	3.6	18	16.5	W	23	12	11	7	5.0	61
PEORIA	199	995.6	1017.9	25.0	12.2	18.6	-0.6	33.9	10	3.3	28	5	0	11.7	68	92	15	49	7	3	0	0	3.8	18	13.9	W	23	16	5	9	4.6	70
ROCKFORD	222	990.2	1017.3	23.3	10.6	17.1	-0.6	32.2	9+	0.6	28	2	0	11.1	71	84	- 5	26	9	3	0	0	4.4	18	16.1*	26	23	12	7	11	5.2	
SPRINGFIELD	179	994.3	1017.5	27.2	13.9	20.6	0.8	36.1	10	3.9	13	8	0	11.7	61	31	- 43	15	7	1	0	0	4.1	18	13.4	S	26	16	5	9	4.2	76
INDIANA																																
EVANSVILLE	116	1002.7	1018.5	27.8	12.8	20.2	-0.9	35.6	10+	2.8	14	7	0	13.3	71	89	16	46	6	1	0	0	2.9	32	8.5	W	24+	16	4	10	4.5	69
FORT WAYNE	241	987.6	1018.8	25.0	11.1	18.2	-0.1	34.4	10+	2.8	14	5	0	11.1	67	40	- 28	25	8	2	0	0	3.5	21	13.0	W	23	14	6	10	4.7	69

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	C.	C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	988.7	1018.5	26.7	12.8	19.6	0.4	35.6	7	2.8	14	7	0	11.1	61	32	- 50	27	6	0	0	0	3.6	23	11.2	W	24+	13	8	9	4.9	74
SOUTH BEND	236	989.6	1018.2	23.3	11.1	17.2	-0.4	33.9	10+	0.6	13	5	0	10.6	68	86	8	42	10	4	0	0	4.2	22	12.1*	26	23	12	6	12	5.3	
IOWA																																
BURLINGTON	212	992.3	1017.9	25.0	13.3	19.1	0.2	33.9	3	4.4	29	4	0	12.8	71	127	46	56	10	6	0	0	4.1	20	18.8	W	22	14	7	9	4.7	74
DES MOINES	286	986.3	1017.6	22.8	12.8	17.6	-1.6	32.2	3+	0.6	28	2	0	13.9	82	109	36	29	13	8	0	0	4.8	14	17.4	NW	23	15	5	10	4.8	58
DUBUQUE	325	992.1		21.7	11.1	16.2	-0.3	30.6	3	1.7	28	0	0			63	- 32	23	9	4	0	0						9	10	11	5.6	
SIOUX CITY	334	975.0	1016.2	22.8	11.7	17.2	-1.4	32.2	2	1.7	27	1	0	12.8	78	77	7	23	11	9	0	0	4.6	18	18.8	SE	5	10	8	12	5.6	62
WATERLOO	265	984.7	1016.6	22.2	10.0	16.1	-1.1	32.2	2	- 1.7	28	1	2	11.7	78	131	35	67	8	4	0	0	4.1	18	17.0*	27	23	11	7	12	5.6	
KANSAS																																
CONCORDIA	448	965.9	1015.5	25.6	13.3	19.6	-1.3	35.0	9	4.4	27	7	0	13.3	71	93	24	58	11	7	0	0	5.3	16	16.1	S	26+	12	8	10	5.0	65
DODGE CITY	787	927.9	1015.0	26.7	13.3	20.1	-1.2	37.2	9+	3.9	28	8	0	12.2	66	44	6	21	7	4	0	0	6.5	19	15.2	SW	25	10	7	13	5.5	70
GOODLAND	1111	888.7	1014.3	26.7	10.0	18.3	-0.3	38.9	2	1.7	27	9	0	6.7	55	40	8	38	4	2	0	0	6.1	17	17.4*	23	1	18	5	7	4.0	
TOPEKA	267	981.0	1016.4	26.1	14.4	20.1	-0.7	33.3	3	2.8	29	3	0	15.6	76	29	- 47	17	6	7	0	0	3.9	18	13.4	SW	25	11	11	8	4.7	65
WICHITA	403	967.3	1015.3	27.2	16.1	21.6	-0.3	36.1	10	7.2	28	9	0	15.6	71	68	- 14	36	7	4	0	0	5.7	18	22.4	NE	10	15	5	10	4.6	66
KENTUCKY																																
COVINGTON	265	986.5	1018.2	27.2	12.2	19.5	-0.1	36.7	10	2.8	14	8	0	11.1	63	42	- 30	17	4	0	0	0	2.9	25	9.4*	29	23	14	6	10	4.6	
LEXINGTON	298	983.1	1018.6	26.7	13.3	20.1	-0.6	35.6	10+	5.0	14	7	0	10.6	58	125	54	89	6	0	0	0	3.5	14	9.8*	33	11	14	7	9	4.2	
LOUISVILLE	144	999.0	1018.0	27.2	13.9	20.6	-0.2	35.6	10	5.0	14	6	0	13.3	67	106	39	56	6	0	0	0	2.9	18	14.3	S	21	15	5	10	4.6	69
LOUISIANA																																
ALEXANDRIA	28	1011.3	1015.8	29.4	17.2	23.4	-1.6	34.4	3	7.2	14	8	0	18.9	82	176	96	95	9	7	0	0	1.9	4	8.0*	22	27	13	8	9	5.4	
BATON ROUGE	20	1012.7	1015.8	30.6	20.0	25.2	-0.3	34.4	2+	13.3	14	8	0	19.4	76	89	0	34	8	7	0	0	2.5	9	8.9*	10	6	10	11	9	5.3	
LAKE CHARLES	4	1014.0	1015.5	30.6	20.6	25.7	-0.3	35.6	1	12.8	14	9	0	20.6	78	156	54	104	8	7	0	0	3.3	4	9.4*	6	24+	9	12	9	5.4	
NEW ORLEANS	1	1013.2	1015.4	30.6	19.4	25.0	-0.7	35.0	1	12.2	15	7	0	20.6	80	125	- 3	43	7	6	0	0	2.9	6	10.3*	24	17	14	6	10	4.9	
NEW ORLEANS AUDUBON	2	1008.5		31.7	21.7	26.6	0.6	36.1	3+	15.0	14	14	0			99	- 64	37	8	5			1.7		6.3	NE	6	10	11	9	5.0	69
SHREVEPORT	77	1007.6	1016.7	31.1	20.6	25.8	-0.2	35.6	4+	13.3	28	17	0	18.9	70	64	6	33	9	2	0	0	3.5	13	15.6*	17	5	12	7	11	5.4	64
MAINE																																
CARIBOU	190	993.9		16.1	4.4	10.4	-1.7	22.2	7	- 1.7	29	0	3			34	- 56	9	11	0	0	0						9	7	14	5.9	
PORTLAND	19	1015.1	1019.1	20.0	6.1	13.1	-1.7	31.7	11	- 2.8	20	0	6	7.8	74	26	- 64	18	7	2	0	0	3.4	36	13.0	NW	11	10	8	12	5.4	64
MARYLAND																																
BALTIMORE	45	1014.2	1019.0	26.7	13.3	20.1	0.0	35.0	11+	5.6	26	4	0	11.7	64	66	- 18	32	6	0	0	0	3.8	27	13.0	W	25	16	5	9	4.7	64
BALTIMORE U	4			26.7	16.7	21.8	0.3	36.1	4	10.6	29+	4	0			89	- 4	45	6													
MASSACHUSETTS																																
BLUE HILL OBS R	192	994.7		21.1	11.1	16.0	-0.9	29.4	11+	4.4	16	0	0			89	- 12	26	6	0	0	0	6.2	SSW								59
BOSTON	5	1014.5	1019.2	21.1	12.2	16.7	-1.8	30.6	11	5.6	20	0	0	11.1	72	67	- 21	29	8	1	0	0	5.0	35	14.8*	SW	27	15	1	14	5.3	64
NANTUCKET	13	1018.5	1019.0	19.4	12.8	16.1	-1.1	25.0	1	6.7	16	0	0	12.8	81	159	70	65	12	2	0	0	5.4	5	18.8	NE	14	10	4	16	6.1	54
PITTSFIELD	357			21.1	7.2	14.3	-0.2	30.6	11	- 1.7	16	0	1			24	- 90	10	7		0	0										
WORCESTER	301	982.6	1019.3	20.6	9.4	15.2	-0.8	29.4	11	3.3	20	0	0	8.9	69	45	- 54	18	8	2	0	0	3.9	5	13.0*	20	27	12	6	12	5.4	
MICHIGAN																																
ALPENA	210	994.9		20.0	6.7	13.1	-0.2	27.8	3	- 3.3	16+	0	6			93	1	26	14	6	0	0	2.9	24	14.3	SW	26	5	9	16	6.8	64
DETROIT	189	991.9	1018.6	23.3	12.8	18.0	-0.4	33.3	8	3.9	28	2	0	11.1	67	54	- 8	17	12	0	0	0	4.3	36	15.2	W	23	6	11	13	5.8	59
DETROIT M WAYNE CO	193	994.9	1019.2	21.7	10.0	15.9	-2.0	31.7	8	1.1	28	0	0	10.0	70	33	- 26	10	11	1	0	0	4.0	24				9	8	13	6.0	
DETROIT WILLOW RUN	217	990.8	1018.6	22.2	10.0	16.2	-2.0	32.8	8	1.7	28	2	0	11.1	76	36	- 22	13	11	0	0	0	3.9	35	14.3*	22	26+	9	7	14	6.0	
FLINT	233	991.0	1019.1	21.7	9.4	15.6	-0.3	31.1	10	0.0	28	0	1	10.6	74	57	- 18	27	12	3	0	0	3.9	26	12.1*	27	27+	8	7	15	6.1	
GRAND RAPIDS	239	992.4	1018.2	22.2	10.0	16.3	-0.4	31.7	10+	0.0	28	0	1	11.7	79	80	5	19	11	4	0	0	4.1	28	24.1	SW	23	7	8	15	6.6	53
LANSING	256	986.3	1018.3	22.8	10.0	16.3	-0.4	32.8	10	0.0	28+	2	2	11.7	78	48	- 18	20	12	3	0	0	3.9	30	15.2	W	23	9	8	13	5.9	48
MARQUETTE U	206	989.2		17.2	9.4	13.3	-0.9	25.0	6+	1.1	28	0	0			99	16	24	12	4	0	0	3.8	NW#	14.8	SW	26	3	9	18	7.4	46
MUSKEGON	191	995.3	1018.4	22.2	11.1	16.6	-0.7	31.7	9	1.1	29+	0	0	11.1	74	91	13	22	12	7	0	0	4.0	12	16.5*	21	26	10	7	13	6.0	
SAULT STE MARIE	220	993.9	1016.7	17.2	7.2	12.2	-1.1	25.0	3	- 1.7	16	0	5	8.9	81	94	- 3	18	14	6	3	T	4.6	31	17.9*	29	27	2	12	16	7.6	41
MINNESOTA																																
DULUTH	435	974.2	1015.9	16.7	6.1	11.3	-1.0	27.2	3	- 2.8	15	0	3	6.7	78	167	94	93	12	6	T	0	4.3	10	18.8	W	26	5	9	16	7.1	47
INTERNATIONAL FALLS	359	972.6	1014.0	17.2	3.9	10.6	-1.0	26.1	9	- 4.4	15	0	6	7.2	82	84	11	28	13	6	8	T	4.8	14	14.8*	14	30	6	6	18	7.0	
MINNEAPOLIS	254	982.2	1015.8	20.6	9.4	14.9	-0.8	32.2	2	1.7	28	1	0	11.1	79	132	71	63	9	7	0	0	4.7	18	16.1	WSW	26	9	10	11	5.9	54
ROCHESTER	395	979.5	1017.1	20.0	8.9	14.2	-1.7	30.6	2	0.6	28	0	0	10.6	79	152	73	68	12	8	0	0	5.6	16	16.5*	29	23	7	10	13	6.2	
ST CLOUD	315	977.1		20.0	8.3	14.1	-0.8	31.7	2	0.6	15	0	0			35	- 26	14	11	4	0	0						11	6	13	5.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet		Average speed	Prevailing direction	Fastest mile (1.6 kilometers)			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max. 32.2 °C or above	Min. 0 °C or lower						.25 mm. or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	M.	Mb.	Mb.	C.	C.	C.	C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
JACKSON	94	1004.4	1016.4	31.7	18.9	25.1		36.1	4	8.9	14	16	0	17.8	69	93		41	6	2	0	0	3.6	34	10.3*	N	11	11	10	9	5.0	
MERIDIAN	88	1003.3	1016.8	31.1	17.2	24.1	-0.3	35.0	3+	7.2	14	10	0	17.8	75	55	- 30	31	6	4	0	0	2.5	36	9.4*	2	11	12	6	12	5.4	
VICKSBURG U	71	1007.0		29.4	19.4	24.6	-0.2	34.4	3	12.8	14+	10	0			126	63	87	7	4	0	0	3.1		15.2	S	5	9	12	9	5.2	66
MISSOURI																																
COLUMBIA	237	988.1	1016.5	27.8	15.6	21.4	0.7	36.1	10+	5.0	28	8	0	12.8	62	75	- 23	36	8	5	0	0	4.2	18	14.8	NW	24	17	4	9	4.3	68
KANSAS CITY	226	981.5	1016.2	26.1	15.6	20.8	-1.1	32.8	3+	5.0	28	3	0	14.4	68	78	- 5	25	8	7	0	0	3.8	18	11.6	SE	26	15	7	8	4.5	71
ST JOSEPH	247	982.3		25.6	13.9	19.5	-0.8	31.7	3+	2.2	28	0	0			57	- 30	29	9	3	0	0	3.0	18	10.3*	30	26+	15	6	9	4.3	
ST LOUIS	163	997.1	1017.8	26.7	14.4	20.7	-0.1	35.6	10	5.6	28	5	0	14.4	70	37	- 33	25	6	1	0	0	4.1	18	13.0	SE	17	18	2	10	4.3	61
ST LOUIS RFC	142			27.2	16.7	21.9	-0.1	35.0	10	8.3	28	5	0			45	- 30	20	5		0	0										
SPRINGFIELD	386	970.4	1017.3	26.7	14.4	20.6	-0.8	32.2	10	5.0	28+	1	0	15.6	76	54	- 43	17	10	2	0	0	3.7	16	10.3	NE	11	15	4	11	4.6	60
MONTANA																																
BILLINGS	1087	891.4	1015.2	20.6	6.7	13.6	-2.2	31.1	17	0.6	11	0	0	2.2	51	2	- 29	2	1	0	0	0	4.9	23	18.8	NW	25	11	14	5	4.6	66
GLASGOW	694	940.2		20.0	5.6	12.8	-0.9	32.2	17	- 1.7	27	1	1			13	- 11	8	7	1	T	0						6	10	14	6.3	
GREAT FALLS	1116	889.0	1016.6	18.3	6.1	12.2	-1.9	30.0	17	1.1	19	0	0	2.2	57	7	- 23	5	7	0	T	0	5.6	23	21.0	W	30	4	12	14	6.8	58
HAVRE	787	926.1		17.8	5.0	11.4	-1.7	30.6	17	0.0	27+	0	3			38	12	12	10	2	T	T	4.1	SW#	18.8	NW	17	4	10	16	6.8	54
HELENA	1167	874.5	1017.0	19.4	4.4	12.1	-1.2	28.9	17	- 2.8	27	0	4	1.7	54	4	- 20	4	3	0	0	0	3.8	27	15.2	W	30+	10	8	12	5.7	67
KALISPELL	904	912.6	1017.9	17.8	2.2	10.1	-2.6	24.4	16	- 3.3	27+	0	8	3.3	68	47	21	24	13	3	0	0	3.2	2	12.5	30	25	7	4	19	7.0	
MILES CITY	801		1015.2	21.1	6.1	13.6	-2.5	31.7	17	- 1.7	27	0	2	3.3	54	6	- 19	3	3	0	0	0	4.2	32	17.9*	32	25					
MISSOULA	972	903.4	1018.3	18.9	2.2	10.6	-2.4	25.6	16	- 5.0	19	0	9	3.3	67	13	- 13	9	3	1	0	0	2.7	32	14.8	N	25	6	12	12	6.2	62
NEBRASKA																																
GRAND ISLAND	561	949.8	1016.0	23.3	10.0	16.8	-1.7	35.6	2	1.1	27	4	1	11.1	74	32	- 22	8	12	8	0	0	5.2	18	14.3*	1	19	14	6	10	4.6	
LINCOLN U	351			24.4	13.3	18.7	-1.4	34.4	2	3.9	27	5	0			75	2	23	12	6	0	0	4.6	NE#	15.6	S	26	12	8	10	5.3	51
NORFOLK	471	960.4		22.8	11.1	17.0	-1.3	33.9	2	1.1	27	2	0			60	3	16	13	9	0	0						11	5	14	5.4	
NORTH PLATTE	846	915.8	1014.3	25.6	8.9	17.3	-0.3	35.0	2+	- 5.0	27	4	1	8.9	65	26	- 17	10	6	5	0	0	4.2	11	18.3	N	19	11	14	5	4.6	73
OMAHA	298	976.6	1016.3	24.4	12.8	18.5	-0.9	33.9	2	2.2	28	1	0	13.9	76	66	- 1	20	12	6	0	0	3.4	16	15.2	NW	23	11	8	11	5.2	59
OMAHA N OMAHA AP	403	968.3		22.8	12.2	17.4	-1.2	32.8	2	1.7	27	1	0			83	19	39	13	6	0	0						11	9	10	5.5	
SCOTTSBLUFF	1206	879.7	1014.8	25.6	5.6	15.3	-1.5	35.6	1	- 5.0	27	4	2	4.4	55	2	- 28	1	4	3	0	0	4.2	12	14.8*	32	26	17	9	4	3.6	
VALENTINE	789	924.3		24.4	7.8	16.1	-0.4	38.9	1	- 1.7	27	3	2			38	7	29	5	6	0	0	5.1	S#	21.9	NW	26	17	8	5	4.1	66
NEVADA																																
ELKO	1539	845.8		25.0	- 0.6	12.3	-2.1	29.4	13+	- 5.0	19	0	19	- 5.6	33	4	- 5	4	1	0	0	0	2.5	24	11.6*	25	25	23	6	1	1.9	
ELY	1906	810.4	1014.5	24.4	0.6	12.4	-1.7	28.9	13	- 5.0	22+	0	13	- 5.6	33	2	- 12	2	1	1	T	0	4.0	19	17.0	S	1	23	7	0	1.8	93
LAS VEGAS	659	945.3	1010.3	33.9	17.8	25.8	-0.9	38.9	12+	10.6	20	25	0	- 1.7	18	T	- 9	T	0	0	0	0	4.6	23	20.1*	NW	21	25	4	1	1.1	97
RENO	1342	863.6	1016.4	27.2	1.7	14.5	-0.4	34.4	25	- 1.7	2	2	7	0.6	44	0	- 6	0	0	0	0	0	2.6	29	12.1	SW	16	26	3	1	0.9	100
WINNEMUCCA	1310	868.8		25.6	1.1	13.3	-1.4	31.1	25+	- 5.0	19	0	12			1	- 8	0	1	0	0	0	3.4	15	13.0	N	20	23	5	2	1.7	93
NEW HAMPSHIRE																																
CONCORD	103	1008.5	1019.3	21.7	6.7	14.1	-1.1	32.2	11	- 2.8	16	1	4	8.3	73	11	- 85	4	6	0	0	0	2.9	32	13.0*	33	11	14	4	12	5.5	60
MT WASHINGTON OBS	1909	808.6		6.7	0.0	3.2	-1.8	14.4	23	- 7.2	28	0	16			123	- 54	35	14	2	18	T	12.4	W#	41.1Y	W	28	5	10	15	6.8	40
NEW JERSEY																																
ATLANTIC CITY	18	1017.3	1019.5	25.0	14.4	19.8	0.2	33.3	4	7.8	26	2	0	13.3	70	150	66	78	7	2	0	0	4.4	23	10.7*	20	27+	13	6	11	5.2	59
ATLANTIC CITY U	3			23.9	17.2	20.7	0.4	33.3	5	11.7	28+	1	0			141	55	56	10				5.8		15.6*	NNE	14					
NEWARK	3	1018.0	1019.3	25.6	15.0	20.5	0.3	35.6	11	10.0	16	3	0	11.1	59	33	- 62	26	6	0	0	0	4.7	4	12.1*	24	24	12	9	9	4.8	
TRENTON U	17	1011.0		25.0	13.9	19.5	0.0	33.3	11+	8.9	26	3	0			116	27	54	6	1	0	0	3.8	N#	13.0	SW	27	14	8	8	4.4	69
NEW MEXICO																																
ALBUQUERQUE	1618	849.5	1013.0	27.2	13.9	20.7	-0.4	33.9	3+	8.3	28	6	0	9.4	55	40	16	10	10	10	0	0	2.8	12	16.1	E	26	11	14	5	4.4	68
CLAYTON	1515	847.2		25.0	11.1	18.1	-0.8	33.9	2	2.2	27	5	0			35	- 7	13	11	10	0	0						16	4	10	4.2	
RATON	1944	808.1		24.4	8.3	16.3	-0.3	31.7	2	- 0.6	28	0	1			19	- 23	10	14	7	0	0						11	8	11	4.9	
ROSWELL	1102	893.8		29.4	15.6	22.3	1.3	37.2	3	8.3	28	11	0			52	6	20	14	8	0	0	3.5		13.9	W	15	13	10	7	4.7	61
SILVER CITY	1638	836.8		26.1	12.8	19.3	-1.8	33.3	3	7.8	28+	4	0			103	66	51	13	11	0	0						11	14	5	4.5	
NEW YORK																																
ALBANY	84	1014.0	1019.6	22.8	9.4	16.1	-0.3	31.1	11+	0.0	16	0	1	8.9	65	10	- 81	4	4	1	0	0	3.1	17	14.8	NW	27	10	9	11	5.5	59
BINGHAMTON	485	960.6	1019.6	22.8	10.0	16.2	0.9	33.3	10	1.7	16	1	0	8.9	65	17	- 58	6	6	0	0	0	4.3	36	14.3	SW	24	9	12	9	5.3	69
BUFFALO	215	990.4	1018.6	22.2	10.0	16.1	-0.3	31.1	8	1.7	16	0	0	9.4	69	20	- 60	8	7	3	0	0	4.2	18	18.3	SW	27	8	9	13	6.0	68
NEW YORK U	40	1008.5		25.0	13.9	19.6	-0.7	33.3	11+	8.9	16+	3	0			43	- 55	28	7	0	0	0	3.9	N#	11.6	NE	22+	15	6	9	4.3	65
NEW YORK LA GUARDIA	3	1016.9	1019.0	24.4	15.6	20.1	-0.4	33.3	11+	10.6	16	3	0	11.1	60	45	- 54	26	7	0	0	0	5.3	2	13.9	SW	24	12	9	9	5.0	
ROCHESTER	167	999.4	1019.3	22.8	9.4	16.2	-0.7	33.9	8	1.1	16	3	0	9.4	67	15	- 50	5	7	0	0	0	3.7	23	14.3	SW	24	9	13	8	5.5	65

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	C.	C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
SCHENECTADY	66			22.2	10.0	15.9	-0.9	30.0	10+	2.8	16	0	0			6	- 84	3	3	0	0	0			11.2*	SW	27+					
SYRACUSE	127	996.9	1018.8	23.3	10.0	16.4	-0.4	33.9	8	1.7	16	2	0	10.0	67	19	- 53	10	6	1	0	0	3.8	9	15.2	NW	5	8	12	10	5.6	53
NORTH CAROLINA																																
ASHEVILLE	652	940.2		25.0	12.2	18.5		29.4	5	3.9	26	0	0			173		112	8	2	0	0	2.5	15	10.3*	35	25	11	7	12	5.6	61
CAPE HATTERAS R	2	1016.2	1016.9	26.7	19.4	23.2	-0.2	31.1	12	10.0	15	0	0	18.9	79	140	- 10	88	12	4	0	0	4.9	6	18.3	NNE	21	8	14	8	5.5	74
CHARLOTTE	224	990.9	1018.7	27.2	16.1	21.6	-1.1	31.7	5	8.9	14	0	0	15.6	73	59	- 30	30	4	1	0	0	3.0	4	12.1	NE	13	13	8	9	4.8	74
GREENSBORO	273	987.7	1019.5	26.1	13.9	19.9	-1.2	31.7	5	6.7	26	0	0	15.0	76	26	- 67	22	5	0	0	0	2.8	4	11.6	NE	13	15	5	10	4.7	67
RALEIGH	132	1006.4	1018.3	27.2	14.4	20.7	-1.1	32.2	5	7.2	26+	1	0	16.1	77	134	37	70	6	2	0	0	3.4	36	11.2*	3	13	15	4	11	4.7	70
WILMINGTON	9	1015.1	1017.9	29.4	18.3	23.8	-0.2	32.2	5	11.7	26	1	0	18.9	76	91	- 69	86	5	1	0	0	3.3	3	12.5	N	13	8	10	12	5.5	73
WINSTON SALEM	294	984.2	1019.1	26.7	15.0	20.9	-0.9	32.2	5	8.9	14	1	0	15.0	72	24	- 66	15	6	0	0	0	2.8	5	9.4*	2	13	15	4	11	4.6	
NORTH DAKOTA																																
BISMARCK	502	954.3	1014.9	20.6	3.9	12.2	-2.7	32.8	1	- 6.7	11	1	6	2.8	56	17	- 13	14	3	2	0	0	5.4	31	19.2	W	3	10	7	13	5.9	69
FARGO	273	980.1	1014.7	20.0	6.1	13.0	-1.9	32.2	2	- 2.2	11	1	3	7.2	72	43	6	17	8	6	0	0	4.9	16	23.2	N	26	11	6	13	5.6	63
WILLISTON	579	946.6		19.4	4.4	11.9	-2.1	32.8	17	- 4.4	27+	1	8			10	- 18	7	3	1	0	0	5.4	NW#	21.0	NW	22	6	13	11	5.9	53
OHIO																																
AKRON	368	981.3	1019.5	23.9	11.1	17.4	-0.3	33.9	10	3.9	14+	3	0	9.4	64	15	- 52	7	5	0	0	0	3.3	6	9.8*	22	27	11	8	11	5.6	
CINCINNATI OBS	232			27.2	13.9	20.3	-0.2	36.1	10	6.1	14	7	0			60	- 9	35	5	1	0	0	2.1	N#	7.6	W	23					64
CINCINNATI U	169	995.3		27.2	14.4	21.0	-0.4	36.7	10	7.8	28	7	0			37	- 29	16	5	1	0	0										
CLEVELAND	237	991.0	1018.7	22.8	12.2	17.5	0.1	33.9	10	3.3	13	2	0	11.1	69	19	- 55	9	6	0	0	0	3.9	18	10.7	W	23	8	9	13	6.0	62
COLUMBUS	247	989.5	1019.3	25.6	11.1	18.3	-0.5	35.6	10	3.3	13	5	0	11.1	67	42	- 25	19	6	0	0	0	3.1	36	11.6	W	24	12	7	11	5.3	61
COLUMBUS U	221			25.6	13.9	19.8	-0.2	35.6	9	7.2	14+	5	0			45	- 14	31	6	0	0	0										
DAYTON	305	986.3	1018.8	26.7	12.8	19.5	0.2	36.1	10	3.3	13	5	0	10.6	61	26	- 39	19	5	0	0	0	3.6	2	13.0	W	23	13	5	12	5.0	74
MANSFIELD	395			23.9	11.1	17.6	0.2	33.9	10+	3.9	14	3	0			29	- 47	18	5	0	0	0						11	7	12	5.2	
TOLEDO	206	995.8	1018.7	23.9	10.0	16.9	-0.5	34.4	10+	0.6	14	4	0	10.0	68	41	- 13	21	9	0	0	0	3.4	24	14.8	NW	27	11	7	12	5.8	65
YOUNGSTOWN	359	976.9	1019.5	23.3	10.6	16.7	-0.2	33.3	10	1.7	13	3	0	8.9	64	24	- 50	15	7	0	0	0	4.1	13	10.3*	25	24	9	9	12	5.7	
OKLAHOMA																																
OKLAHOMA CITY	390	972.6	1015.6	27.8	16.7	22.4	-0.8	37.2	10	7.2	28	10	0	15.6	70	75	- 2	33	8	6	0	0	5.1	16	17.0	SW	26	10	7	13	5.7	61
TULSA	198	992.1	1016.4	28.3	17.2	22.8	-0.4	35.0	10	6.1	28	11	0	16.7	72	85	- 17	30	8	3	0	0	4.5	18	14.8	SW	26+	12	6	12	5.5	57
OREGON																																
ASTORIA	2	1017.9	1018.5	18.9	9.4	14.1	-0.3	25.6	11	5.0	26	0	0	11.1	84	69	- 10	19	14	0	0	0	3.4	15	10.3*	21	30	7	6	17	6.6	
BURNS U	1265	873.9		22.8	3.3	13.1	-1.8	28.3	16+	- 1.7	19	0	3			2	- 11	2	2	0	0	0						19	9	2	3.1	
EUGENE	109	1004.6	1018.2	24.4	7.8	16.1	-0.3	30.0	24+	2.8	18	0	0	8.9	68	19	- 14	11	4	0	0	0	3.0	36	10.7*	36	26	10	13	7	4.8	
MEACHAM	1234			17.2	5.0	11.2	-1.9	25.6	16	- 0.6	18	0	2			44	7	15	7	0	0	0						12	8	10	5.0	
MEDFORD	396	969.6	1017.2	27.2	5.0	16.2	-1.7	36.1	24	1.1	21	2	0	5.6	57	4	- 11	1	2	1	0	0	2.1	30	7.6*	30	16	23	5	2	2.1	
PENDLETON	452	963.2	1016.8	24.4	9.4	17.1	-0.8	31.7	16	5.6	27	0	0	3.3	44	4	- 12	2	4	2	0	0	4.9	26	17.4*	26	1	17	7	6	3.8	
PORTLAND	6	1012.6	1018.2	21.1	8.3	14.7	-2.1	27.2	12+	3.9	26+	0	0	9.4	74	41	- 1	17	9	0	0	0	3.2	32	13.0	S	30	9	8	13	6.1	54
PORTLAND U	9			21.7	11.7	16.8	-1.3	28.9	12	7.8	26	0	0			39	- 5	13	8		0	0										
ROSEBURG	157	999.4		25.6	7.2	16.4	-0.7	32.2	24	4.4	28+	1	0			11	- 14	10	4	0	0	0	1.9	N#	7.6	SW	30+	14	11	5	4.1	75
SALEM	60	1011.3	1018.8	22.8	6.7	14.9	-2.1	29.4	11	1.7	21	0	0	8.9	73	19	- 16	15	7	0	0	0	2.8	36	10.7*	3	26	8	12	10	5.5	
SEXTON SUMMIT R	1169	885.6		20.6	7.8	14.1	-1.3	31.1	24	3.3	21	0	0			7	- 25	5	3	0	0	0	4.9					26	2	2	1.8	
PACIFIC AREA																																
CANTON ISLAND	2	1008.9	1009.3	30.0	25.0	27.6	-1.1	30.6	30+	23.3	1	0	0	21.7	73	8	- 23	5	5	0	0	0	6.9	10	11.6*	9	14	17	7	6	4.3	
ENIWETOK	4	1008.8		30.6	24.4	27.6	-0.9	31.7	29+	22.2	1	0	0			301	143	50	26	1	0	0	5.1									
TAGUAC GUAM R	110	1009.0		30.0	22.2	25.9	-0.3	31.1	14+	19.4	6	0	0			490	151	110	27	8	0	0	2.3	SE								29
JOHNSTON	2	1011.8	1012.5	28.9	24.4	26.6	-0.9	29.4	29+	22.8	19+	0	0	22.2	76	27	- 33	7	14	0	0	0	5.6	8	15.6	E	10	2	7	21	7.7	34
KOROR R	29	1006.2	1008.9	31.1	24.4	27.8	0.6	32.8	24+	22.8	27+	5	0	24.4	87	179	-185	39	24	0	0	0	2.2	18	8.0	SE	10+	0	1	29	9.8	63
KWAJALEIN	2	1008.2	1009.1	30.0	23.9	26.9	-0.8	31.1	9+	22.2	30	0	0	24.4	87	502	243	55	25	0	0	0	4.5	7	12.5*	9	25	0	4	26	8.9	
PONAPE R	37	1004.2	1008.7	30.6	22.8	26.6	0.2	32.2	15	21.1	10	1	0	23.9	89	392	- 9	45	27	3	0	0	2.0	14	9.8	NE	8	0	3	27	9.1	45
TRUK MOEN ISLAND	2	1007.9	1008.2	30.0	23.3	26.8	-0.1	32.2	21	22.2	7+	1	0	23.9	84	429	109	70	23	3	0	0	3.1	12	10.3	N	4	0	2	28	9.6	50
WAKE	3	1012.0	1012.4	30.6	25.0	27.9	-0.2	31.7	8	22.8	13+	0	0	23.3	78	176	43	47	20	2	0	0	5.0	6	10.3*	7	22+	3	13	14	6.9	
YAP R	17	1007.0	1008.0	31.1	23.9	27.6	0.2	32.8	22	28.9	6	6	0	24.4	85	319	- 37	85	23	1	0	0	2.1	22	13.0	NE	31	0	6	24	9.1	51
PENNSYLVANIA																																
ALLENTOWN	115	1005.3	1019.5	25.6	12.2	18.8	0.6	35.0	11	5.6	26+	4	0	10.0	63	55	- 40	25	4	0	0	0	4.3	36	16.1*	23	24	15	8	7	4.3	
ERIE	223	992.9	1019.0	22.2	11.7	17.1	-0.3	33.9	10	4.4	29	3	0	10.0	66	50	- 40	36	7	2	0	0	5.9	17	14.3*	19	27	11	9	10	5.4	
HARRISBURG	102	1005.8	1019.6	26.1	11.7	19.0	-0.4	36.1	11	3.9	14	5	0	10.6	63	45	- 27	24	5	0	0	0	3.5	13	12.5	W	24	14	7	9	4.6	71
PHILADELPHIA	2	1014.8	1019.2	25.6	13.3	19.6	0.3	34.4	11	4.4	26	3	0	11.7	66	61	- 26	37	8	0	0	0	4.1	22	13.0	W	24	15	5	10	4.9	62

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature								No. of days			Average relative humidity	Precipitation			No. of days		Snow, Sleet		Wind		Fastest mile (1.6 kilometers)			No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	°C.	C.	C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
PITTSBURGH	347	988.7	1019.3	24.4	11.1	17.6	-0.3	34.4	10	2.8	14	4	0	9.4	63	19	- 46	9	6	0	0	0	3.5	36	11.2*	25	24	9	9	12	5.6	60
PITTSBURGH U	228			25.0	13.3	19.1	-0.6	34.4	10+	6.7	14	4	0			22	- 46	9	6		0	0										58
READING U	81	1007.1		26.1	13.9	19.8	0.1	35.0	11	6.1	14	4	0			34	- 51	23	6	1	0	0	4.3	N#	19.2	E	19	17	5	8	4.2	67
SCRANTON	283	985.5	1019.6	24.4	10.6	17.7	0.7	33.9	10	2.8	16+	4	0	8.3	60	21	- 55	17	3	0	0	0	3.4	11	11.6	SW	24	14	8	8	4.6	66
WILLIAMSPORT	161	1001.0	1020.0	25.6	10.6	18.1	0.2	34.4	10	3.9	14	4	0	10.6	67	13	- 70	7	5	0	0	0	2.8	27	10.3*	27	25	12	8	10	5.0	
RHODE ISLAND																																
BLOCK ISLAND	34	1014.2		20.6	13.9	17.2	-0.6	28.3	5	7.2	14	0	0			95	13	39	8	0	0	0						7	11	12	6.0	
PROVIDENCE	16	1012.8	1018.8	22.2	11.7	16.9	-0.4	30.0	5	5.0	20+	0	0	11.1	71	100	11	36	9	2	0	0	4.5	2	13.0*	36	14	10	6	14	5.9	50
SOUTH CAROLINA																																
CHARLESTON	12	1015.1	1017.0	29.4	18.9	24.1	-0.1	32.2	24+	11.7	14	3	0	19.4	78	104	- 44	63	5	0	0	0	3.8	2	20.6Y	SW	12	10	10	10	5.4	63
CHARLESTON U	3			28.3	21.1	24.7	-0.3	32.2	1	15.0	14	1	0			69	- 92	34	6		0	0	5.3		21.0	S	12					
COLUMBIA	66	1005.0	1017.7	29.4	17.2	23.2	-0.8	33.3	23	9.4	26	7	0	17.2	74	176	67	90	5	1	0	0	3.1	2	10.3*	2	12	14	7	9	4.5	78
FLORENCE	45	1011.9	1017.6	28.9	17.2	23.1	-0.8	33.3	30+	10.0	26	5	0	17.2	76	206	102	135	5	1	0	0	3.7	2	12.5*	22	12	12	10	8	4.9	
GNVLE SPARTANBURG	292	981.9	1018.7	28.3	16.7	22.4	-0.4	32.8	23	10.0	26	1	0	15.6	69	24	- 75	11	6	0	0	0	2.8	4	13.9	NE	13	13	7	10	4.9	68
SOUTH DAKOTA																																
HURON	391	967.8	1014.8	24.4	7.8	16.2	-0.4	36.7	9	- 1.1	27	3	1	7.8	63	22	- 17	11	4	2	0	0	5.9	15	25.5	NW	23	14	5	11	5.0	68
RAPID CITY	965	901.7	1015.3	23.3	6.7	15.0	-1.4	35.0	8+	- 2.8	27	2	2	2.2	49	18	- 7	12	2	2	0	0	5.6	34	27.3	NW	25	16	9	5	3.6	80
SIOUX FALLS	432	964.2	1015.7	21.7	8.9	15.2	-1.4	33.9	2	- 1.1	27	1	1	11.1	78	103	37	34	7	9	0	0	5.0	19	14.3*	19	30	12	7	11	5.4	
TENNESSEE																																
BRISTOL	459	964.8	1018.8	27.2	13.3	20.3	-0.3	32.8	11+	5.0	26	4	0	13.3	70	80	13	64	6	0	0	0	2.3	5	8.9*	1	12	14	4	12	4.9	
CHATTANOOGA	204	990.8	1018.1	29.4	15.6	22.6	-0.7	33.9	10	6.7	25	7	0	16.7	75	52	- 26	39	6	2	0	0	2.0	2	10.7	N	12	15	6	9	4.7	74
KNOXVILLE	299	983.5	1018.7	27.2	15.0	21.1	-1.2	31.7	10	8.3	26+	0	0	15.0	73	28	- 37	15	5	0	0	0	2.5	6	11.2	N	12	12	7	11	4.8	68
MEMPHIS	80	1002.6	1017.1	28.3	17.2	22.7	-0.6	32.2	10+	9.4	25+	4	0	16.7	71	70	- 2	53	6	0	0	0	3.0	2	12.1	N	12	14	9	7	4.4	72
MEMPHIS U	83			28.3	18.9	23.4	-0.4	34.4	6	10.0	28	5	0			47	- 24				0	0										
NASHVILLE	176	997.6	1017.3	28.3	15.0	21.8	-0.8	35.0	10	6.7	25+	9	0	15.0	69	67	- 6	48	6	0	0	0	3.1	2	10.3	NW	12	13	8	9	4.7	66
OAK RIDGE	276	986.9		27.2	13.3	20.4	-1.2	32.8	11+	4.4	26	2	0			80	- 4	52	4	1	0	0	2.4		13.0Y		12	14	5	11	4.6	
TEXAS																																
ABILENE	537	954.1	1014.3	28.9	20.0	24.5	0.1	35.0	10	10.6	28	12	0	16.1	62	54	1	25	8	4	0	0	4.1	16	13.4	N	27	15	1	14	5.3	54
AMARILLO	1098	889.9	1013.8	26.7	15.0	20.9	-1.2	33.9	10+	5.6	28	10	0	12.2	64	100	52	60	9	7	0	0	5.2	21	13.4	S	6	13	6	11	4.9	63
AUSTIN	182	993.4	1014.9	31.7	21.7	26.6	0.4	36.7	2	15.6	28+	13	0	19.4	72	160	72	69	8	8	0	0	3.5	18	14.3	NW	16	5	12	13	6.4	56
BROWNSVILLE	5	1010.5	1013.0	32.8	23.9	28.4	1.1	35.6	17+	19.4	28	25	0	22.8	77	125	- 1	41	10	9	0	0	4.4	12	12.1	SE	16	5	13	12	6.2	66
CORPUS CHRISTI	12	1012.7	1014.0	32.2	22.2	27.2	0.1	37.2	11	16.7	28	19	0	22.8	81	177	66	82	14	8	0	0	4.6	12	11.6	S	16	4	17	9	6.2	51
DALLAS	147	997.3	1015.6	30.0	20.6	25.1	-0.4	36.1	3+	12.8	28	11	0	17.8	69	271	199	120	7	4	0	0	4.2	16	14.8	N	27	10	7	13	6.1	45
DEL RIO	313	979.2	1013.2	32.2	21.1	26.6		38.3	11	15.0	29	16	0	18.9	69	401		114	13	10	0	0	4.6	12	13.0	12	21	6	9	15	6.4	
EL PASO	1194	886.0	1011.4	30.0	17.8	24.0	0.4	36.7	3	10.0	28	11	0	12.2	52	61	32	45	7	9	0	0	3.2	18	14.3	NE	11	20	5	5	3.3	81
FORT WORTH	164	995.2	1015.7	30.6	19.4	24.9	-0.8	37.8	3	12.8	29+	12	0	17.2	68	242	177	121	10	3	0	0	3.2	14	13.9*	1	27	9	8	13	6.1	
GALVESTON U	2			29.4	24.4	26.9	0.2	33.3	11	18.9	29	2	0			111	- 18	64	9	1	0	0	4.0		11.6	NW	17					70
HOUSTON U	12			31.1	22.8	26.8	0.3	35.6	2	16.7	28	14	0			136	39	38	13		0	0										
HOUSTON	15	1012.1	1014.7	31.1	21.7	26.3	0.1	35.6	11+	17.2	28	13	0	20.6	76	172	64	81	14	8	0	0	3.8	12	12.5*	20	17	4	15	11	6.4	61
LAREDO	152	997.9	1013.1	33.9	23.3	28.5	0.3	37.2	10+	16.7	28	24	0	20.6	68	73		19	12	11	0	0	4.2	14	15.6*	16	4	8	13	9	5.5	
LUBBOCK	988	904.1	1014.7	27.2	16.1	21.6	-0.3	35.0	10	6.1	28	11	0	14.4	70	62	3	29	8	4	0	0	5.1	18	15.6*	6	27	13	5	12	5.3	
MIDLAND	869	915.5	1012.5	30.0	19.4	24.7	0.6	37.8	10	10.0	28	13	0	15.6	64	56	10	24	8	2	0	0	4.7	16	11.2*	4	27	13	7	10	5.2	
PORT ARTHUR	5	1013.4	1014.9	31.7	21.1	26.2	0.5	36.1	1	14.4	14	17	0	21.1	80	141	18	87	8	5	0	0	3.4	4	13.9	SW	17	9	12	9	5.6	62
SAN ANGELO	580	947.3	1013.3	30.6	20.0	25.1	-0.7	37.2	2+	13.3	29+	14	0	16.7	65	71	4	20	11	4	0	0	3.1	18	9.4*	6	16	12	4	14	5.6	
SAN ANTONIO	240	990.1	1014.7	31.7	21.7	26.7	0.8	36.1	11	15.6	28	14	0	20.0	72	105	17	30	9	7	0	0	3.6	14	13.0	SE	8	6	17	7	5.8	76
VICTORIA	32	1009.8		31.7	22.2	26.7	0.5	35.6	11+	16.7	28+	14	0			194	87	74	16	12	0	0	3.5		19.7Y		8	5	15	10	6.4	
WACO	152	994.2	1014.9	31.1	20.6	25.9	-0.2	37.2	11	13.3	28	14	0	17.8	68	139	69	63	10	6	0	0	3.9	18	10.3*	34	27+	11	6	13	5.7	
WICHITA FALLS	303	978.7	1015.2	30.0	17.8	23.9	-1.3	40.0	4	7.8	28	12	0	16.1	67	159	100	67	8	5	0	0	4.4	12	14.3*	13	15	13	5	12	5.2	
UTAH																																
MILFORD	1533	844.9		26.1	5.0	15.6	-1.7	32.2	5	- 3.3	20	1	2			20	9	8	5	3	0	0						23	4	3	1.8	
SALT LAKE CITY	1286	868.2	1015.1	26.1	6.7	16.4	-1.6	32.8	6	- 0.6	19	2	1	- 1.1	36	3	- 10	2	2	4	0	0	4.2	16	19.2	SW	6	20	7	3	2.7	95
WENDOVER	1291	870.6		24.4	10.0	17.3	-2.0	31.7	25+	3.3	20	0	0			T	- 8	T	0	0	0	0						23	6	1	1.7	
VERMONT																																
BURLINGTON	100	1004.2	1018.5	20.0	6.7	13.2	-1.4	27.8	23	- 1.1	29+	0	4	8.3	73	38	- 46	12	8	1	0	0	3.6	18	14.3	S	27	6	14	10	6.2	61

See footnotes at end of table

CLIMATOLOGICAL DATA
METRIC UNITS

SEPTEMBER 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VIRGINIA																																
LYNCHBURG	279	994.3		25.6	12.8	18.9	-1.4	31.7	5	5.0	14	0	0			32	- 53	10	10	1	0	0	2.6		11.6	NE	13	16	4	10	4.3	68
NORFOLK	8	1017.5	1018.8	26.1	17.2	21.6	-1.0	30.6	11+	11.1	26+	0	0	16.7	76	311	204	120	9	2	0	0	5.5	21	28.2	NE	13	13	5	12	5.2	61
RICHMOND	49	1012.9	1019.1	25.6	13.3	19.5	-1.7	32.2	11+	6.7	25+	2	0	14.4	78	65	- 28	35	7	0	0	0	3.1	2	8.0	N	22+	15	6	9	4.6	66
ROANOKE	358	977.8	1019.7	26.1	12.8	19.3	-1.3	32.8	5	3.9	26	1	0	12.8	69	69	- 14	39	8	0	0	0	2.0	18	7.6*	29	24	16	4	10	4.5	
WASHINGTON																																
OLYMPIA	59	1010.9	1018.2	20.0	6.7	13.3	-1.4	25.6	12+	1.7	27+	0	0	9.4	82	57	4	35	9	0	0	0	3.4	20	12.5*	19	30	5	9	16	7.0	
SEATTLE TACOMA	122	1004.1	1018.2	18.9	10.6	14.7	-0.8	25.0	12	6.7	9	0	0	8.9	72	58	6	25	10	0	0	0	4.0	1	13.0*	23	30	6	8	16	6.8	
SEATTLE U	4			19.4	12.2	15.9	-0.3	25.6	12	10.0	28+	0	0			51	9	35	10		0	0			17.0	SW	29					61
SPOKANE	718	947.4	1016.2	20.0	6.1	12.9	-3.2	28.9	16	1.7	9	0	0	3.3	59	26	7	17	8	1	0	0	4.2	6	14.8	SW	30	11	7	12	5.3	65
STAMPEDE PASS R	1206	881.4		12.2	5.0	8.4	-2.6	20.0	24	1.7	30	0	0			209	98	86	17	0	41	0						8	5	17	6.6	
TATOOSH ISLAND R	31	1014.9	1017.8	14.4	9.4	11.8	-0.8	17.8	12	7.2	9	0	0	10.0	90	179	89	56	10	1	0	0	6.0	6	21.0	S	30	8	4	18	6.8	65
WALLA WALLA U	289	978.9		23.9	11.1	17.3	-1.6	32.8	16	7.2	19+	1	0			24	4	11	5	1	0	0	2.5	55	10.3	W	17	15	8	7	3.9	76
YAKIMA	321	977.6	1016.4	23.3	5.0	13.9	-2.3	28.3	24	0.0	27	0	1	3.9	53	1	- 8	1	1	0	0	0	3.7	27	13.4*	28	30	14	10	6	4.0	
WEST INDIES																																
SAN JUAN P.R.	5	1011.5	1014.3	31.7	24.4	27.9	0.9	33.9	20	22.2	1	10	0	23.3	79	130	- 42	50	15	10	0	0	3.2	7	10.3	NE	2	0	18	12	6.6	54
SWAN ISLAND	9	1010.3		31.1	26.1	28.6	0.2	32.2	21+	23.3	25	3	0			102	- 30	27	14	9	0	0						2	17	11	6.4	
WEST VIRGINIA																																
BECKLEY	763	931.6	1019.2	23.9	10.6	17.4		31.1	11+	2.8	14	0	0	10.6	70	210		136	8	1	0	0	2.9	14	10.3*	28	24	12	6	12	5.4	
CHARLESTON	286	983.6	1018.9	27.2	12.2	19.7	-0.4	35.6	9	4.4	15	6	0	11.1	65	64	- 10	34	7	0	0	0	2.2	4	12.1*	23	24	11	8	11	5.1	
ELKINS	600	951.0	1020.2	23.9	8.3	16.3	-0.7	32.2	10+	- 0.6	15	2	2	11.1	78	107	29	46	9	1	0	0	2.2	16	9.8*	25	24	12	7	11	5.6	
HUNTINGTON	252	988.7	1018.7	26.1	11.1	18.7	-1.4	34.4	10	2.2	14	4	0	12.2	71	115	51	70	6	0	0	0	2.0	2	9.4*	28	24	13	5	12	5.0	
PARKERSBURG U	187			25.6	12.2	19.1	-1.0	35.0	10	2.8	14	4	0			75	6	40	7	0	0	0			13.0	NW	23					64
WISCONSIN																																
GREEN BAY	208	994.1	1017.0	19.4	10.0	14.7	-1.1	30.0	3	- 0.6	28	0	1	11.1	82	171	97	76	15	9	0	0	3.8	18	17.0	S	26	8	7	15	6.4	44
LA CROSSE	199	990.8	1017.1	21.1	11.1	16.1	-0.7	31.1	3	1.1	28	0	0	12.2	80	139	51	56	10	6	0	0	4.7	18	17.0*	26	23	7	9	14	6.5	
MADISON	262	982.2	1017.4	21.7	8.9	15.3	-0.8	32.2	9	- 2.8	28	1	4	11.1	78	47	- 37	14	11	5	0	0	3.4	19	20.6	W	23	8	10	12	6.1	57
MILWAUKEE	205	992.7	1017.6	21.1	11.1	16.2	0.5	32.8	7+	1.1	28	2	0	11.7	75	44	- 25	15	11	6	0	0	4.2	27	19.2	W	23	12	10	8	5.6	56
WYOMING																																
CASPER	1621	837.9	1014.4	22.8	3.9	13.4	-2.0	30.0	1	- 5.6	27	0	3	- 2.2	40	9	- 14	7	3	1	0	0	5.4	25	18.3*	23	25	18	9	3	3.3	
CHEYENNE	1867	815.1	1015.1	22.2	5.6	13.8	-0.9	29.4	5+	2.8	27+	0	2	0.0	45	8	- 20	6	3	3	0	0	5.5	29	17.0	W	9	19	4	7	3.4	74
LANDER	1696	835.5	1013.9	23.3	5.0	14.2	-0.8	32.8	8	- 3.3	27	1	3	- 1.7	39	14	- 12	14	2	0	0	0	3.6	24	23.2	SW	1	18	6	6	3.4	85
SHERIDAN	1208	884.9	1015.8	21.7	4.4	12.9	-2.0	32.8	8	- 5.6	27	2	3	1.7	52	2	28	1	2	0	T	0	3.9	31	21.9	NW	25	13	9	8	4.5	68

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65° F.)

SEPTEMBER 1964

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	0	0	6
Huntsville	[illegible]	2	12
Mobile	0	0	0
Montgomery	0	0	0
ALASKA			
Anchorage	485	1041	1052
Annette	369	936	777
Barrow	1134	2891	2678
Barter Island	1006	2686	2497
Bethel	525	1173	1325
Cold Bay	529	1552	1424
Cordova	514	1195	1279
Fairbanks	595	1016	1145
Juneau	453	1124	1122
King Salmon	503	1196	1148
Kotzebue	694	1511	1550
McGrath	584	1052	1179
Nome	645	1425	1670
St. Paul Is.	650	1827	1756
Shemya	600	1782	1553
Yakutat	522	1246	1159
ARIZONA			
Flagstaff	245	326	315
Phoenix (U)	0	0	
Phoenix	0	0	0
Prescott	30	30	27
Tucson	0	0	0
Winslow	21	21	6
Yuma	0	0	0
ARKANSAS			
Ft. Smith	14	14	12
Little Rock	14	14	9
Texarkana	10	10	0
CALIFORNIA			
Bakersfield	1	1	0
Bishop	27	27	42
Blue Canyon	152	246	204
Burbank	0	1	6
Eureka (U)	288	787	785
Fresno	3	6	0
Long Beach	8	9	12
Los Angeles (U)	0	0	6
Los Angeles	8	17	71
Mt. Shasta (R)	189	283	182
Oakland	73	213	148
Red Bluff	8	8	0
Sacramento (U)	10	15	12
Sacramento	10	14	12
Sandberg (R)	34	58	30
San Diego	0	0	21
San Francisco (U)	139	477	468
San Francisco	94	216	219
San Jose (U)	27	52	
Santa Catalina	8	14	25
Santa Maria	149	366	288
Stockton	8	14	
COLORADO			
Alamosa	289	404	443
Colorado Springs	151	173	191
Denver	123	139	114
Grand Junction	39	41	30
Pueblo	59	61	54
CONNECTICUT			
Bridgeport	83	98	66
Hartford	128	146	105
Middletown	158	235	
New Haven	96	112	99
DELAWARE			
Wilmington	49	58	51
DIST. OF COLUMBIA			
Washington (U)	39	39	
Washington	29	29	33
FLORIDA			
Apalachicola (U)	0	0	0
Daytona Beach	0	0	0
Fort Myers	0	0	0
Jacksonville	0	0	0
Key West	0	0	0
Lakeland (U)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	0	0	0
Pensacola	0	0	0
Tallahassee	0	0	0
Tampa	0	0	0
West Palm Beach	0	0	0
GEORGIA			
Athens	1	1	12
Atlanta	2	2	18
Augusta	1	1	0
Columbus	0	0	0
Macon	0	0	0
Rome	6	6	24
Savannah	0	0	0
IDAHO			
Boise	166	228	132
Idaho Falls 46W (R)	337	447	320
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	338	425	338
Lewiston	129	162	123
Pocatello	223	291	172
ILLINOIS			
Cairo (U)	20	21	36
Chicago (Midway)	101	119	81
Chicago (O'Hare)	148	210	129
Moline	100	127	108
Peoria	108	118	93
Rockford	145	205	129
Springfield	66	76	72
INDIANA			
Evansville	52	60	66
Ft. Wayne	109	143	114
Indianapolis	73	91	90
South Bend	155	200	117
IOWA			
Burlington	88	100	93
Des Moines	124	152	102
Dubuque	169	219	199
Sioux City	134	175	117
Waterloo	181	234	169
KANSAS			
Concordia	69	81	57
Dodge City	81	84	33
Goodland	121	150	87
Topeka	67	76	57
Wichita	34	35	33
KENTUCKY			
Lexington	61	72	54
Louisville	44	49	54
LOUISIANA			
Alexandria	3	3	0
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (Audubon Park)	0	0	0
New Orleans	0	0	0
Shreveport	6	6	0
MAINE			
Caribou	419	664	529
Greenville (U)	432	723	
Portland	293	455	260
MARYLAND			
Baltimore (U)	24	24	27
Baltimore	41	41	48
MASSACHUSETTS			
Blue Hill Obs. (R)	165	240	130
Boston	140	180	69
Nantucket	136	188	149
Pittsfield	243	396	303
Worcester	189	305	187
MICHIGAN			
Alpena	293	488	446
Detroit (City AP)	110	135	87
Detroit (M. Wayne Co.)	175	261	96
Detroit (Willow Run)	171	234	90
Escanaba (U)	287	444	389
Flint	207	301	215
Grand Rapids	179	245	172
Lansing	188	267	166
Marquette (U)	268	448	380
Muskegon	165	226	160
S. Ste. Marie	332	560	480
MINNESOTA			
Duluth	377	642	510
Internat. Falls	416	641	546
Minneapolis	224	287	242
Rochester	253	350	245
St. Cloud	256	348	300
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (U)	3	3	0
MISSOURI			
Columbia	44	50	54
Kansas City	49	51	39
St. Joseph	67	79	66
St. Louis (RFC)	27	27	36
St. Louis	55	57	60
Springfield	49	60	45
MONTANA			
Billings	253	320	207
Butte	458	719	
Glasgow	298	350	348
Great Falls	337	430	339
Havre	370	459	387
Helena	332	434	384
Kalispell	439	707	470
Miles City	253	319	186
Missoula	409	592	411
NEBRASKA			
Grand Island	159	203	114
Lincoln (U)	94	108	81
Norfolk	146	194	120
North Platte	143	186	129
Omaha	93	117	96
Omaha N. Omaha AP	132	163	117
Scottsbluff	185	237	138
Valentine	188	262	186
NEVADA			
Elko	317	409	268
Ely	314	405	305
Las Vegas	0	0	0
Reno	203	237	334
Tonopah	98	107	
Winnemucca	262	338	244
NEW HAMPSHIRE			
Concord	246	360	233
Mt. Washington Obs. (R)	812	1942	1749
NEW JERSEY			
Atlantic City	42	43	39
Atlantic City (U)	17	17	
Newark	40	41	30
Trenton (U)	59	64	57
NEW MEXICO			
Albuquerque	20	22	12
Clayton	106	108	72
Raton	140	153	163
Roswell	21	21	18
Silver City	40	40	6
NEW YORK			
Albany	169	218	157
Binghamton	165	235	288
Buffalo	176	249	197
New York (U)	63	66	30
New York (LaGuardia)	52	54	27
Rochester	169	220	166
Schenectady	166	219	145
Syracuse	154	186	166
NORTH CAROLINA			
Asheville †	47	67	
Cape Hatteras (R)	3	3	0
Charlotte	14	19	6
Greensboro	28	30	33
Raleigh	24	25	21
Wilmington	0	0	0
Winston-Salem	14	16	21
NORTH DAKOTA			
Bismarck	342	455	284
Devils Lake (U)	375	523	366
Fargo	304	403	284
Grand Forks FAA	282	360	
Pembina	323	447	
Williston	349	435	335
OHIO			
Akron	121	169	105
Cincinnati (U)	46	50	39
Cincinnati	68	82	75
Cincinnati Obs.	60	72	54
Cleveland	117	166	139
Columbus	90	118	90
Columbus (U)	70	82	57
Dayton	75	99	84
Mansfield	127	166	145
Toledo	150	205	133
Youngstown	140	205	145
OKLAHOMA			
Oklahoma City	24	24	15
Tulsa	18	18	18
OREGON			
Astoria	222	575	486
Burns (U)	278	439	259
Eugene	120	205	197
Meacham	375	746	496
Medford	120	151	78
Pendleton	92	128	111
Portland (U)	100	162	103
Portland	191	339	167
Roseburg	110	165	143
Salem	181	301	179
Sexton Summit (R)	241	568	333
PENNSYLVANIA			
Allentown	78	94	90
Erie	140	196	127
Harrisburg	71	75	63
Philadelphia (U)	45	45	30
Philadelphia	51	53	60
Pittsburgh (U)	67	82	60
Pittsburgh	99	151	114
Reading (U)	52	57	54
Scranton	110	141	151
Williamsport	89	109	120
RHODE ISLAND			
Block Island	99	122	94
Providence	125	158	112
SOUTH CAROLINA			
Charleston (U)	0	0	0
Charleston	0	0	0
Columbia	3	3	0
Florence	4	4	0
Greenville-Spartanburg	0	2	6
SOUTH DAKOTA			
Huron	179	235	186
Pierre	162	197	
Rapid City	198	262	199
Sioux Falls	210	265	212
TENNESSEE			
Bristol	26	38	51
Chattanooga	5	6	18
Knoxville	9	17	30
Memphis (U)	19	19	12
Memphis	13	13	18
Nashville	18	21	30
Oak Ridge	29	35	39
TEXAS			
Abilene	2	2	0
Amarillo	48	48	18
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	6	6	6
Del Rio	0	0	
El Paso	0	0	0
Fort Worth	6	6	0
Galveston (U)	0	0	0
Houston (U)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	35	35	18
Midland	6	6	0
Port Arthur	0	0	0
San Angelo	2	2	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	12	12	0
UTAH			
Milford	147	176	99
Salt Lake City	134	178	81
Wendover	86	107	48
VERMONT			
Burlington	280	394	230
VIRGINIA			
Lynchburg	48	53	51
Norfolk	4	4	0
Richmond	32	32	36
Roanoke	41	50	51
WASHINGTON			
Olympia	266	546	337
Seattle (U)	127	219	226
Seattle	149	226	221
Seattle-Tacoma	189	356	280
Spokane	290	439	202
Stampede Pass (R)	525	1278	957
Tatoosh Island (R)	345	902	880
Walla Walla	117	146	
Walla Walla (U)	81	106	87
Yakima	229	355	156
WEST VIRGINIA			
Beckley	93	149	
Charleston	40	53	63
Elkins	124	202	169
Huntington	69	86	63
Parkersburg (U)	66	78	60
WISCONSIN			
Green Bay	229	318	252
La Crosse	179	216	184
Madison	216	297	239
Milwaukee	177	231	264
WYOMING			
Casper	272	373	214
Cheyenne	239	336	260
Lander	230	314	229
Sheridan	292	393	275

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

† Moved to Airport September 1, 1964

HURRICANE DORA

AUGUST 28-SEPTEMBER 16, 1964

A weak low pressure area that moved off the west African coast south of Dakar on August 28 was probably the initial circulation from which Dora developed. This tropical disturbance passed south of the Cape Verde Islands on the 29th. Early on the 31st, TIROS VIII photographs showed the disturbance near 11°N., 40°W., and the next day ship reports placed it near 12°N., 46°W. The MORMACSCAN passed close to the center, reporting a wind shift from northeast to southwest, pressure 29.75 in. and winds to 40 m.p.h. during the morning of September 1.

Reconnaissance aircraft reached the area by midday and found maximum surface winds of 60 m.p.h. and a minimum pressure of 29.47 in. near 12.5°N., 48.5°W. Dora moved west-northwestward on the 1st and 2d at about 18 m.p.h., intensified to hurricane force, slowed down in forward motion, and turned to a more northwestward path during the evening of the 2d. Later that night reconnaissance indicated winds had increased rapidly to 115 m.p.h. On the afternoon of the 3d, central pressure was down to 28.97 in. Late on the 5th a turn toward a more westerly course began. Dora was about 350 miles south of Bermuda at that time and had grown into a large and intense hurricane. On the morning of the 6th, central pressure was about 27.82 in. and winds near 125 m.p.h. During the 7th and 8th Dora continued slightly north of west, heading toward the upper east coast of Florida with its intensity remaining about the same.

Prior to entering the coast during the early morning hours of the 10th, Dora's center slowed down and radar photographs indicated that it followed a rather erratic course. The area covered by the storm and hurricane winds was very large. On the 9th strong winds, heavy rains, and high tides extended from central Florida northward to the Georgia coast. The eye passed over St. Augustine, Fla., with light winds there from 0015 to 0130 e.s.t. on the 10th, accompanying the lowest pressure reported on land, 28.52 in. at 0100 e.s.t. and followed by the highest reported sustained winds, estimated at 125 m.p.h. Winds exceeded hurricane force from extreme southeastern Georgia to Flagler County, Fla., with sustained speeds near 100 m.p.h. along the coastline from St. Augustine to the Jacksonville beaches. At Jacksonville WBAS, some miles inland, the maximum sustained wind, 82 m.p.h. at 1948 e.s.t. on the 9th was the first occurrence of full hurricane force in Weather Bureau records there.

After crossing inland, Dora continued to move slowly on an unusual path only slightly north of west, maintaining hurricane intensity over a gradually decreasing area during the 10th. The storm center, with wind intensity much reduced, reached extreme southeastern Alabama on the evening of the 11th, recurved, and moved eastward again across southern Georgia during the 12th. The forward speed picked up, and wind force increased offshore and along the coast, as Dora's center moved rapidly northeastward just inland to near Cape Hatteras by the evening of the 13th. Within 12 hours after passing back over the ocean, cold air had completely destroyed Dora's tropical structure. The storm continued rapidly northeastward, crossing southern Newfoundland during the 15th.

Damage, resulting from all the potential major destructive forces in a hurricane (tides, winds, and rainfall), was heavy throughout northern Florida and southern Georgia. No ancillary tornadoes were reported in this area.

Unusually high tides were produced by the long duration of strong onshore winds. Levels reached 5 to 8 ft. or more above normal from the Daytona Beach area northward into Georgia. Tides estimated at 12 ft. swept across Anastasia Island off St. Augustine. This is 4 ft. greater than any known previous tide. The water level reached 10 ft. above normal at Mayport. The storm surge caused extensive beach erosion, inundated many beach communities, washed out beach roads, and swept several dwellings and buildings into the sea.

Wind damage was extensive in coastal areas north of Daytona Beach. The greatest destruction occurred from St. Augustine to the Georgia border. The high winds in Duval County (Jacksonville Metropolitan area) damaged utility lines. Numerous trees were uprooted throughout the coastal counties, adding to damage as they fell across utility lines or onto buildings. Major structural damage to installations from wind was limited to coastal areas and to older frame buildings a short distance inland. Extensive wind-induced river flooding occurred in Jacksonville along the north bank of the St. Johns River following passage of Dora's center.

Although winds gradually diminished as Dora moved westward away from the coast, widespread and intense rainfall spread over interior sections of northern Florida and southeastern Georgia. Rain continued at many places for four days during both the westward and eastward passages of the storm center. Totals in excess of 10 inches fell over about a 10,000-sq.-mi. area, and amounts over 6 inches were common from near Brunswick and Waycross, Ga., to near Tallahassee and Orlando, Fla. The most intense rains fell in Lafayette and Suwannee Counties, Fla., on the 12th. At Live Oak 18.62 in. fell during the 10th-14th, with 12.95 in. during 24 hours ending at 1800 e.s.t. on the 12th, while Mayo received 23.73 in., with 14.62 in. during the same 24-hour period as Live Oak. Along the Florida Gulf coast, between St. Marks and Tampa, tides ran from 2 to locally 6 ft. above normal at Yankeetown, as gale force southwesterly winds were sustained from the 10th through most of the 12th. Flooding was increased in many areas by runoff from the heavy rains on the 11th and 12th. In addition to flooding in these coastal sections and along lakes and streams, many poorly-drained sections were completely inundated. Some communities were isolated for several days and damage to roads and bridges was widespread. Considerable water damage to unharvested crops of corn, cotton, and peanuts was reported.

Conditions in southeastern Georgia were less severe. Considerable beach erosion was reported all along the coast; flooding, wind damage, and utility failures were extensive around Brunswick. Lesser damage was recorded elsewhere, and crop damage was apparently not heavy.

Total damage has been estimated at $230 million in Florida and $8 million in Georgia. American Red Cross reported 79 dwellings destroyed, 492 with major damage, and 10,017 with minor damage in Florida and Georgia.

Wind damage in South Carolina was minor, but rains in the eastern part of the State ranging from 3 to over 8 inches produced some flooding. Several waterspouts were reported near Garden City Beach between 1300 and 1400 e.s.t., on the 12th.

The only significant damage to structures in North Carolina was caused by local storms: a waterspout moving westward off the ocean onto Carolina Beach, south of Wilmington at 0725 e.s.t. on the 10th; and a tornado moving northwestward across Howell's Point, southwest of Wilmington at 2100 e.s.t. on the 12th. Rainfall, locally 5 inches or more, and tides 3 to 4 ft. above normal were reported between Hatteras and the Virginia border.

Dora's effects in Virginia were confined to rains of 1 to 3 inches over southeastern inland sections; with 3 to almost 5 inches in the Hampton Roads area where storm tides reached about 3.5 ft. above normal, and moderate flooding occurred.

The fringes of Dora brushed the Middle Atlantic and New England coasts with no significant damage reported. Winds were generally below gale force. Tides reached 2 to 4 ft. above normal on the Maryland and Delaware coasts, and locally perhaps 3 ft. above normal in New Jersey. Rainfall totaled only 1 to 2 inches at scattered coastal locations, ranging up to 2.53 inches at Nantucket, Mass. The rain was timely and much needed.

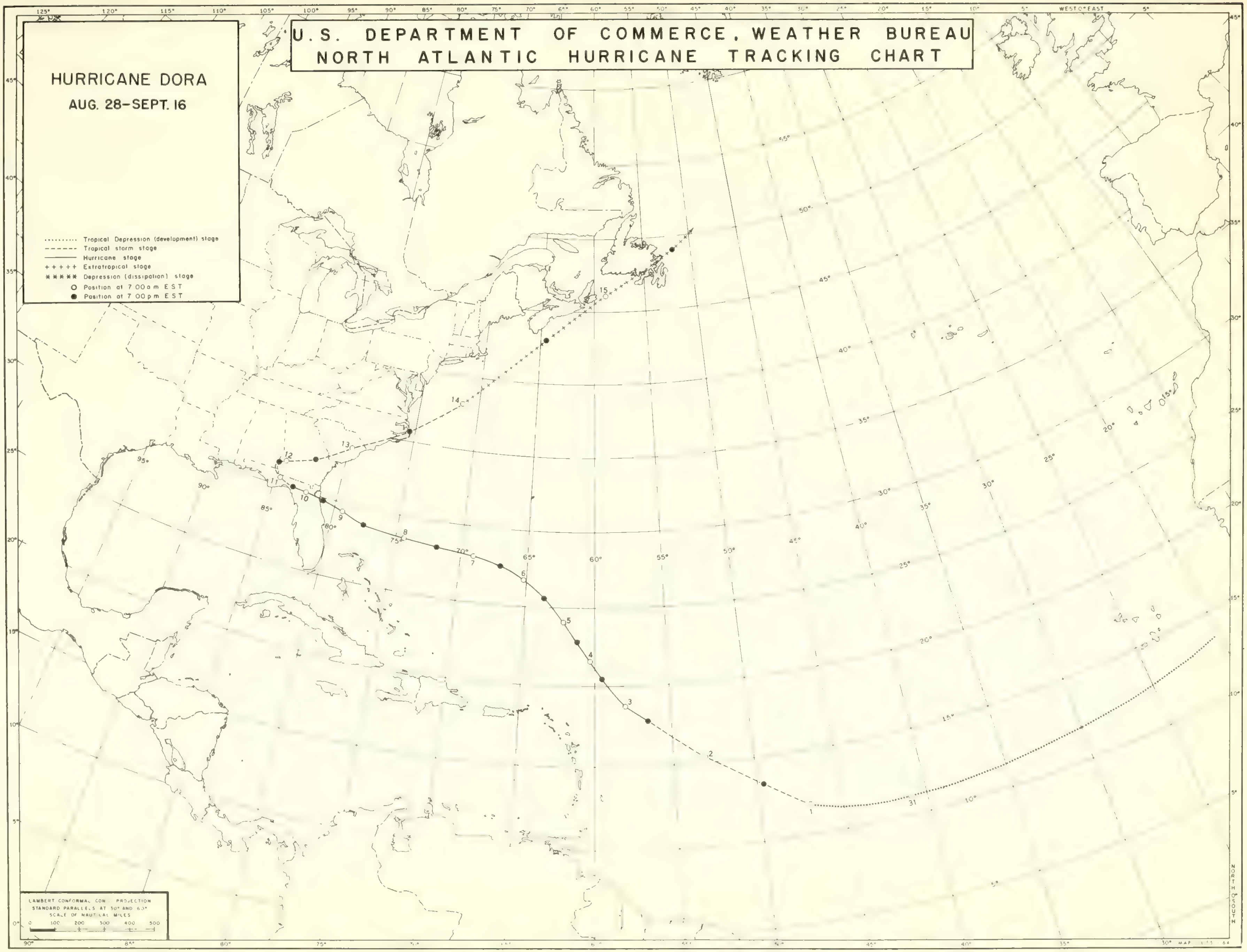
The casualty toll for Dora was very low for a severe hurricane. Only one fatality, a drowning at Live Oak, Fla., has been directly attributed to the storm. Two Navy men died near Sanford, Fla., on the 9th when an aircraft being evacuated crashed on take-off, and two men perished while securing boats in preparing for Dora, one near Brunswick, Ga., another near Norfolk, Va.

HURRICANE DORA

SEPTEMBER 1-14, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #	Time+	Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+				
FLORIDA	Sept.										
Apalachicola WBO	11	29.44	0140	NW 39	1416-10					4.95	Tide Alligator Point 2 ft. mean low water.
Daytona Beach WBAS	9	29.04	2015	W 46*	1424	W 71	1715	7.0	2200-9	9.32	Tide: USCG, New Smyrna Beach.
Fernandia Beach	10	29.28	0145	100	2200-9			10.0	2300-9		Winds are downtown; estimated on beach near 115 m.p.h.
Fort Myers	10	29.71	0300	SSW 29*	1030	W 44		1.5 to 2.0		0.27	
Gainesville FAA	10	29.08	0700	W 40	1030	W 60				10.74	Arm of anemometer lost during storm, speeds estimated.
Jacksonville Beach	9					84					Anemometer failed.
Jacksonville WBAS	10	29.05	0314	N 82	1948-9	NE 85†		7.0†	0144-10	8.67	Tide Mayport Ferry Slip.
Jacksonville Navy	10	28.87	0255	N 53	1832-9	N 81					
Jacksonville (Cecil Field)	10	28.91	0455	NE 44	0555	NNW 71					
Lakeland WBO	10	29.56	0300	W 27	1039	W 42†	1039			1.50	
Marineland	10	28.80	0000	NW 60†	1700-9					5.85	
Mayport	10	29.03	0130	NNE 74		NNE 101					
Orlando WBAS	9	29.41	1937	WSW 40*	1955	WSW 58				5.99	
St. Augustine	10	28.52	0100	SW 125†	0130					7.10	Station in eye 0015-0130-10. Tides Anastasia Island, 12 ft., 4 ft. above any other known.
Tallahassee WBAS	11	29.29	0230	N 35*	1335-10	N 44	2030-10			6.11	Record low pressure.
Tampa WBAS	10	29.57	0358	WSW 44*	2120-12	WSW 52				2.39	
W. Palm Beach WBAS	9	29.69		WSW 35*							RAINFALL: Mayo 23.73 in.; Live Oak 18.62 in.; New Harmony 17.33 in.; Usher Tower 16.60 in.; Inglis 15.55 in.; Perry 12.96 in.; Cedar Key 12.15 in.; Lake City 12.10 in.; Ocala 11.46 in.; Melrose 11.40 in.; Cross City 11.29 in.; Federal Point 11.11 in.; Gainesville 3 WSW 11.04 in.; Bayport 10.65 in. (Totals for September 9 or 10 through 12 or 13.)
Pensacola	11-12	29.63		NW 29	12					0.33	
Miami WBAS	9	29.74									
GEORGIA											
Brunswick	10	29.40	0030			NE 90†				6.23	Peak gust on water front.
Brunswick	12	29.47	1700			S-SW 50†		13.0-14.0	2300-9		Tide above average low water.
Brunswick FAA	9-13									6.35	
Cairo	11	29.29	0230			NNE 45	0230				
Homerville	9-13									8.10	
Jesup						E 50†	2000 to 0000-10			5.81	
Nahunta										7.48	
Savannah WBAS	10	29.66	0014	E 37	0327	NE 53	2345-9	2.4	2302-9	3.81	
Savannah WBAS	13	29.51	0335			S 59	0748				
Savannah Beach	9					NNE 64	1720				
Waycross	9-13									7.03	
Fargo											Unconfirmed report of 14.84 in. of rain.
Sapelo Island	10	29.53	0200-0500	ENE 45	0300	70	1930	10.7	0000	3.22	
Valdosta	10	29.43	1500			S 35	1400 to 1700-11			5.12	
SOUTH CAROLINA											
Charleston WBAS	13	29.51	0542	SE 46	1704-12					2.53	RAINFALL: Conway 8.25 in.; Loris 5.20 in.; Myrtle Beach 5.12 in.; Hilton Head 4.24 in.; Columbia 3.23 in.
Charleston WBO	12-13			S 47	2018-12			1.7		1.35	
Georgetown	13	29 52	0700	SSW 45	1430	55	1445			2.85	
McClellanville	13	29.54	0800			SW 55	2100-12			3.00	Several waterspouts near Garden City Beach between 1300-1400-12.
NORTH CAROLINA											
Hatteras WBO	13	29.50	1852	NNE 35	0018-14	NNE 41	0012-14	2.5	a.m.-14	2.52	Tide on Sound side.
Raleigh WBAS	13	29.75	0827	WNW 25	0858					2.75	
Wilmington WBAS	13	29.54	1230	N 28	1653	N 35	1356	3.0		3.41	Tide on Sound side. Tornado Howell's Point 2100-12. Waterspout Carolina Beach 0725-10.
VIRGINIA											
Cape Henry	13			NE 66	1231					2.63	Greatest tidal departures Hampton Roads area about 3.5 ft. above normal.
Norfolk Navy	13					NE 69	1545				
Norfolk WBAS	13	29.74	1510			NE 61	1617			4.80	
Richmond WBAS	13					29	1458				
MARYLAND											
Pocomoke City	13									2.40	Tides 2 to 4 ft. above normal on 14th along Atlantic coast.
NEW JERSEY											
Atlantic City WBAS	14			N 33	0322					1.47	
MASSACHUSETTS											
Nantucket WBAS	14	29.62		NE 42	1133	N 50	1420	1.3	1800-1900	2.53	
Nantucket Shoals Lightship	14			63							

+ Eastern Standard Time
# Above normal
† Estimated
* Fastest one-minute wind speed


U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
NORTH ATLANTIC HURRICANE TRACKING CHART
Tropical Depression (development) stage
Tropical storm stage
Hurricane stage
Extratropical stage
Depression (dissipation) stage
○ Position at 7:00 a m EST
● Position at 7:00 p m EST
31
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
LAMBERT CONFORMAL CONIC PROJECTION
STANDARD PARALLELS AT 30° AND 60°
SCALE OF NAUTICAL MILES
0 100 200 300 400 500
WEST ○ EAST
NORTH ○ SOUTH

HURRICANE DORA
AUG. 28-SEPT. 16

STORM SUMMARY

SEPTEMBER 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
Alabama *																													
Alaska *																													
Arizona	1	1	0	0	0	0	0	3	5	0	7	4	4	0	0	3	0												
Arkansas *																													
California *																													
Colorado														0	2	3	0												
Connecticut *																													
Delaware *																													
Florida										D 1	?	°8	C	1	1	0	0												
Georgia																										0	0	7	5
Hawaii *																													
Idaho *																													
Illinois										0	0	4	0																
Indiana *																													
Iowa	4	3	0	0	5	0	0	4	0	0	0	5	4	0	0	4	0									0	0	5	5
Kansas											1	3				4													
Kentucky *																													
Louisiana										0	0	4	4	4	2	5	0									0	0	4	4
Maine *																													
Maryland *																													
Massachusetts										0	0	3	0																
Michigan	1	1	0	0	5					0	0	5	0	0	0	4	0												
Minnesota	6	2	0	1	5	0	0	4	3	1	1	4	0													0	0	5	0
Mississippi														0	1	3	0									0	0	3	4
Missouri	2	1	0	0	4					0	0	4	4																
Montana										0	1	0	0																
Nebraska						0	0	4	5	0	0	4	0																
Nevada *																													
New Hampshire										0	0	4	0																
New Jersey *																													
New Mexico	1	1	0	0	4	0	0	?	6																	0	0	R 4	6
New York																4													
North Carolina	W 3	3	0	0	4					0	0	5	4	0	1	0	0												
North Dakota						0	0	4	0																				
Ohio *																													
Oklahoma	1	1	0	0	3									1	1	4	0												
Oregon *																													
Pacific Area *																													
Pennsylvania *																													
Puerto Rico *																													
Rhode Island *																													
South Carolina	4	1	0	0	4					0	0	4	4													0	0	R 5	5
South Dakota						0	0	0	5																				
Tennessee *																													
Texas	3	3	0	0	3	0	0	0	5	0	2	0	0	1	0	0	0									3	2	7	0
Utah *																													
Vermont										0	0	4	0																
U. S. Virgin Is. *																													
Virginia										1	0	4	0													0	0	5	0
Washington N																													
West Virginia *																													
Wisconsin	3	1	0	4	5					0	0	5	4																
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
° Includes crop damage
C Crop damage
R Rain
W Includes 2 waterspouts
N No report received by printing deadline
D Hurricane Dora, 9-12, damage estimate includes flood damage

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

SEPTEMBER 1964

Severe floods occurred in central and southern Texas during September. The crests on the Nueces at Asherton and Cotulla, Tex., were the fourth highest of record. Pulliam Creek, a tributary of the upper Nueces, reached its highest stage since 1955. The second highest flood of record occurred on the West Nueces. The flash flooding in the Boerne, Tex., area was described as the highest in its history. Some severe flooding was reported in the Suwannee River Basin in Florida and in the French Broad Basin in North Carolina.

ATLANTIC SLOPE DRAINAGE

All streams in eastern North Carolina were rising in the beginning of the month due to the heavy rains caused by tropical storm Cleo on August 30 and 31. The rainfall ranged from 3 to 8 inches over the Dan and Upper Roanoke Basins in Virginia with some stations measuring between 8 and 10 inches. The rainfall tapered off to 1 to 3 inches over the Cape Fear, Neuse, Tar, and the lower Roanoke Basins in North Carolina. A few localities in the upper Cape Fear Basin received amounts of around 5 to 6 inches. The highest stages along the Cape Fear River ranged from about 2 feet above bankfull at Fayetteville to around 10 feet above flood stage at Lock No. 3 near Tarhill, N. C., and 8 feet above bankfull stage at Elizabethtown, N. C. On the Dan and upper portions of the Roanoke River in Virginia, the highest stages reached were bankfull or slightly below except at Altavista where 3 feet above bankfull stage occurred. Sharp rises occurred along the Neuse and Tar Rivers, but there were no overflows during this rise. A second general rise occurred on streams in eastern North Carolina as tropical storm Dora moved northward along the coastal sections of the State. The precipitation began during the afternoon of the 12th and continued through the evening of the 13th. Rainfall amounts ranged generally between 2 and 4 inches, except 4 to 6 inches in the lower portions of the Neuse, Tar, and Roanoke River basins. The rainfall tapered off greatly through the upper Roanoke and Dan River basins, where accumulations were generally less than 1/2 inch. This rain produced sharp rises with crests ranging from bankfull to 3 feet above flood stage in the central and lower portion of the Neuse and the lower portion of the Cape Fear.

Rainfall associated with hurricane Cleo on August 28-31 caused flooding on streams in South Carolina during the latter part of August and the first part of September. The rainfall exceeded 7 inches over most of the upper Edisto Basin with 8.78 inches (heaviest amount) reported at Batesburg. The Yadkin River at Yadkin College rose from a very low stage on August 30 to 4.1 feet above flood stage on September 1. This was the first flooding on the Yadkin River since March 1963. The stream receded to within its banks during the night of the 1st. Major overflow in progress on the main stem of the Edisto at the end of August continued into September with a crest of 5 feet above flood stage at Givhans Ferry State Park, S. C., on the 5th. Flooding continued until the 26th with a second crest of 1.7 feet above flood stage on the 21st. The first crest of 22.1 feet on September 1 was just 0.1 foot lower than the crest of last July which was the largest flood since September 1945. The flooding on the Waccamaw River at Conway, S. C., from the 14th to the 16th was due to heavy rain accompanying tropical storm Dora on the 12th and 13th. Over 9 inches of rainfall was reported at Conway with 8.25 inches occurring in a period of 16 hours and 30 minutes. This is the second record short period of rainfall at this station since the alltime record of 10.38 inches occurred on June 6-7, 1964 in a period of 14 hours and 30 minutes. Considerable low uninhabited swampland was inundated along the Waccamaw in the vicinity of Conway from the 14th to the 16th. There was a brief period of inconvenience at a plywood plant at the time of the crest on the 15th. The extensive overflow along the main Edisto, particularly in the area around Givhans Ferry State Park prevented the use of many camp sites. Sport fishing and swimming were impossible almost the entire month along this stream.

The flooding on the Saluda River at Chappells, S. C., and on the Broad River at Blair, S. C., from August 30 to September 1 was due to heavy rainfall during the latter part of August. Pastures and croplands along these rivers were inundated causing some losses. Scattered heavy rains of 3 to 4 inches on the 29th and 30th over the headwaters of the Broad and Catawba Rivers caused these streams to rise to near flood stage by the end of the month.

Very little damage resulted from the flooding along the lower Savannah River in Georgia during September. Flooding was confined almost entirely to swamplands and areas from which livestock and equipment had been removed due to earlier flooding. No damage resulted from the overflows along the Ogeechee River.

The Satilla River went out of its banks at Atkinson, Ga., on August 30 due to heavy rain on August 29. It receded to bankfull stage on September 9 and 10. Heavy rainfall from the 10th to the 13th caused the stream to rise again to a crest of 16.6 feet (flood stage 13 feet), on the 18th.

EAST GULF OF MEXICO DRAINAGE

The flooding in the Suwannee River System in Florida, resulting from heavy rains associated with the slow movement of hurricane Dora across the State reached recordbreaking proportions in portions of the basin. The Suwannee River reached a stage only a few tenths of a foot lower than the record high crest of April 1948 at White Springs, Fla. Crest stages on the Santa Fe River from Worthington to High Springs, Fla., were approximately 3.5 to 5 feet higher than those which occurred during the major flood of March 1948. Hurricane Dora was the first tropical cyclone of full hurricane force on record to pass inland over the northeastern Florida coast. The central eye moved inland near St. Augustine, Fla., shortly after midnight on the 9th-10th. Dora continued on a track slightly north of west, reaching extreme southeastern Alabama with much diminished winds on the 11th, then moved back eastward across southern Georgia on the 12th as it regained intensity, particularly over coastal sections. Heavy rains spread across northern Florida, southern Georgia, and southeastern Alabama. Rainfall in northern Florida ranged from 12 to 15 inches between the Suwannee and St. Johns Rivers north of Gainesville. About 19 inches of rainfall occurred at Live Oak, Fla., and 23.73 inches fell at Mayo, Fla.

The flooding on the Hillsborough and Withlacoochee Rivers in Florida, resulting from the rains accompanying hurricane Dora, was minor. Serious flooding occurred in the Crystal River-Inglis-Yankeetown area near the mouth of the Withlacoochee River due to abnormally high tides. Damage in this area due to tidal flooding and heavy rains was estimated at $250,000. Actual flooding on the Withlacoochee elsewhere was minor and of little consequence. Both rivers reached their highest stages since the hurricane Donna rains of

September 1960.

MISSISSIPPI SYSTEM

Missouri Basin.--Heavy rain during the afternoon of the 7th through the early morning hours of the 8th caused flooding on the Little Sioux River at Spencer and Lynn Grove, Iowa, between the 9th and 16th. Rainfall amounts of from 7 to 8 inches were reported. Flooding was confined mostly to lowland areas and secondary roads. Several families were evacuated from their homes.

The Saline River which went above flood stage on August 31 crested at a record stage of 19.7 feet on September 1. Flood stage at this point is 18 feet. The principal flooding, however, occurred on tributary creeks in the area. The flooding was due to torrential rains on August 31 which ranged from 2 to 4 inches at Waldo, Kans., up to 11 inches in the Gorham, Kans., area.

Moderate to heavy rains the first part of September caused some flooding on the Grand and One Hundred and Two Rivers in Missouri between the 6th and 10th. Flooding was confined to farmland. Moderate rains on the 22d and 23d in southwest Iowa and extreme northern Missouri caused near flood stages locally on the Grand River.

Ohio Basin.--Extremely heavy rain occurred over the upper French Broad Basin in North Carolina during the night of September 28 to October 1. The rainfall at Rosman, N. C., during that period totaled 17.4 inches, and at Pisgah Forest, N. C., 9.31 inches. A near record crest of 13.3 feet occurred at Rosman, N. C., on the French Broad on the 29th. Flood stage at this point is 8 feet. The alltime record crest of 13.9 feet occurred in 1916. The crest at Blantyre, N. C., was 21.3 feet, on the 30th, or 4.3 feet above flood stage. This was the highest stage at this point since August 1940 when it reached a stage of 21.9 feet. The French Broad below this point remained slightly below flood stage. The only damage reported from this flooding was at Rosman, N. C., where some 15 to 25 families were evacuated on the 29th. The town's water supply was cut off for several hours as the flood waters filled the wells.

White Basin.--The Cache River at Patterson, Ark., continued above flood stage during the first 7 days of September. Thundershowers from the early morning of the 27th until the early morning of the 28th, averaging about 2 inches, caused the Cache River to go out of its banks again on the 28th and continue in flood through the end of the month. Flood damages were insignificant.

WEST GULF OF MEXICO DRAINAGE

Flash flooding occurred on smaller streams in the upper Trinity Basin in Texas on the morning of the 21st. By noon of the 21st the West Fork was overflowing below Fort Worth to Dallas and the Elm Fork from Carrollton to Dallas. Overflow began along the East Fork on the 22d. Flooding along the main stem of the Trinity began on the 21st and reached as far as Trinidad, Tex., by the 28th. This flooding was due to general rain which began on the 20th and continued through the 23d. The most excessive rain fell during the first 8 hours of the 21st with measurements up to 12 inches during this period. There was considerable damage to residences, mainly along Big Fossil and White Rock Creeks. There was also some damage to businesses along White Rock Creek and Elm Fork. Agricultural damage was mainly along the East Fork. There was inundation of some farmland and considerable loss of grazing along the East Fork. There was significant damage to roads and bridges in Dallas and Tarrant Counties. More than 100 homes suffered some damage from stream overflow. There were two deaths in Dallas County caused by flash flooding of small streams.

Torrential rainfall of limited extent occurred durint the night of the 15-16th in Dimmit County, Texas. The heaviest amount reported was 15 inches near Carrizo Springs. Many reports of 10 inches and over were received in the Asherton-Catarina area. Flooding of major proportions resulted on the El Moro Creek at Asherton, on the San Roque and Appurceon Creeks at Catarina, and on the middle Nueces from below Carrizo Springs to Cotulla, Tex. The crests on the Nueces at Asherton and Cotulla were the fourth highest of record. Torrential rains of up to 17 inches occurred in a period of 12 hours during the night of the 19-20th over the West Nueces River. Ten-inch amounts were reported widely over the area. Pulliam Creek, a tributary of the upper Nueces reached its highest stage since 1955. At the nearest USGS gaging station northeast of Bracketville, the discharge of the West Nueces River was estimated at 300,000 c.f.s. for the second highest flood of record, or since the 1935 flood. Heavy rains of up to 6 inches during the night of the 21st to the 22d caused extensive flooding on Turkey Creek and considerable flooding on the upper Nueces. Minor flooding occurred on the upper Frio closing low-water crossings. Additional rain of 1 to 3 inches during the night of the 26-27th caused additional flooding on most of the Nueces above Cotulla, Tex., and on the Frio River above Derby, Tex. Flooding continued on the Nueces from the 16th through the end of the month, with three different crests moving down the river, with the last one continuing into the middle of October. Extensive damage resulted to growing crops and to dam control structures.

Heavy rains (2 to 6 inches) from the 22d through the 24th in the Colorado River Basin above Austin, Tex., caused minor flooding on the San Saba and Llano Rivers. Damage was negligible. Additional heavy rain (2 to 5 inches) in the upper Colorado River Basin on the 26th to 27th caused sharp rises on rivers and streams above Lake Travis, including a 6- to 7-foot rise on the Pedernales. Overflow was minor, and damages were of no consequence.

Heavy rainfall over the Cibolo, Leon, Frederick, and Ranger Creeks in Texas during the night of the 26-27th caused flash flooding of these creeks and streams. Preliminary reports indicated that up to 5 inches of rainfall occurred over the area. Later unofficial reports of up to 14 inches were reported. Moderate rainfall occurred over the area the previous week so the soil was generally wet. Severe flooding occurred on Cibolo Creek. The flooding in the Boerne area was described as the highest in its history. There was a loss one one life due to drowning plus considerable damage to many homes, cars, and business establishments.

Minor flooding occurred on the Pecos River at Sheffield, Tex., on the 21st and 27th due to local rains of 1 to 3 inches on the 21st, 23d, and 27th. Damages were minor. Rainfall over the Devil's River Basin and over the Rio Grande in both Texas and Mexico, from Eagle Pass to above Del Rio was locally very heavy from the 19th to the 24th. Rains of 2 to 7 inches began over the Devil's Basin on the night of the 19th. Within the next 24 hours, up to 15 inches of rain had fallen over the Devil's Basin and in the Rio Grande Basin above Eagle Pass, Tex., and in the immediate vicinity of Del Rio, Tex. Rainfall of about 5 inches was recorded at Del

Rio and Eagle Pass on the 22d and the 24th. Larger amounts probably occurred at several places on both sides of the river between Del Rio and Eagle Pass. Three flash rises occurred on the Devils River at Bakers Crossing, Tex. The highest crest reported was 21.3 feet on the 21st. Flood stage at Baker's Crossing is 12 feet. The river was in flood for about 14 hours on the 21st, 20 hours on the 23d and 24th, and about 8 hours on the 26th and 27th. The Rio Grande reached flood stage at Del Rio, Tex., on the 20th and continued in flood in the reach to Laredo, Tex., until the 29th. There were several crests. The main crest of 27.9 feet occurred at Del Rio, Tex., on the 24th. This crest was 12.9 feet above flood stage. The main crest of 37.1 feet occurred at Eagle Pass, Tex., also on the 24th. Flood stage at this point is 16 feet. There were two flash rises on San Felipe Creek which passes through the eastern portion of Del Rio. This flood was due to locally heavy rain at Del Rio but was complicated by backwater from the Rio Grande. Many families were evacuated from along the San Felipe. The overflow of the Rio Grande into Villa Acuna in Mexico affected quite a few homes. At Eagle Pass, extensive flooding occurred on both sides of the river. Some 20 or 30 homes were inundated and 100 families were evacuated in the Eagle Pass area. In Piedras Negras in Mexico about 100 homes were flooded. Flood damage at Laredo was relatively minor and restricted to small homes along the river. A few cars were damaged that could not be moved from the low-level parking lots. There was some damage to highway shoulders near creeks and arroyos.

GULF OF CALIFORNIA DRAINAGE

Severe flooding occurred in Santa Cruz River basin above and below Tucson, Ariz., during September. Peaks on Santa Cruz River and Rillito Creek were of about 10-year recurrence interval according to the Geological Survey. Crops in Maricopa County, Ariz., were damaged by rain and hail that caused local flooding in Phoenix, Ariz. Damage to the cotton crop was heavy.

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

SEPTEMBER 1964

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Dan: Danville, Va.	11	1	1	11.0	1
Roanoke: Altavista, Va.	18	1	1	21.1	1
Neuse: Smithfield, N. C.	13	15	15	13.4	15
Goldsboro, N. C.	14	15	19	15.8	17
Kinston, N. C.	14	16	21	14.7	19
Cape Fear: Moncure, N. C.	20	Aug. 31	1	21.1	Aug. 31
Fayetteville, N. C.	35	1	2	36.6	1
Lock No. 3, Tarheel, N. C.	42	(1 (15	4 15	52.2 43.2	2 15
Elizabethtown, N. C.	20	1	6	27.6	3
Yadkin: Yadkin College, N. C.	18	Aug. 31	1	22.1	1
Pee Dee: Peedee, S. C.	19	3	6	19.7	5
Black: Kingstree, S. C.	12	4	6	12.5	5
Saluda: Chappells, S. C.	13	Aug. 30	1	20.1	Aug. 31
Broad: Blair, S. C.	14	Aug. 30	1	17.1	Aug. 30
Waccamaw: Conway, S. C.	7	14	16	7.5	15
North Fork Edisto: Orangeburg, S.C.	8	Aug. 29	7	11.2	Aug. 31
Edisto: Givhans Ferry State Park, S. C.	10	Aug. 29	26	(15.0 (11.7	5 21
Savannah: Milhaven, Ga.	15	2	21	(18.0 (16.3	4 15
Clyo, Ga.	11	1	29	16.2	7
Ogeechee: Dover, Ga.	7	Aug. 31	3	8.3	1
Eden, Ga.	9	Aug. 31	8	11.6	1
Satilla: Atkinson, Ga.	13	Aug. 30	29	16.6	18
EAST GULF OF MEXICO DRAINAGE					
Withlacoochee: Trilby, Fla.	14	16	25	14.8	21
Croom, Fla.	9	15	Oct. 1	10.2	23
Hillsborough: Hillsborough State Park, Fla.	10	10	15	11.6	13
MISSISSIPPI SYSTEM					
Missouri Basin					
Little Sioux: Spencer, Iowa	10	9	11	11.9	9
Lynn Grove, Iowa	12	11	16	14.6	13
Saline: Russell, Kans.	18	Aug. 31	1	19.7	1
Grand: Pattonsburg, Mo.	25	7	7	25.1	7
Chillicothe, Mo.	24	6	9	27.8	7
Sumner, Mo.	26	7	10	30.3	8
One Hundred and Two: Rosendale, Mo.	14	7	9	16.7	8

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin					
French Broad: Rosman, N. C.	8	29	29	(9.4 (13.3	29 29
Blantyre, N. C.	17	30	Oct. 2	21.3	30
White Basin					
Cache: Patterson, Ark.	7	 28	7 1/	7.8 7.5	2-3 30
WEST GULF OF MEXICO DRAINAGE					
Elm Fork: Carrollton, Tex.	6	21	22	10.95	21
Trinity: Dallas, Tex.	30	21	24	38.05	22
Rosser, Tex.	26	23	27	31.6	25
Trinidad, Tex.	28	28	1/	31.0	29
Turkey Creek: Crystal City, Tex.	8	22	30	(14.25 (14.3	25 30
Frio: Derby, Tex.	6	29	29	7.8	29
Nueces: Uvalde, Tex.	11	(20 (22	21 23	24.3 11.5	21 23
Crystal City, Tex.	4	(22 (28	24 30	14.0 11.0	22 29
Cotulla, Tex.	15	(16 (25	20 30	27.8 19.1	17 26
Tilden, Tex.	14	17	30	23.3	21
Three Rivers, Tex.	35	23	27	39.1	24
Devils: Bakers Crossing, Tex.	12	(21 (23 (26	21 24 27	21.3 17.5 14.1	21 23 26
Pecos: Sheffield, Tex.	12	21 27	21 27	13.0 14.0	21 27
Rio Grande: Del Rio, Tex.	15	20 21 23 27	20 22 26 28	15.1 22.6 18.0 27.9 17.8	20 21 23 24 27
Eagle Pass, Tex.	16	21 24 28	23 27 29	(27.1 (28.0 37.1 23.2	21 22 24 29
Laredo, Tex.	30	26	27	36.4	26

* Provisional
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. 1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	86	10.3	88	210	1.7
1000	30	165	11.4	83	202	2.5
950	30	595	11.9	72	278	6.0
900	30	1,047	10.3	67	290	9.5
850	30	1,522	8.5	60	292	14.0
800	30	2,022	7.0	53	284	17.7
750	30	2,550	5.4	44	284	20.4
700	30	3,114	3.0	40	282	23.9
650	30	3,708	.1	39	278	25.8
600	30	4,350	- 3.5	41	277	27.8
550	30	5,028	- 7.4	39	276	28.6
500	30	5,770	-11.8	35	275	32.6
450	30	6,565	-17.0		273	36.1
400	30	7,445	-23.0	34	273	41.2
350	30	8,411	-29.3		269	45.6
300	30	9,494	-37.3		271	49.3
250	30	10,730	-46.2		276	52.3
200	29	12,183	-54.9		278	52.4
175	29	13,030	-58.0		273	53.4
150	29	13,993	-61.3		274	48.0
125	29	15,118	-63.4		273	42.0
100	29	16,488	-63.3		275	34.2
80	28	17,867	-60.5		278	22.1
70	28	18,701	-58.7		276	15.2
60	28	19,674	-57.4		275	10.3
50	27	20,833	-55.4		276	6.6
40	27	22,264	-52.8		266	4.5
30	27	24,134	-49.8		289	4.1
25	27	25,329	-48.7		266	3.3
20	23	26,809	-46.7		250	2.3
15	10	28,676	-45.6			
10						
7						

ALBUQUERQUE, N. MEX. 840 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,619	15.6	71	71	1.9
1000	30	107				
950	30	550				
900	30	1,021				
850	30	1,515				
800	30	2,031	15.0	59	200	1.6
750	30	2,573	12.0	58	255	4.7
700	30	3,151	8.1	63	253	6.0
650	30	3,750	3.6	68	245	8.4
600	30	4,405	- .7	66	230	9.7
550	30	5,086	- 5.1	63	235	12.0
500	30	5,840	- 9.6	52	235	13.8
450	30	6,640	-14.8	43	234	13.6
400	30	7,529	-20.9	36	237	15.7
350	30	8,502	-28.0	37	238	19.0
300	30	9,592	-35.9		246	25.8
250	30	10,836	-44.4		249	34.0
200	30	12,300	-53.8		251	35.4
175	30	13,150	-58.7		251	36.3
150	30	14,107	-63.9		252	34.8
125	28	15,209	-68.1		255	27.2
100	28	16,543	-69.6		254	16.5
80	28	17,883	-66.6		238	4.7
70	28	18,698	-64.0		208	1.0
60	28	19,648	-61.2		113	2.9
50	27	20,790	-58.0		101	4.5
40	27	22,203	-55.7		83	6.8
30	26	24,052	-52.3		94	8.5
25	26	25,237	-50.4		92	9.3
20	25	26,702	-48.7		85	9.3
15	13	28,592	-46.0		79	8.5
10						
7						

AMARILLO, TEXAS 893 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,095	15.9	78	194	3.7
1000	30	121				
950	30	566				
900	30	1,037				
850	30	1,516	16.3	70	225	14.2
800	30	2,032	15.0	62	234	12.2
750	30	2,575	12.1	61	250	9.9
700	30	3,151	8.3	63	255	7.4
650	30	3,755	3.9	65	246	5.4
600	30	4,406	- .3	59	231	4.9
550	30	5,089	- 4.4	49	246	7.0
500	30	5,842	- 8.5	39	251	10.7
450	30	6,644	-13.8		247	13.2
400	30	7,536	-19.9		250	16.3
350	30	8,513	-27.0		250	21.4
300	30	9,606	-35.0		252	25.4
250	30	10,854	-44.1		254	31.1
200	30	12,317	-54.3		254	34.8
175	30	13,163	-59.5		257	35.7
150	30	14,117	-64.5		262	33.2
125	30	15,219	-68.9		263	27.2
100	30	16,550	-70.0		269	15.9
80	30	17,889	-66.6		253	5.8
70	30	18,700	-64.3		253	2.1
60	30	19,650	-61.0		134	1.7
50	30	20,792	-57.6		105	4.5
40	29	22,214	-54.9		89	6.6
30	29	24,068	-51.5		96	8.9
25	29	25,257	-49.4		100	8.9
20	29	26,724	-47.5		95	8.4
15	21	28,635	-45.3		86	8.5
10						
7						

ANCHORAGE, ALASKA 1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	29	7.7	90	174	1.9
1000	30	102			169	4.1
950	30	526	8.0	68	158	4.9
900	30	971	5.4	67	151	6.6
850	30	1,436	2.6	66	159	7.0
800	30	1,924	.0	64	165	7.4
750	30	2,439	- 2.6	62	181	8.7
700	30	2,984	- 5.4	59	192	9.3
650	30	3,560	- 8.7	57	214	9.1
600	30	4,178	-12.3	51	220	10.5
550	30	4,834	-16.1	45	233	9.7
500	30	5,550	-20.5	46	239	9.9
450	30	6,314	-25.5	47	248	10.7
400	30	7,167	-31.5	49	252	10.9
350	30	8,098	-38.4		244	12.0
300	30	9,140	-45.9		257	15.0
250	30	10,334	-52.6		262	19.2
200	30	11,762	-54.7		266	21.4
175	30	12,617	-54.0		265	21.0
150	30	13,606	-54.1		264	20.6
125	30	14,777	-53.5		261	18.3
100	30	16,215	-52.7		256	15.9
80	30	17,655	-52.8		260	13.8
70	30	18,517	-52.5		261	12.8
60	30	19,513	-52.7		269	11.2
50	29	20,685	-52.6		271	10.7
40	29	22,125	-53.0		282	10.5
30	29	23,979	-53.0		295	11.5
25	29	25,155	-52.7		300	11.3
20	26	26,610	-52.3		301	11.3
15	20	28,467	-51.0		296	13.4
10	6	30,966	-51.6			
7						

*** ANNETTE, ALASKA 1011 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	37	9.4	78	118	1.7
1000	30	128	10.7	71	98	.6
950	30	552	9.0	71	160	3.9
900	30	1,001	6.5	72	184	6.4
850	30	1,468	3.7	68	199	6.0
800	30	1,959	1.2	64	229	7.4
750	30	2,476	- 1.2	58	253	8.5
700	30	3,024	- 3.8	56	263	11.5
650	30	3,602	- 7.1	57	263	13.0
600	30	4,227	-10.8	54	267	13.8
550	30	4,888	-14.6	56	275	16.7
500	30	5,607	-19.0	57	279	21.6
450	30	6,376	-24.3	52	277	25.4
400	30	7,233	-30.1	47	283	22.5
350	30	8,171	-36.7	47	291	29.1
300	30	9,222	-43.9		295	31.9
250	30	10,430	-49.7		294	39.6
200	29	11,872	-55.1		295	36.9
175	29	12,723	-55.7		289	29.9
150	29	13,704	-55.9		289	26.4
125	29	14,865	-55.9		296	24.3
100	28	16,286	-56.4		285	16.9
80	28	17,704	-56.0		290	15.3
70	28	18,553	-55.4		289	13.6
60	28	19,538	-55.2		286	11.3
50	28	20,701	-55.3		293	12.2
40	28	22,125	-55.0		303	9.9
30	28	23,964	-54.6		305	10.9
25	27	25,124	-54.1		313	12.4
20	26	26,562	-53.2		295	12.6
15	24	28,415	-51.6		290	17.1
10	16	31,123	-46.9		290	15.9
7	10	33,547	-41.6			

ATHENS, GA. 990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	18.1	89	33	4.5
1000	30	158				
950	30	599	19.6	72	81	7.8
900	30	1,066	17.0	70	84	7.6
850	30	1,551	14.5	69	81	5.8
800	30	2,062	12.3	56	81	5.2
750	30	2,598	10.1	43	73	4.1
700	30	3,173	7.5	41	32	2.3
650	30	3,778	4.6	33	354	1.6
600	30	4,429	1.4		293	2.9
550	30	5,118	- 2.4		270	6.4
500	30	5,876	- 6.5		276	6.8
450	30	6,686	-11.7		272	10.5
400	30	7,585	-17.7		271	11.8
350	30	8,570	-25.0		273	12.0
300	30	9,672	-33.2		282	16.9
250	30	10,926	-43.3		286	19.2
200	30	12,389	-54.9		290	22.7
175	30	13,231	-60.8		290	22.1
150	30	14,177	-66.1		291	19.0
125	30	15,270	-70.1		288	14.2
100	30	16,592	-70.5		287	8.5
80	30	17,925	-67.2		27	4.5
70	30	18,736	-63.7		83	4.3
60	30	19,688	-60.6		71	6.4
50	30	20,832	-57.1		83	8.9
40	29	22,250	-54.2		90	11.1
30	28	24,105	-51.0		93	12.0
25	28	25,295	-49.4		93	12.6
20	28	26,762	-47.5		92	13.2
15	25	28,671	-45.4		75	12.4
10	8	31,356	-42.4			
7						
5						

*** BARROW, ALASKA 1013 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	- 3.0	89	101	5.6
1000	30	111	- 3.9	89	106	7.6
950	30	518	- 4.2	86	114	6.4
900	30	941	- 4.6	74	177	3.3
850	30	1,391	- 5.5	72	216	3.5
800	30	1,865	- 7.3	66	227	5.6
750	30	2,365	- 9.6	64	228	7.0
700	30	2,897	-12.4	63	240	9.5
650	30	3,461	-15.0	61	245	11.7
600	30	4,062	-18.4	62	245	11.8
550	30	4,703	-22.3	57	248	13.6
500	30	5,400	-26.8	53	248	16.1
450	30	6,149	-32.0	49	248	19.6
400	30	6,975	-37.6	46	254	22.5
350	30	7,884	-43.6		255	27.2
300	30	8,907	-49.7		254	31.5
250	30	10,089	-53.2		256	35.7
200	30	11,530	-51.6		257	28.7
175	30	12,399	-50.4		252	23.9
150	30	13,405	-50.4		256	22.1
125	30	14,595	-50.3		255	20.0
100	30	16,050	-50.5		257	18.6
80	30	17,503	-51.2		257	17.7
70	30	18,369	-51.6		261	17.3
60	30	19,367	-52.0		266	15.5
50	30	20,547	-52.4		266	16.1
40	30	21,987	-52.9		271	16.5
30	30	23,843	-52.9		277	17.7
25	30	25,018	-52.9		281	17.5
20	30	26,459	-52.5		288	20.2
15	28	28,323	-51.8		287	22.1
10	23	30,965	-50.6		291	23.1
7	11	33,319	-47.3			
5	5	35,697	-41.8			

BARTER IS., ALASKA 1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	- .6	89	122	2.7
1000	30	113	- .5	84	140	1.4
950	30	526	- 1.1	78	262	3.5
900	30	954	- 1.7	72	259	7.6
850	30	1,408	- 3.7	71	272	10.1
800	30	1,885	- 5.9	69	274	14.0
750	30	2,389	- 8.5	64	273	15.0
700	30	2,921	-11.2	56	268	14.8
650	30	3,484	-13.9	49	272	15.9
600	30	4,092	-17.1	46	273	18.5
550	30	4,739	-21.0	46	273	19.6
500	30	5,438	-25.6	47	274	23.3
450	30	6,191	-30.7	45	274	26.8
400	29	7,022	-36.4		277	31.5
350	29	7,936	-42.5		277	37.3
300	29	8,963	-48.7		276	41.8
250	29	10,147	-53.3		276	37.5
200	29	11,586	-51.5		280	31.3
175	29	12,455	-50.5		277	29.7
150	28	13,450	-50.0		273	24.9
125	27	14,645	-50.0		276	22.9
100	27	16,102	-50.5		276	19.4
80	26	17,548	-51.0		281	18.3
70	26	18,414	-51.4		281	16.3
60	26	19,413	-51.9		282	16.1
50	25	20,600	-52.2		287	15.7
40	24	22,038	-52.7		293	13.2
30	23	23,888	-53.1		297	14.6
25	21	25,074	-53.0		298	17.1
20	20	26,517	-52.3		306	12.6
15	15	28,397	-50.7		296	15.3
10	7	31,117	-46.9			
7						
5						

BETHEL, ALASKA 1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	6.8	93	165	3.3
1000	30	65			178	12.4
950	30	486	6.4	80	173	13.2
900	30	930	4.3	77	187	13.2
850	30	1,394	2.2	74	194	14.8
800	30	1,881	- .3	75	196	14.0
750	30	2,397	- 2.5	70	196	13.6
700	30	2,941	- 5.2	64	199	14.6
650	30	3,517	- 8.5	58	197	15.3
600	30	4,136	-12.1	55	199	17.7
550	30	4,794	-15.9	51	202	15.5
500	30	5,507	-20.5	52	204	17.7
450	30	6,276	-25.6	54	206	18.6
400	30	7,123	-31.0	55	208	21.0
350	30	8,057	-37.9	53	214	20.6
300	30	9,101	-45.7		215	22.0
250	30	10,295	-52.8		223	25.1
200	30	11,726	-54.4		230	26.0
175	30	12,584	-53.2		233	25.8
150	30	13,577	-52.7		234	22.5
125	30	14,754	-52.4		233	19.6
100	29	16,190	-51.5		238	17.1
80	29	17,638	-51.6		240	14.6
70	29	18,503	-51.5		243	14.2
60	29	19,504	-51.5		244	12.2
50	29	20,688	-51.5		250	10.9
40	29	22,137	-51.3		258	10.5
30	27	24,009	-51.4		274	8.2
25	27	25,193	-51.3		282	9.3
20	25	26,651	-50.5		294	8.2
15	22	28,546	-49.7		318	8.5
10	15	31,222	-48.3			
7	6	33,632	-42.7			
5						

BISMARCK, N. DAK. 955 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	505	6.3	76	39	1.2
1000	30	126				
950	30	552			46	1.2
900	30	1,000	10.2	59	261	6.4
850	30	1,475	8.9	53	272	[illegible]
800	30	1,975	7.2	49	280	14.0
750	30	2,499	4.4	42	280	17.5
700	30	3,062	1.0	37	276	21.2
650	30	3,650	- 2.5	39	275	24.5
600	30	4,285	- 6.4	43	273	28.4
550	30	4,952	-10.5	41	272	30.7
500	30	5,688	-15.5	41	267	32.2
450	30	6,465	-20.9		271	33.4
400	30	7,337	-27.1		271	40.0
350	30	8,285	-34.1		271	42.5
300	30	9,347	-41.6		272	49.3
250	30	10,563	-49.1		265	54.0
200	30	12,006	-55.0		267	56.9
175	29	12,853	-56.1		267	54.4
150	29	13,829	-57.8		267	50.9
125	29	14,975	-59.1		271	42.3
100	29	16,374	-59.[illegible]		271	30.9
80	29	17,774	-58.5		274	21.8
70	29	18,616	-57.3		276	18.5
60	29	19,594	-56.3		278	14.4
50	29	20,754	-55.3		281	10.5
40	28	22,187	-54.0		278	8.5
30	27	24,051	-51.4		284	9.4
25	26	25,237	-49.8		277	9.5
20	26	26,704	-47.7		275	10.5
15	25	28,617	-44.8		274	14.0
10	6	31,321	-42.8			
7						
5						

BOISE, IDAHO 917 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	868	9.8	62	163	2.5
1000	30	133				
950	30	569				
900	30	1,018	13.0	50	210	.8
850	30	1,500	13.6	38	303	4.3
800	30	2,008	10.5	37	295	5.6
750	30	2,539	6.9	40	282	7.8
700	30	3,105	3.2	42	275	11.8
650	30	3,698	- .6	40	270	13.8
600	30	4,337	- 4.4	38	266	17.5
550	30	5,010	- 8.7	34	265	19.4
500	30	5,751	-13.3		272	21.8
450	30	6,539	-18.7		274	24.3
400	30	7,413	-25.1		277	26.4
350	30	8,370	-32.1		276	28.4
300	30	9,441	-40.2		281	29.9
250	30	10,661	-48.8		277	33.8
200	30	12,107	-54.9		267	36.9
175	30	12,957	-56.9		270	37.1
150	30	13,929	-58.6		267	36.5
125	30	15,069	-60.5		272	33.2
100	30	16,456	-61.2		275	23.9
80	30	17,845	-60.1		279	15.7
70	30	18,680	-59.2		287	11.5
60	29	19,646	-58.3		308	8.0
50	29	20,796	-57.2		315	6.0
40	26	22,216	-55.5		353	4.5
30	26	24,062	-52.8		318	1.6
25	26	25,242	-51.3		303	1.9
20	23	26,703	-48.9		296	3.3
15	15	28,590	-46.6		280	4.7
10						
7						

*** BROWNSVILLE, TEXAS 1013 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	24.4	91	121	1.7
1000	30	117	24.9	89	128	4.1
950	30	570	22.8	85	152	10.3
900	30	1,038	20.2	77	157	11.5
850	30	1,530	17.5	72	149	10.5
800	30	2,046	14.7	68	136	8.2
750	30	2,589	11.9	65	122	7.4
700	30	3,166	8.8	60	117	7.4
650	30	3,773	5.3	57	111	5.4
600	30	4,426	1.4	56	108	4.1
550	30	5,116	- 2.7	53	123	4.3
500	30	5,873	- 6.9	46	125	5.1
450	30	6,684	-11.7	40	128	5.1
400	30	7,582	-17.5	35	105	4.1
350	30	8,567	-24.6	33	87	3.3
300	30	9,671	-32.8	29	25	1.6
250	30	10,928	-42.7		353	3.3
200	30	12,395	-54.5		3	2.9
175	30	13,237	-61.0		48	3.5
150	29	14,178	-67.5		77	4.9
125	29	15,259	-73.6		75	6.2
100	28	16,557	-75.1		78	10.3
80	28	17,867	-69.9		77	17.5
70	28	18,666	-67.0		91	19.6
60	28	19,607	-63.2		96	20.4
50	27	20,735	-60.1		91	21.4
40	27	22,139	-56.4		81	25.4
30	26	23,986	-52.2		91	27.6
25	26	25,170	-50.3		90	28.9
20	25	26,634	-48.4		84	30.5
15	24	28,540	-45.1		87	32.2
10	21	31,276	-41.9		89	32.2
7	10	33,698	-37.0		95	29.7

BUFFALO, N. Y. 993 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	218	11.8	80	179	3.5
1000	30	160				
950	30	590	13.4	66	236	5.8
900	30	1,046	11.2	63	262	8.0
850	30	1,522	9.3	55	272	12.6
800	30	2,023	7.4	52	271	16.7
750	30	2,551	5.0	52	273	20.8
700	30	3,113	2.4	46	272	23.5
650	30	3,707	- .4	45	273	25.3
600	30	4,346	- 3.7	44	271	27.4
550	30	5,026	- 7.5	40	271	30.3
500	30	5,765	-11.9	36	271	33.8
450	29	6,561	-17.1		271	36.1
400	29	7,438	-23.4		270	39.0
350	29	8,402	-29.8		271	43.5
300	29	9,483	-37.7		272	49.7
250	29	10,717	-45.9		278	54.4
200	29	12,173	-54.4		278	57.1
175	28	13,023	-57.7		278	58.3
150	28	13,988	-61.0		279	50.1
125	28	15,113	-63.1		279	40.6
100	28	16,485	-63.0		277	30.7
80	28	17,864	-61.0		279	23.1
70	28	18,697	-59.1		278	19.0
60	28	19,666	-57.6		280	13.2
50	27	20,823	-55.7		294	9.3
40	26	22,259	-53.2		282	6.0
30	25	24,128	-50.1		244	5.2
25	23	25,324	-48.6		275	3.9
20	21	26,801	-47.0		274	2.1
15	17	28,720	-44.7			
10						
7						

*** BURRWOOD, LA. 1014 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	26.3	80	82	3.7
1000	30	129	25.8	77	83	5.1
950	30	580	22.8	75	91	8.2
900	30	1,050	19.9	72	108	6.4
850	30	1,542	17.2	67	111	5.4
800	30	2,057	14.5	62	102	4.7
750	30	2,600	12.0	55	78	4.9
700	30	3,176	9.1	49	52	4.1
650	30	3,784	6.1	44	40	3.5
600	30	4,440	2.3	42	23	3.3
550	30	5,131	- 1.5	35	11	3.5
500	30	5,892	- 6.1	31	355	4.3
450	30	6,705	-11.3	30	334	3.3
400	30	7,604	-16.9	29	54	.8
350	30	8,592	-24.0	28	267	1.2
300	30	9,698	-32.5	32	15	1.0
250	30	10,955	-42.6		313	1.4
200	30	12,425	-53.9		299	5.2
175	30	13,270	-60.0		309	6.6
150	30	14,217	-66.3		320	7.4
125	29	15,308	-71.1		331	5.2
100	29	16,620	-72.8		30	7.2
80	29	17,943	-68.3		75	12.2
70	29	18,750	-65.2		93	13.4
60	29	19,696	-61.2		91	13.4
50	29	20,838	-57.8		85	16.9
40	29	22,255	-54.9		88	20.0
30	29	24,110	-51.2		88	23.1
25	29	25,300	-49.5		92	22.9
20	29	26,769	-47.1		86	23.1
15	27	28,684	-44.6		82	22.3
10	24	31,417	-40.0		95	22.1
7						

***CANTON IS., PACIFIC AREA 1010 MB**

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	25.9	78	81	12.6
1000	30	90	25.2	80	85	15.7
950	30	539	21.5	88	91	18.5
900	30	1,007	18.2	82	94	21.6
850	30	1,496	15.9	69	97	19.8
800	30	2,010	14.8	48	91	17.3
750	30	2,550	12.2	43	83	17.9
700	30	3,129	8.9	[illegible]	76	15.5
650	30	3,737	5.8	34	85	12.2
600	30	4,390	2.5	31	93	11.3
550	30	5,085	- 1.3	31	84	8.7
500	30	5,842	- 5.8	29	65	[illegible]
450	30	6,656	-10.6	28	63	[illegible]
400	30	7,558	-16.4	28	237	5.6
350	30	8,549	-23.5	30	263	8.7
300	30	9,657	-32.2	31	286	9.9
250	30	10,917	-42.3		307	11.5
200	30	12,386	-54.8		293	18.3
175	30	13,227	-61.6		288	20.2
150	29	14,167	-68.8		279	22.5
125	29	15,239	-75.6		267	22.1
100	29	16,520	-77.1		266	5.6
80	29	17,828	-69.4		267	5.6
70	28	18,631	-65.8		267	15.0
60	28	19,571	-64.1		267	25.4
50	28	20,692	-62.8		270	31.7
40	26	22,071	-60.2		269	32.8
30	26	23,876	-57.2		271	4.3
25	26	25,033	-55.5		84	32.2
20	25	26,466	-51.2		87	54.6
15	18	28,346	-47.6		89	55.5
10	14	31,029	-43.3		87	63.5
7	6	33,460	-38.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1964

CAPE HATTERAS, N. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	21.3	88	21	4.3
1000	30	141	21.8	81	26	6.0
950	30	580	19.1	77	27	5.6
900	30	1,049	16.6	70	27	4.3
850	30	1,534	14.5	59	19	3.3
800	30	2,045	12.4	54	298	1.7
750	30	2,582	9.9	50	288	2.7
700	30	3,156	7.4	43	265	5.2
650	30	3,757	4.7	37	264	7.2
600	30	4,411	1.2	36	279	8.0
550	30	5,098	- 2.3		293	10.7
500	30	5,958	- 6.7		286	12.6
450	30	6,664	-12.0		287	14.0
400	30	7,564	-18.0		282	16.5
350	30	8,549	-24.8		286	17.5
300	30	9,650	-33.2		290	20.2
250	28	10,909	-42.6		290	21.4
200	28	12,380	-53.6		288	24.9
175	28	13,227	-59.3		286	24.9
150	28	14,180	-64.6		288	20.8
125	28	15,283	-68.3		289	17.5
100	28	16,618	-68.9		291	11.7
80	28	17,960	-65.9		326	4.7
70	28	18,777	-62.7		34	2.3
60	28	19,734	-59.4		64	4.9
50	28	20,885	-55.8		75	7.6
40	28	22,316	-52.7		84	10.1
30	28	24,190	-49.0		89	11.3
25	28	25,391	-47.4		99	11.7
20	27	26,869	-45.6		94	11.1
15	25	28,796	-43.3		79	11.5
10	15	31,540	-39.8			
7						

CARIBOU, ME.
994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	191	6.8	92	242	4.5
1000	30	144			204	4.1
950	30	569	8.3	70	277	10.3
900	30	1,013	6.2	67	286	14.6
850	30	1,480	4.3	60	282	17.5
800	30	1,973	2.4	53	281	19.2
750	30	2,495	.5	47	276	23.5
700	30	3,045	- 1.8	41	278	25.1
650	30	3,629	- 4.4	36	279	28.9
600	30	4,259	- 7.6	33	276	33.2
550	30	4,928	-11.2	36	277	37.1
500	30	5,658	-15.5		274	42.7
450	30	6,442	-21.0		274	43.9
400	30	7,307	-26.8		271	48.2
350	30	8,257	-33.5		270	50.3
300	30	9,323	-40.7		269	54.8
250	30	10,543	-48.2		269	62.4
200	28	11,994	-53.4		275	61.6
175	28	12,850	-54.9		277	58.9
150	28	13,832	-56.6		274	52.8
125	28	14,983	-58.1		275	45.5
100	27	16,390	-57.9		275	33.4
80	27	17,801	-56.5		272	22.1
70	27	18,649	-55.6		272	18.1
60	27	19,636	-54.5		276	13.6
50	27	20,806	-53.8		266	10.7
40	27	22,246	-51.7		273	7.4
30	26	24,128	-49.4		268	5.4
25	26	25,327	-48.1		280	2.1
20	24	26,807	-46.3		247	2.7
15	20	28,733	-43.4		284	2.3
10	7	31,476	-40.0			
7						

CHARLESTON, S. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	13	20.3	90	29	2.7
1000	30	147	21.8	80	47	5.8
950	30	592	20.1	74	78	9.5
900	30	1,058	17.7	70	91	6.4
850	30	1,546	15.0	64	106	5.1
800	30	2,058	12.8	51	107	3.1
750	30	2,594	10.3	42	93	1.9
700	30	3,169	8.0	33	96	.4
650	30	3,773	5.2	31	92	1.0
600	30	4,428	2.1		125	.6
550	30	5,121	- 1.8		250	1.4
500	30	5,878	- 6.3		289	1.7
450	30	6,689	-11.7		306	4.7
400	30	7,588	-17.6		317	6.4
350	30	8,573	-24.6		301	9.3
300	30	9,675	-33.1		309	10.5
250	29	10,933	-43.1		311	13.2
200	29	12,400	-54.3		307	13.8
175	29	13,244	-60.2		307	14.2
150	29	14,193	-65.8		301	13.0
125	29	15,286	-70.3		299	11.5
100	29	16,607	-71.0		315	7.2
80	29	17,939	-67.4		60	6.0
70	29	18,748	-64.2		81	6.6
60	28	19,696	-60.5		83	7.0
50	28	20,842	-57.0		78	10.5
40	28	22,265	-53.7		90	13.8
30	28	24,131	-50.2		98	15.2
25	26	25,322	-48.5		96	14.8
20	23	26,788	-46.8		90	15.0
15	12	28,672	-44.6			
10						
7						

CHIHUAHUA, MEXICO
858 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,428	17.7	76	233	1.7
1000	30	88				
950	30	532				
900	30	1,005				
850	30	1,505	18.0	74	293	.6
800	30	2,024	16.8	65	179	2.1
750	30	2,567	13.4	67	167	4.1
700	30	3,151	9.5	71	173	5.6
650	30	3,755	5.0	75	173	5.6
600	30	4,411	.8	66	186	3.9
550	30	5,097	- 2.6	46	212	3.3
500	30	5,857	- 6.9		242	6.4
450	30	6,663	-12.0		253	9.1
400	30	7,564	-17.6		237	11.8
350	30	8,550	-24.2		241	14.8
300	29	9,654	-32.6		244	16.1
250	28	10,914	-42.4		246	20.2
200	28	12,386	-53.9		246	21.8
175	28	13,232	-60.1		249	21.0
150	28	14,180	-66.3		248	19.4
125	28	15,269	-71.7		244	13.6
100	28	16,576	-74.1		232	5.4
80	27	17,891	-69.0		77	7.4
70	26	18,706	-66.1		80	11.5
60	25	19,639	-62.2		101	15.9
50	25	20,772	-59.3		97	15.2
40	23	22,173	-56.3		89	17.3
30	20	24,013	-52.7		93	20.4
25	17	25,193	-50.0		91	20.0
20	11	26,649	-48.7		79	16.9
15	5	28,536	-46.3			
10						
7						

* COLD BAY, ALASKA
1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	30	7.5	90	186	5.2
1000	30	68			163	10.9
950	30	492	5.7	93	186	11.7
900	30	932	4.7	85	194	12.0
850	30	1,397	3.0	78	205	14.0
800	30	1,887	1.0	74	208	12.4
750	30	2,404	- 1.8	72	210	14.4
700	30	2,951	- 4.7	67	217	15.3
650	30	3,531	- 7.7	63	215	14.0
600	30	4,151	-11.3	57	217	13.0
550	30	4,812	-15.5	55	221	15.0
500	30	5,528	-20.3	50	218	16.1
450	30	6,294	-25.5	47	222	18.1
400	30	7,146	-31.3	43	224	18.8
350	30	8,080	-37.6	47	220	19.2
300	30	9,129	-43.6		222	21.2
250	30	10,340	-48.7		227	25.3
200	30	11,795	-51.5		236	27.8
175	30	12,661	-52.2		240	25.3
150	30	13,655	-53.3		245	25.4
125	30	14,829	-53.2		244	22.7
100	30	16,265	-53.3		244	18.8
80	30	17,703	-53.0		244	15.7
70	30	18,563	-52.7		247	12.8
60	30	19,558	-52.7		248	10.3
50	29	20,732	-52.8		252	8.7
40	28	22,175	-52.5		250	4.3
30	27	24,034	-51.9		265	1.7
25	27	25,216	-51.7		289	1.9
20	27	26,665	-51.0		311	2.5
15	25	28,551	-49.8		321	5.4
10	20	31,215	-47.6		328	6.6
7	10	33,628	-43.4			

COLUMBIA, MO.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	238	16.2	81	156	2.9
1000	30	144				
950	30	582	17.8	65	209	7.6
900	30	1,045	15.5	61	239	8.9
850	30	1,528	13.3	59	254	8.7
800	30	2,036	10.9	55	258	10.5
750	30	2,568	8.4	56	263	12.2
700	30	3,141	5.2	58	264	13.8
650	30	3,738	1.8	51	261	15.2
600	30	4,385	- 2.0	47	259	16.1
550	30	5,065	- 6.0	44	267	17.7
500	30	5,813	-10.1	39	267	22.7
450	29	6,611	-15.0		267	25.8
400	29	7,501	-20.9	35	263	28.2
350	29	8,474	-27.7		261	31.3
300	29	9,564	-35.6		262	38.9
250	28	10,903	-44.8		266	47.4
200	28	12,262	-54.8		265	50.7
175	28	13,107	-59.2		267	49.3
150	28	14,064	-63.2		266	44.5
125	28	15,173	-66.8		267	34.6
100	28	16,518	-67.5		274	25.1
80	28	17,872	-64.2		274	13.4
70	27	18,695	-62.3		267	7.0
60	27	19,651	-59.8		260	4.9
50	26	20,801	-57.0		337	1.0
40	26	22,223	-54.2		137	.4
30	25	24,084	-51.0		26	.8
25	25	25,274	-49.5		223	1.2
20	23	26,738	-47.3		345	1.2
15	16	28,643	-45.3		310	.2
10	7	31,341	-41.7			
7						
5						

CORPUS CHRISTI, TEXAS
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	6	25.2	84	145	2.1
1000	28	111	25.3	85	139	3.3
950	28	559	22.6	88	155	8.7
900	28	1,032	20.1	82	165	10.1
850	28	1,524	17.5	77	153	9.3
800	28	2,041	14.8	71	143	7.8
750	28	2,584	12.0	68	125	6.2
700	28	3,161	8.7	66	115	6.2
650	28	3,768	5.3	67	117	4.5
600	28	4,422	1.5	62	128	4.9
550	28	5,112	- 2.2	57	148	4.1
500	28	5,870	- 6.6	57	170	4.5
450	28	6,681	-11.7	48	157	2.7
400	28	7,579	-17.5	44	186	3.1
350	28	8,566	-24.3	41	174	1.0
300	28	9,670	-32.8	40	269	1.7
250	28	10,927	-42.6		267	3.7
200	28	12,396	-54.0		292	4.5
175	28	13,241	-60.4		283	3.5
150	26	14,183	-66.5		308	1.6
125	26	15,272	-71.7		25	1.7
100	24	16,579	-73.2		74	5.8
80	22	17,899	-69.3		83	13.4
70	22	18,701	-66.1		93	14.4
60	21	19,645	-63.1		95	15.9
50	21	20,776	-59.9		93	17.9
40	21	22,184	-56.2		93	17.5
30	19	24,033	-52.1		83	21.0
25	18	25,218	-50.6		90	22.0
20	15	26,674	-48.1		84	22.7
15	13	28,591	-45.6		93	20.2
10	11	31,321	-40.4		96	20.0
7						
5						

DAYTON, OHIO
984 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	297	13.4	83	96	1.4
1000	30	158				
950	30	597	16.7	64	218	4.1
900	30	1,054	14.4	63	264	7.0
850	30	1,536	12.4	56	272	10.1
800	30	2,043	10.0	52	274	12.4
750	30	2,574	7.0	53	270	13.2
700	30	3,143	4.3	47	275	14.2
650	30	3,740	1.0	43	275	15.9
600	30	4,383	- 2.4	37	277	19.8
550	30	5,065	- 5.9		270	23.7
500	30	5,811	-10.1		268	27.2
450	30	6,613	-15.1		269	30.1
400	30	7,499	-20.7		270	34.2
350	30	8,473	-27.8		273	37.5
300	30	9,563	-36.1		271	42.7
250	30	10,805	-45.2		273	46.8
200	30	12,261	-55.0		277	48.4
175	30	13,106	-59.4		278	47.8
150	30	14,061	-63.6		278	42.2
125	30	15,171	-66.4		278	35.5
100	30	16,519	-66.8		281	24.3
80	30	17,879	-63.4		285	14.4
70	30	18,701	-61.5		290	9.7
60	30	19,661	-59.4		298	6.6
50	30	20,809	-56.8		302	2.3
40	30	22,233	-53.7		263	2.7
30	29	24,093	-50.7		255	3.7
25	29	25,284	-49.3		257	2.5
20	29	26,755	-47.4		295	2.5
15	18	28,657	-45.4		282	5.4
10						
7						
5						

DEL RIO, TEXAS
978 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	314	22.8	83	114	5.8
1000	30	116				
950	30	568	21.6	81	133	10.9
900	30	1,033	19.6	80	160	15.9
850	30	1,525	17.3	77	163	14.4
800	30	2,041	14.4	77	160	11.3
750	30	2,586	11.6	69	162	8.4
700	30	3,161	8.6	61	171	4.1
650	30	3,770	5.0	54	204	3.7
600	30	4,420	1.0	50	217	4.9
550	30	5,109	- 3.0	47	220	7.0
500	30	5,865	- 7.2	43	217	8.0
450	30	6,675	-12.2	37	228	8.2
400	30	7,572	-18.0	36	235	9.3
350	30	8,557	-24.7	35	248	9.5
300	30	9,661	-32.9		257	12.4
250	30	10,918	-42.8		255	14.6
200	30	12,387	-54.2		258	16.7
175	30	13,231	-60.5		258	16.3
150	30	14,176	-66.9		250	14.6
125	30	15,261	-72.8		256	9.3
100	28	16,563	-74.7		246	3.7
80	27	17,873	-70.1		77	9.1
70	27	18,673	-66.4		88	13.4
60	26	19,614	-63.1		92	14.2
50	26	20,746	-59.0		96	15.9
40	26	22,154	-56.0		84	18.5
30	26	24,000	-52.2		89	21.0
25	26	25,186	-49.9		88	19.8
20	22	26,653	-47.1		90	20.0
15	20	28,560	-44.8		86	21.0
10	9	31,276	-41.4			
7						
5						

DENVER, COLO.
840 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,611	10.0	61	213	3.9
1000	30	126				
950	30	563				
900	30	1,026				
850	30	1,505				
800	30	2,014	13.1	47	247	3.9
750	30	2,554	11.0	43	274	4.9
700	30	3,127	7.6	43	266	7.6
650	30	3,731	3.3	45	270	11.3
600	30	4,378	- 1.1	42	268	13.6
550	30	5,060	- 5.6	38	261	17.1
500	30	5,807	-10.7		260	19.6
450	30	6,607	-15.8		265	23.1
400	30	7,488	-21.8		258	26.0
350	30	8,457	-29.1		253	29.7
300	30	9,541	-37.4		255	33.4
250	30	10,776	-46.2		256	38.9
200	30	12,230	-54.9		256	44.7
175	30	13,077	-58.6		254	43.3
150	30	14,036	-62.7		255	39.4
125	30	15,150	-66.0		261	33.6
100	30	16,504	-65.2		264	20.6
80	29	17,862	-63.6		266	12.0
70	28	18,686	-61.7		275	8.5
60	28	19,645	-59.8		285	5.6
50	28	20,793	-57.0		264	3.1
40	28	22,211	-54.9		256	3.1
30	27	24,064	-51.5		281	2.9
25	27	25,251	-49.9		275	3.1
20	27	26,716	-48.0		298	1.7
15	26	28,633	-45.8		232	.8
10	18	31,362	-41.9		95	2.9
7	11	33,815	-37.4		10	1.7
5	6	36,099	-36.8			

DODGE CITY, KANS.
926 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	792	15.3	83	181	4.9
1000	30	127				
950	30	569				
900	30	1,028	16.4	70	189	12.6
850	30	1,515	16.4	56	218	18.6
800	30	2,030	14.5	51	229	14.8
750	30	2,572	11.5	52	233	12.0
700	30	3,148	7.6	54	240	10.7
650	30	3,751	3.6	56	243	10.5
600	30	4,400	- .9	53	246	9.3
550	30	5,083	- 5.3	47	255	10.5
500	30	5,833	- 9.4	37	259	15.0
450	30	6,638	-14.3		263	18.1
400	30	7,525	-20.7		258	22.9
350	30	8,499	-27.8		257	26.8
300	30	9,589	-35.9		252	33.2
250	30	10,931	-45.1		254	38.1
200	30	12,291	-54.6		255	42.5
175	30	13,136	-59.5		258	43.9
150	30	14,091	-63.8		259	39.6
125	30	15,198	-67.3		264	31.9
100	30	16,538	-67.7		265	22.0
80	30	17,887	-65.2		262	10.3
70	30	18,704	-63.0		263	5.6
60	29	19,659	-60.4		249	1.7
50	28	20,797	-57.7		260	.8
40	28	22,215	-54.7		78	.8
30	28	24,066	-51.8		133	1.4
25	28	25,253	-49.9		69	1.9
20	28	26,720	-47.5		65	4.7
15	26	28,620	-45.9		89	3.1
10	16	31,345	-41.7		88	4.5
7						

EL PASO, TEXAS
883 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,193	18.5	68	173	1.0
1000	30	107				
950	30	558				
900	30	1,029				
850	30	1,520	19.1	50	175	2.9
800	30	2,039	16.1	53	187	4.9
750	30	2,582	12.3	56	207	5.6
700	30	3,160	8.2	58	218	5.2
650	30	3,764	4.0	56	216	7.0
600	30	4,415	.0	53	225	7.0
550	30	5,101	- 4.1	44	229	8.7
500	30	5,853	- 8.5	34	238	11.3
450	30	6,661	-13.5		242	14.2
400	30	7,550	-19.4		242	16.5
350	30	8,529	-26.2		245	19.2
300	30	9,626	-34.2		248	23.5
250	30	10,878	-43.5		247	28.4
200	30	12,346	-53.7		250	33.0
175	30	13,193	-59.2		251	31.7
150	29	14,144	-64.8		248	27.2
125	29	15,242	-69.8		248	22.0
100	29	16,560	-71.9		250	9.7
80	29	17,885	-67.9		94	2.5
70	29	18,692	-65.3		97	6.0
60	29	19,639	-61.4		98	10.3
50	29	20,778	-58.2		96	10.7
40	29	22,192	-55.9		79	14.4
30	29	24,040	-51.4		89	17.7
25	28	25,228	-49.2		93	15.3
20	25	26,699	-47.1		88	16.7
15	21	28,624	-44.7		82	21.2
10	6	31,406	-39.3			
7						

ELY, NEV.
811 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,908	3.6	48	196	6.8
1000	30	158				
950	30	591				
900	30	1,040				
850	30	1,517				
800	30	2,017	10.0	35	188	5.8
750	30	2,553	10.0	30	205	3.9
700	30	3,125	6.2	30	243	8.2
650	30	3,722	2.1	30	246	9.3
600	30	4,368	- 2.5	31	252	9.7
550	30	5,048	- 6.9		249	12.8
500	30	5,789	-11.6		259	16.5
450	30	6,584	-17.0		271	17.5
400	30	7,461	-23.4		271	19.6
350	30	8,424	-30.4		275	24.1
300	30	9,503	-38.0		270	28.0
250	30	10,740	-46.4		272	26.6
200	30	12,192	-54.2		263	30.1
175	30	13,041	-58.1		266	31.3
150	30	14,005	-61.1		272	27.0
125	30	15,130	-63.7		274	24.1
100	30	16,496	-64.2		282	16.5
80	29	17,865	-63.3		280	9.5
70	29	18,688	-61.6		301	6.0
60	29	19,647	-59.9		331	3.9
50	29	20,792	-57.7		10	4.7
40	28	22,208	-55.5		56	3.1
30	27	24,056	-52.5		347	1.0
25	26	25,240	-50.5		265	1.9
20	24	26,708	-48.4		271	.8
15	20	28,605	-46.0		198	1.0
10	7	31,305	-43.9			
7						

* FAIRBANKS, ALASKA
995 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	135	3.8	86	360	2.3
1000	30	95			157	.8
950	30	515	6.4	65	158	2.7
900	30	957	4.4	65	213	6.0
850	30	1,421	2.0	66	228	9.3
800	30	1,908	- 1.1	71	232	11.1
750	30	2,417	- 4.3	70	230	9.9
700	30	2,961	- 7.5	69	233	9.9
650	30	3,532	-10.5	67	243	11.5
600	30	4,148	-13.8	59	252	15.0
550	30	4,803	-17.8	57	258	15.0
500	30	5,512	-22.5	58	263	17.5
450	30	6,272	-27.8	60	263	18.6
400	30	7,115	-33.6	55	264	21.8
350	30	8,039	-40.4		262	23.5
300	30	9,073	-47.5		268	28.0
250	30	10,260	-53.7		272	31.9
200	30	11,687	-54.8		268	26.4
175	30	12,543	-53.8		264	24.9
150	30	13,535	-53.1		269	23.3
125	30	14,710	-52.9		263	18.3
100	30	16,151	-52.5		265	18.1
80	30	17,594	-52.4		267	15.9
70	30	18,456	-52.6		273	14.4
60	30	19,453	-52.7		271	14.0
50	28	20,634	-52.9		277	12.2
40	28	22,073	-53.1		292	12.8
30	28	23,928	-53.0		300	13.8
25	27	25,099	-52.8		305	15.2
20	26	26,542	-52.4		311	17.1
15	22	28,393	-51.4		300	21.4
10	18	31,034	-50.1		303	20.0
7	7	33,381	-46.2			

FLINT, MICH.
991 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	234	11.6	87	219	4.3
1000	30	160				
950	30	591	13.5	71	249	7.6
900	30	1,047	11.3	68	260	9.9
850	30	1,523	9.2	62	268	13.2
800	30	2,025	7.6	54	268	16.5
750	30	2,553	5.3	51	267	19.4
700	30	3,116	2.3	50	268	22.0
650	30	3,709	- .7	46	269	24.9
600	30	4,348	- 4.0	46	267	26.6
550	30	5,024	- 7.9	42	268	28.7
500	30	5,765	-12.3		267	30.5
450	30	6,556	-17.5		270	32.8
400	30	7,435	-23.7		269	36.9
350	30	8,397	-30.4		271	42.5
300	30	9,476	-37.8		274	48.0
250	30	10,710	-46.1		273	55.6
200	30	12,165	-54.1		275	59.8
175	30	13,014	-57.7		273	57.3
150	30	13,979	-60.7		271	51.9
125	30	15,105	-63.1		271	42.3
100	30	16,475	-62.6		272	31.9
80	30	17,859	-60.4		273	22.3
70	30	18,693	-59.1		276	17.1
60	30	19,664	-57.4		281	11.1
50	29	20,821	-55.5		270	5.8
40	28	22,247	-53.3		271	5.8
30	27	24,115	-49.8		261	8.2
25	27	25,311	-48.5		264	6.4
20	24	26,779	-46.6		268	7.8
15	17	28,694	-44.6		279	4.7
10	5	31,417	-41.2			
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1961

FORT WORTH, TEXAS 995 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	180	21.3	81	184	1.7
1000	30	137				
950	30	591	21.3	73	188	9.3
900	30	1,051	19.0	70	189	8.9
850	30	1,541	16.5	70	197	8.0
800	30	2,056	13.5	70	198	5.4
750	30	2,597	10.7	66	210	4.7
700	30	3,171	7.3	64	222	5.2
650	30	3,780	3.9	59	228	6.0
600	30	4,425	.3	51	237	7.8
550	30	5,114	- 3.4	46	235	8.0
500	30	5,868	- 7.7	42	239	9.7
450	30	6,682	-12.6		245	9.5
400	30	7,572	-18.2		250	12.6
350	30	8,556	-25.3		255	15.9
300	30	9,656	-33.8		253	19.2
250	30	10,909	-43.3		256	22.5
200	30	12,376	-54.4		257	26.8
175	29	13,221	-60.3		262	25.1
150	28	14,172	-66.2		262	24.3
125	28	15,262	-71.0		268	17.3
100	27	16,580	-71.4		278	7.4
80	26	17,912	-68.1		90	2.9
70	26	18,722	-64.3		99	6.4
60	26	19,670	-61.3		98	6.8
50	26	20,811	-57.7		89	9.1
40	26	22,229	-54.7		85	12.2
30	26	24,084	-51.4		92	14.0
25	26	25,273	-49.3		90	15.2
20	26	26,743	-46.9		91	15.2
15	25	28,661	-44.3		83	15.0
10	24	31,389	-40.4		96	13.8
7	19	33,801	-38.3		100	9.7
5	14	36,110	-35.6			

GLASGOW, MONT. 934 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	696	7.9	67	59	1.4
1000	30	125				
950	30	549				
900	30	1,002	9.4	59	290	5.6
850	30	1,475	7.7	57	299	10.9
800	30	1,972	5.0	55	293	13.8
750	30	2,488	2.0	56	287	15.5
700	30	3,050	- 1.3	58	286	18.1
650	30	3,632	- 4.5	56	275	21.6
600	30	4,265	- 8.0	49	274	27.6
550	30	4,929	-12.3	44	274	32.1
500	30	5,658	-16.9	45	273	33.8
450	30	6,432	-22.2	44	271	36.9
400	30	7,297	-28.5	45	273	37.1
350	30	8,241	-35.4	41	276	42.2
300	30	9,298	-42.7		274	46.4
250	30	10,509	-49.9		273	51.9
200	30	11,951	-54.7		276	52.6
175	30	12,803	-55.7		278	50.3
150	30	13,784	-56.2		274	46.0
125	30	14,938	-57.6		279	38.1
100	30	16,345	-58.4		280	29.9
80	29	17,752	-57.3		283	22.0
70	29	18,595	-56.7		285	17.9
60	29	19,573	-56.4		289	12.4
50	29	20,732	-55.8		290	10.7
40	29	22,155	-54.8		291	10.3
30	29	24,001	-53.2		289	9.5
25	28	25,186	-51.3		292	8.9
20	26	26,640	-49.2		274	10.1
15	23	28,534	-46.7		274	12.4
10	12	31,196	-43.4			
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GRAND JUNCTION, COLO. 853 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,474	13.5	49	130	6.4
1000	30	109				
950	30	552				
900	30	1,015				
850	30	1,503			129	6.0
800	30	2,016	14.7	41	153	8.5
750	30	2,554	11.8	42	203	5.6
700	30	3,134	7.7	44	251	9.3
650	30	3,734	2.9	48	256	12.2
600	30	4,383	- 1.8	46	251	12.2
550	30	5,061	- 6.6	44	245	15.0
500	30	5,808	-11.0	36	247	17.3
450	30	6,606	-16.1		258	20.8
400	30	7,487	-22.3		259	22.1
350	30	8,455	-29.3		257	24.1
300	30	9,537	-37.4		255	29.1
250	30	10,772	-45.8		258	34.0
200	28	12,231	-54.1		260	39.0
175	28	13,080	-58.2		263	39.6
150	28	14,041	-61.8		264	34.6
125	28	15,160	-65.1		267	28.4
100	27	16,513	-65.9		270	19.2
80	27	17,872	-63.9		281	10.7
70	27	18,693	-62.3		282	7.2
60	27	19,649	-60.2		304	4.7
50	27	20,794	-57.8		294	2.9
40	27	22,209	-55.4		292	1.6
30	27	24,057	-52.0		255	2.3
25	27	25,242	-50.5		266	3.1
20	27	26,702	-48.9		133	1.0
15	27	28,600	-46.5		256	2.7
10	23	31,316	-43.2		166	1.7
7	12	33,705	-40.3		246	5.4
5	7	36,004	-37.9			

GREAT FALLS, MONT. 888 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,123	8.0	69	239	6.6
1000	30	131				
950	30	559				
900	30	1,015				
850	30	1,485	8.6	51	250	12.0
800	30	1,985	5.7	56	266	13.0
750	30	2,508	2.6	60	269	14.6
700	30	3,066	- .7	57	272	18.6
650	30	3,652	- 4.1	54	276	22.1
600	30	4,282	- 7.6	45	273	26.4
550	30	4,947	-11.4	41	274	30.5
500	30	5,681	-15.7	38	274	33.6
450	30	6,462	-21.0	41	275	37.9
400	30	7,330	-26.9	38	277	40.6
350	30	8,280	-33.9	38	279	41.2
300	30	9,342	-41.8		284	44.9
250	30	10,557	-49.4		276	44.9
200	30	12,000	-54.9		268	49.7
175	30	12,850	-56.4		271	45.6
150	30	13,829	-56.5		269	42.7
125	29	14,984	-57.6		271	33.8
100	29	16,390	-58.4		272	27.0
80	28	17,793	-57.5		279	21.4
70	28	18,635	-57.7		283	16.1
60	28	19,609	-56.5		285	13.0
50	26	20,778	-55.5		297	10.1
40	26	22,203	-54.7		299	6.6
30	26	24,053	-52.4		291	7.2
25	26	25,235	-51.0		290	9.1
20	26	26,696	-48.6		271	9.9
15	26	28,600	-45.9		273	10.5
10	22	31,326	-41.6		271	13.2
7	18	33,769	-38.5		266	14.4
5	16	36,088	-35.5			

GREEN BAY, WIS. 992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	210	11.5	88	260	2.9
1000	29	140				
950	29	572	12.1	75	262	8.9
900	29	1,022	10.2	70	272	11.5
850	29	1,496	8.0	62	270	14.2
800	29	1,996	6.1	54	269	17.9
750	29	2,519	3.7	50	264	20.4
700	29	3,081	1.0	46	264	22.0
650	29	3,668	- 2.1	41	266	24.7
600	29	4,305	- 5.6	41	268	28.0
550	29	4,976	- 9.3	36	271	28.7
500	29	5,714	-13.4		270	31.7
450	29	6,500	-18.4		272	33.4
400	29	7,378	-24.2		270	37.5
350	29	8,339	-30.8		270	46.2
300	29	9,416	-38.4		270	53.4
250	29	10,648	-46.6		269	61.2
200	28	12,108	-54.6		270	59.6
175	28	12,956	-57.2		272	55.6
150	28	13,926	-59.0		273	50.3
125	28	15,062	-61.7		270	39.4
100	28	16,443	-61.6		271	31.7
80	28	17,830	-59.9		274	21.8
70	28	18,667	-58.2		276	18.5
60	28	19,642	-56.9		279	13.6
50	28	20,802	-55.2		275	8.7
40	27	22,232	-53.0		272	6.0
30	27	24,098	-50.3		264	6.6
25	26	25,293	-48.6		258	7.2
20	26	26,766	-46.7		258	5.2
15	20	28,687	-43.8		279	4.5

GREENSBORO, N. C. 988 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	273	15.0	92	13	2.5
1000	30	[illegible]				
950	30	606	17.6	71	22	3.3
900	30	1,069	15.4	63	14	4.5
850	30	1,553	13.3	61	12	3.1
800	30	2,062	11.5	50	310	2.1
750	30	2,597	9.2	45	299	2.9
700	30	3,169	6.5	38	295	5.1
650	30	3,774	3.8		283	6.4
600	30	4,422	.8		268	9.1
550	30	5,113	- 3.0		269	12.0
500	30	5,866	- 7.6		270	15.7
450	30	6,676	-12.5		274	17.7
400	30	7,570	-18.7		278	18.6
350	30	8,551	-25.9		280	21.8
300	30	9,649	-34.4		284	24.1
250	30	10,899	-44.0		283	27.4
200	30	12,361	-54.9		284	30.7
175	30	13,203	-60.5		287	29.7
150	30	14,152	-65.5		281	24.9
125	30	15,250	-68.8		280	22.1
100	30	16,582	-69.0		282	13.4
80	30	17,925	-66.0		307	6.8
70	30	18,739	-63.2		335	2.7
60	30	19,695	-60.0		45	3.3
50	29	20,843	-57.0		82	5.4
40	29	22,266	-53.9		85	7.2
30	29	24,130	-50.3		101	7.4
25	27	25,328	-48.7		95	8.2
20	25	26,793	-47.3		90	8.4
15	20	28,703	-45.6			
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GUAM, MARIANA IS. 997 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	111	24.5	94	97	3.9
1000	29	86				
950	29	540	23.5	86	105	8.7
900	29	1,009	21.0	83	109	9.3
850	29	1,503	18.3	82	105	10.1
800	29	2,022	15.6	78	102	9.9
750	29	2,571	12.7	75	100	11.3
700	29	3,146	9.6	71	100	11.5
650	29	3,762	6.2	69	102	11.7
600	29	4,412	2.3	71	100	12.0
550	29	5,109	- 1.7	70	99	11.7
500	29	5,865	- 5.8	64	98	10.3
450	29	6,682	-10.6	58	92	8.9
400	28	7,583	-16.2	57	91	9.9
350	28	8,574	-23.1	53	89	8.4
300	28	9,685	-31.4	51	94	5.6
250	28	10,949	-41.6		86	4.3
200	28	12,420	-54.4		92	1.7
175	28	13,261	-61.9		31	2.7
150	28	14,198	-69.5		42	5.8
125	28	15,265	-76.4		66	9.3
100	25	16,542	-76.6		79	18.3
80	22	17,841	-72.1		85	20.2
70	21	18,634	-68.7		91	19.4
60	21	19,565	-65.6		97	19.0
50	21	20,682	-62.3		96	19.8
40	21	22,071	-58.8		84	25.1
30	21	23,893	-55.3		87	35.5
25	20	25,056	-53.0		89	42.2
20	17	26,504	-49.8		90	52.4
15	12	28,404	-46.9		87	61.0
10	6	31,082	-43.4			

HILO, HAWAII 1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	11	21.2	89	250	6.0
1000	29	134	22.7	79	254	5.2
950	29	580	19.8	82	100	4.5
900	29	1,045	16.7	85	89	9.2
850	29	1,531	13.8	86	92	8.7
800	29	2,041	11.1	87	81	7.8
750	29	2,582	8.9	68	71	7.2
700	29	3,149	7.5	49	71	6.6
650	29	3,758	5.6	38	72	6.0
600	29	4,409	2.2	34	72	4.1
550	29	5,102	- 1.8		52	2.7
500	29	5,859	- 6.1		52	3.7
450	29	6,670	-11.6		170	.9
400	29	7,567	-18.2		233	3.5
350	29	8,549	-25.6		250	8.7
300	29	9,648	-34.3		246	13.6
250	29	10,897	-44.3		250	19.8
200	29	12,353	-56.0		247	26.4
175	29	13,190	-62.2		248	26.0
150	29	14,129	-68.0		244	25.4
125	29	15,212	-71.9		244	13.8
100	29	16,524	-72.2		144	2.3
80	29	17,849	-68.5		97	9.1
70	29	18,652	-66.5		89	14.4
60	29	19,590	-63.7		90	18.3
50	29	20,717	-60.6		87	22.1
40	29	22,116	-57.3		91	27.4
30	28	23,955	-52.7		89	34.4
25	26	25,136	-50.8		88	38.7
20	25	26,598	-48.2		91	40.8
15	22	28,500	-45.9		90	44.5
10	10	31,242	-41.1			

HUNTINGTON, W. VA. 990 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	13.0	86	103	1.2
1000	30	163				
950	30	599	17.5	60	174	3.1
900	30	1,060	15.6	57	246	3.1
850	30	1,544	13.1	57	272	5.1
800	30	2,052	10.7	52	266	7.2
750	30	2,584	7.8	47	260	9.5
700	30	3,154	4.7	47	263	10.7
650	30	3,754	1.7	43	274	13.2
600	30	4,398	- 1.2	36	274	17.1
550	30	5,083	- 4.4		271	19.2
500	30	5,833	- 8.8		268	22.0
450	30	6,636	-13.9		266	25.6
400	30	7,528	-19.9		267	28.2
350	30	8,506	-26.8		273	31.5
300	30	9,599	-35.2		274	36.1
250	30	10,845	-44.6		277	38.9
200	30	12,303	-55.1		281	41.8
175	30	13,146	-60.3		280	43.7
150	30	14,097	-64.7		282	37.5
125	28	15,207	-68.1		281	29.5
100	28	16,544	-68.1		282	21.8
80	28	17,893	-65.0		284	11.1
70	28	18,711	-62.2		285	6.2
60	28	19,670	-59.8		308	4.5
50	28	20,817	-56.8		357	2.3
40	27	22,240	-53.8		70	1.7
30	26	24,099	-50.8		63	2.9
25	26	25,292	-48.8		75	3.5
20	22	26,770	-47.3		67	4.3
15	14	28,685	-44.9		87	4.1

*** INTERNAT. FALLS, MINN. 971 MB**

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	360	6.7	83	184	3.1
1000	30	118				
950	30	538	8.5	79	221	5.4
900	30	988	7.5	72	251	8.7
850	30	1,457	4.9	72	275	9.5
800	30	1,949	2.6	63	275	12.8
750	30	2,469	.7	62	269	15.7
700	30	3,022	- 1.7	53	272	19.6
650	30	3,606	- 4.5	49	273	22.7
600	30	4,236	- 7.9	46	276	28.2
550	30	4,899	-12.2	43	277	32.4
500	30	5,630	-16.7	45	276	35.9
450	30	6,406	-21.7	39	274	39.8
400	30	7,273	-27.5	40	271	44.3
350	30	8,220	-34.6	40	266	49.0
300	30	9,279	-42.2		266	53.0
250	30	10,493	-49.0		266	57.7
200	30	11,939	-53.9		267	62.9
175	30	12,793	-55.2		267	63.7
150	29	13,777	-56.2		271	56.7
125	29	14,932	-57.2		273	46.2
100	29	16,342	-57.9		273	34.2
80	29	17,752	-56.7		275	27.4
70	29	18,599	-56.1		276	22.7
60	29	19,582	-55.2		278	18.5
50	29	20,747	-54.8		276	14.8
40	29	22,178	-53.7		279	12.6
30	29	24,036	-51.5		283	10.7
25	29	25,223	-50.2		274	10.5
20	28	26,695	-48.4		266	10.3
15	27	28,599	-45.1		271	9.9
10	26	31,335	-40.6		260	10.5
7	19	33,786	-37.6		261	9.5
5	8	36,153	-33.3			

JACKSON, MISS. 1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	94	19.6	87	88	1.6
1000	30	142	20.4	83	104	2.3
950	30	589	21.4	66	111	7.6
900	30	1,056	19.1	64	121	6.8
850	30	1,546	16.5	64	129	2.9
800	30	2,061	13.8	57	19	.4
750	30	2,599	10.8	54	312	1.7
700	30	3,176	7.5	51	307	2.1
650	30	3,780	4.5	44	278	2.5
600	30	4,431	.9	42	280	4.9
550	30	5,120	- 2.7	40	270	7.0
500	30	5,877	- 6.9	35	265	7.6
450	30	6,686	-12.1		257	8.2
400	30	7,584	-18.3	36	258	8.9
350	30	8,566	-25.4	39	261	10.3
300	30	9,666	-33.7		264	12.8
250	30	10,918	-43.6		264	14.0
200	30	12,380	-54.8		269	16.5
175	30	13,222	-60.8		274	15.3
150	30	14,166	-66.6		280	15.0
125	30	15,255	-71.2		290	13.0
100	30	16,570	-71.7		301	4.7
80	30	17,897	-68.1		68	5.6
70	29	18,701	-64.9		90	6.8
60	29	19,650	-61.2		88	6.8
50	29	20,792	-58.1		85	10.3
40	28	22,205	-55.2		90	13.6
30	28	24,060	-51.0		91	15.3
25	28	25,250	-49.4		89	14.2
20	27	26,717	-47.6		91	15.5
15	17	28,621	-45.5		96	19.8
10	7	31,314	-43.5			
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JACKSONVILLE, FLA. 1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	21.6	93	33	2.3
1000	30	135	22.9	81	42	5.4
950	30	579	21.1	76	89	11.3
900	30	1,050	18.4	72	96	9.7
850	30	1,538	15.6	68	98	8.5
800	30	2,051	13.3	56	102	6.4
750	30	2,587	11.1	48	122	4.5
700	30	3,167	8.5	43	50	1.0
650	30	3,772	5.7	41	253	.8
600	30	4,428	2.4	34	13	3.9
550	30	5,117	- 1.7	33	18	5.1
500	30	5,879	- 5.7		25	6.0
450	30	6,690	-10.7		7	7.8
400	30	7,593	-16.8		5	7.2
350	30	8,582	-23.9		5	7.6
300	30	9,689	-32.2		351	10.7
250	30	10,948	-42.4		343	9.9
200	30	12,417	-53.9		337	12.6
175	30	13,262	-60.1		334	11.5
150	29	14,212	-66.0		332	10.7
125	29	15,303	-70.9		336	8.0
100	29	16,618	-72.6		24	6.6
80	27	17,943	-67.9		71	10.9
70	27	18,751	-64.2		84	10.9
60	27	19,703	-60.9		87	12.2
50	27	20,845	-57.8		88	17.1
40	26	22,264	-54.4		91	20.0
30	26	24,125	-50.2		96	20.2
25	25	25,318	-48.4		94	19.6
20	24	26,793	-46.5		86	20.0
15	22	28,719	-43.6		86	21.8
10	15	31,470	-38.4		88	22.1

JOHN F. KENNEDY INT. ARPT., 1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	16.7	77	348	3.7
1000	30	168	16.1	72	8	5.1
950	30	602	14.5	64	360	4.5
900	30	1,060	13.1	60	298	6.4
850	30	1,540	11.9	59	286	11.8
800	30	2,045	9.6	55	279	13.0
750	30	2,579	6.9	57	277	17.1
700	30	3,144	4.0	50	278	18.5
650	30	3,744	1.2	44	281	22.0
600	30	4,385	- 2.0	38	276	21.6
550	30	5,068	- 5.9		273	23.9
500	30	5,814	-10.2		275	25.1
450	30	6,614	-15.2		272	30.5
400	30	7,500	-21.1		270	33.4
350	30	8,473	-27.9		273	38.1
300	30	9,562	-36.2		275	39.4
250	30	10,802	-45.6		275	44.3
200	30	12,258	-55.0		279	45.1
175	30	13,103	-59.2		282	45.1
150	29	14,058	-62.4		282	41.4
125	29	15,173	-65.6		281	34.8
100	29	16,532	-64.5		278	27.2
80	29	17,901	-62.6		282	14.8
70	29	18,728	-60.7		281	10.7
60	29	19,695	-57.8		293	6.4
50	28	20,849	-55.7		288	4.5
40	28	22,281	-52.6		292	1.9
30	27	24,150	-50.0		208	.8
25	26	25,347	-48.7		277	1.0
20	24	26,918	-46.8		43	2.5
15	15	28,739	-44.7		239	1.2
10	12	31,477	-40.2			
7	8	33,892	-38.2			
5	5	36,226	-34.5			

JOHNSTON IS., PACIFIC AREA 1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	26.1	79	84	11.1
1000	30	112	25.3	80	85	13.4
950	30	555	21.9	81	84	14.6
900	30	1,031	18.8	79	87	15.5
850	30	1,520	16.1	75	85	14.4
800	30	2,034	13.5	69	85	11.7
750	30	2,565	11.4	52	85	9.5
700	30	3,150	9.0	38	95	7.8
650	30	3,749	5.6	33	107	5.4
600	30	4,411	2.0	28	110	4.1
550	30	5,099	- 2.2		123	2.1
500	30	5,857	- 6.6		128	1.9
450	30	6,661	-12.0		174	.4
400	30	7,561	-18.4		270	3.1
350	30	8,543	-25.6		254	7.0
300	30	9,642	-34.1		256	15.0
250	30	10,891	-44.1		256	22.0
200	30	12,346	-56.5		253	31.1
175	30	13,180	-63.2		248	33.2
150	30	14,113	-69.6		250	29.1
125	30	15,188	-73.0		242	19.2
100	30	16,500	-72.3		199	2.7
80	30	17,821	-69.0		92	9.5
70	30	18,622	-67.0		93	14.0
60	30	19,558	-64.8		95	16.9
50	29	20,677	-62.0		92	21.0
40	29	22,070	-58.5		91	26.8
30	27	23,898	-54.1		91	34.6
25	26	25,077	-52.0		90	40.6
20	26	26,531	-49.2		88	47.2
15	24	28,431	-46.2		90	55.2
10	11	31,153	-41.8			

KEY WEST, FLORIDA 1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	22	3	27.2	81	97	1.7
1000	22	120	26.2	83	92	3.5
950	22	577	23.0	86	118	[illegible]
900	22	1,044	20.1	81	134	[illegible]
850	22	1,536	17.3	77	153	4.1
800	22	2,053	14.6	72	145	2.7
750	22	2,595	12.0	[illegible]	128	2.9
700	22	3,173	9.2	[illegible]	[illegible]	1.7
650	22	3,785	5.8	55	121	2.1
600	22	4,435	1.9	55	87	2.9
550	22	5,125	- 1.8	47	65	4.7
500	22	5,886	- 6.2	43	54	6.4
450	22	6,699	-11.4	39	47	8.0
400	22	7,596	-17.3	39	53	9.7
350	22	8,583	-24.6	43	[illegible]	10.3
300	22	9,689	-32.5	36	37	13.0
250	22	10,948	-42.4		32	14.2
200	22	12,418	-54.3		35	15.7
175	22	13,262	-60.6		38	14.4
150	22	14,207	-67.0		41	15.5
125	22	15,296	-71.8		54	15.3
100	22	16,683	-73.2		66	17.1
80	22	17,921	-69.7		82	17.9
70	21	18,723	-66.7		84	19.4
60	21	19,663	-63.4		85	[illegible]
50	21	20,742	-60.2		89	25.4
40	21	22,176	-56.1		87	27.6
30	20	24,043	-52.3		92	28.6
25	19	25,229	-49.7		94	27.8
20	18	26,695	-47.1		86	27.2
15	18	28,611	-44.4		81	29.7
10	17	31,359	-40.0		92	29.1
7	15	33,809	-37.3		44	24.1

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1964

Standard pressure surface (mb)	KING SALMON, ALASKA 1006 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	15	6.8	90	130	2.7
1000	28	67			176	5.6
950	28	491	7.4	77	162	6.4
900	28	935	5.3	72	171	6.6
850	28	1,400	3.1	67	183	7.4
800	28	1,890	.9	66	196	8.5
750	28	2,407	- 1.9	66	203	9.9
700	28	2,953	- 4.7	58	205	10.3
650	28	3,530	- 8.0	57	206	10.1
600	28	4,151	-11.7	56	199	9.3
550	28	4,813	-15.8	54	192	9.5
500	28	5,526	-20.2	54	201	10.9
450	28	6,296	-25.4	51	206	11.3
400	28	7,145	-31.4	50	204	11.5
350	28	8,077	-38.1		216	9.9
300	28	9,122	-44.9		219	12.0
250	28	10,321	-51.0		229	12.8
200	28	11,764	-53.1		240	19.2
175	28	12,623	-53.3		241	20.4
150	28	13,615	-53.5		246	18.6
125	28	14,788	-52.9		247	18.8
100	28	16,228	-52.8		249	15.5
80	28	17,669	-52.2		250	14.2
70	28	18,532	-52.2		255	12.2
60	28	19,531	-52.1		258	10.1
50	27	20,702	-52.0		260	9.3
40	27	22,147	-51.9		278	7.4
30	27	24,011	-51.9		292	6.8
25	23	25,192	-51.7		293	7.8
20	15	26,519	-51.4		318	9.3
15	6	28,524	-50.7			
10						
7						

Standard pressure surface (mb)	+ KOROR, CAROLINE IS. 1006 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	30	28.1	82	116	1.7
1000	30	87	27.5	82	112	1.7
950	30	536	23.7	81	133	1.6
900	30	1,012	20.6	78	135	2.1
850	30	1,505	17.8	74	129	3.3
800	30	2,022	15.1	70	129	2.9
750	30	2,564	12.3	69	112	4.5
700	30	3,144	9.2	66	103	4.1
650	30	3,751	5.9	64	103	6.4
600	30	4,407	2.2	65	102	8.0
550	30	5,101	- 1.7	63	99	8.5
500	30	5,860	- 5.8	57	93	9.1
450	30	6,676	-10.4	52	91	10.3
400	30	7,577	-15.8	40	92	10.9
350	30	8,571	-22.6	35	91	11.7
300	30	9,684	-30.9		83	13.2
250	30	10,949	-41.4		79	15.7
200	30	12,422	-54.1		67	18.1
175	30	13,265	-61.2		58	19.6
150	30	14,204	-68.7		55	18.8
125	30	15,275	-76.0		70	19.6
100	29	16,551	-77.2		75	18.5
80	29	17,856	-70.0		77	11.7
70	29	18,656	-66.5		72	4.9
60	29	19,595	-63.5		286	1.4
50	27	20,716	-61.6		284	5.6
40	26	22,107	-59.3		45	3.1
30	26	23,923	-55.8		91	18.8
25	24	25,094	-53.7		93	36.3
20	18	26,539	-50.7		95	55.9
15	14	28,428	-47.1		97	68.0
10	5	31,095	-43.3			
7						

Standard pressure surface (mb)	KOTZEBUE, ALASKA 1008 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	5.0	84	116	3.7
1000	30	67	4.9	82	165	4.1
950	30	482	3.4	74	164	8.9
900	30	921	.9	76	179	9.3
850	30	1,379	- 1.1	73	181	10.7
800	30	1,861	- 3.1	68	189	12.0
750	30	2,370	- 5.9	68	198	13.0
700	30	2,909	- 8.9	71	204	14.2
650	30	3,477	-11.9	67	212	15.2
600	30	4,089	-15.3	63	216	18.1
550	30	4,736	-19.3	59	219	20.8
500	30	5,444	-23.9	56	221	24.9
450	30	6,199	-29.0	51	222	27.8
400	30	7,036	-35.1	47	222	31.1
350	30	7,955	-41.3		226	34.2
300	30	8,987	-47.9		229	39.0
250	30	10,171	-53.9		231	39.4
200	30	11,605	-52.7		233	33.2
175	30	12,469	-51.7		233	29.1
150	30	13,469	-51.3		232	26.2
125	30	14,654	-51.0		238	23.7
100	30	16,107	-51.1		235	18.5
80	30	17,557	-51.1		236	18.5
70	30	18,424	-51.3		243	18.5
60	30	19,427	-51.4		247	15.7
50	30	20,610	-51.7		250	16.1
40	30	22,056	-52.0		255	15.3
30	30	23,920	-51.9		264	16.3
25	30	25,102	-51.8		268	18.3
20	29	26,540	-51.6		274	19.6
15	27	28,416	-50.4		283	19.6
10	11	31,120	-47.7			
7						

Standard pressure surface (mb)	KWAJALEIN, MARSHALL IS. 1010 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	4	26.6	81	82	8.0
1000	28	92	26.3	81	88	8.7
950	28	545	23.5	85	93	11.3
900	28	1,016	20.5	81	99	12.4
850	28	1,510	18.1	76	98	13.0
800	28	2,028	15.6	74	96	13.4
750	28	2,574	12.8	72	98	14.0
700	28	3,152	9.6	71	98	14.4
650	28	3,764	6.0	71	96	14.8
600	28	4,417	2.0	69	98	13.4
550	28	5,115	- 1.9	69	98	13.4
500	28	5,867	- 6.1	68	103	11.8
450	28	6,685	-11.2	61	105	10.1
400	28	7,580	-16.6	57	109	8.0
350	28	8,573	-22.5	59	122	5.2
300	28	9,685	-31.3	55	151	1.7
250	28	10,949	-41.8	43	240	3.1
200	28	12,420	-54.2	38	261	7.8
175	28	13,261	-62.0	36	271	10.5
150	28	14,196	-69.7	36	274	17.1
125	26	15,263	-76.2		284	16.9
100	23	16,550	-75.5		92	4.3
80	21	17,858	-70.3		100	6.8
70	21	18,657	-67.9		140	2.5
60	20	19,588	-66.4		107	1.2
50	19	20,701	-63.0		101	1.9
40	19	22,087	-59.5		86	9.9
30	18	23,894	-56.7		84	26.0
25	17	25,063	-53.2		89	37.9
20	15	26,506	-51.4		89	56.1
15	13	28,389	-45.8		90	69.9
10	10	31,126	-41.3			
7	7	33,584	-36.3			

Standard pressure surface (mb)	LAKE CHARLES, LA. 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	21.7	90	50	4.3
1000	30	133	23.0	82	78	5.8
950	30	585	22.2	74	133	7.6
900	30	1,051	19.7	66	145	7.4
850	30	1,543	17.1	60	154	6.2
800	30	2,058	14.3	57	133	5.1
750	30	2,602	11.4	58	112	3.3
700	30	3,175	8.3	55	65	1.4
650	30	3,783	4.8	52	332	2.5
600	30	4,434	1.3	47	283	3.3
550	30	5,125	- 2.3	40	274	4.7
500	30	5,882	- 6.9	36	249	5.8
450	30	6,694	-11.9		255	4.9
400	30	7,591	-17.6		240	4.7
350	30	8,577	-24.5		240	4.5
300	30	9,680	-32.7		255	8.9
250	30	10,937	-42.4		257	10.5
200	29	12,412	-53.6		277	12.2
175	29	13,258	-59.8		279	13.4
150	29	14,207	-66.1		281	13.4
125	29	15,295	-71.6		292	11.1
100	29	16,605	-72.7		356	3.7
80	29	17,928	-68.6		76	9.5
70	29	18,734	-64.8		93	11.7
60	28	19,686	-61.5		92	12.2
50	28	20,827	-57.7		86	15.2
40	28	22,246	-54.8		88	17.9
30	28	24,103	-50.5		88	19.6
25	28	25,298	-48.5		84	19.4
20	28	26,774	-46.2		88	20.8
15	25	28,696	-43.9		89	20.8
10	16	31,458	-39.0		81	19.6
7						

Standard pressure surface (mb)	LANDER, WYO. 830 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,696	8.4	50	252	2.1
1000	30	126				
950	30	560				
900	30	1,017				
850	30	1,499				
800	30	2,004	10.2	40	291	2.3
750	30	2,537	8.0	37	264	4.9
700	30	3,106	5.0	33	263	10.7
650	30	3,703	.9	34	269	16.9
600	30	4,345	- 3.5	34	265	19.6
550	30	5,021	- 8.0	31	261	21.4
500	30	5,763	-12.9		264	24.1
450	30	6,550	-18.6		264	26.4
400	30	7,427	-25.0		262	30.3
350	30	8,384	-32.0		259	35.7
300	30	9,456	-39.6		261	39.2
250	30	10,681	-47.5		262	46.2
200	30	12,132	-54.2		261	47.6
175	30	12,982	-57.6		261	45.6
150	30	13,949	-60.4		264	41.4
125	30	15,079	-62.6		268	35.0
100	30	16,452	-62.9		272	24.9
80	30	17,832	-61.1		280	17.5
70	30	18,663	-59.9		284	13.0
60	30	19,630	-58.2		281	9.9
50	29	20,781	-57.2		287	6.4
40	29	22,199	-55.1		282	5.6
30	28	24,044	-52.3		302	4.5
25	28	25,228	-50.6		288	5.4
20	27	26,687	-48.8		287	6.0
15	21	28,583	-46.4		282	6.8
10						
7						

Standard pressure surface (mb)	LAS VEGAS, NEV. 936 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	660	20.1	25	225	5.8
1000	30	81				
950	30	525				
900	30	1,001	23.5	22	274	3.7
850	30	1,497	20.3	24	290	5.4
800	30	2,016	16.5	26	234	4.5
750	30	2,556	12.0	31	204	5.8
700	30	3,134	7.4	34	192	6.6
650	30	3,732	3.5	33	210	8.4
600	30	4,385	- .3		231	10.3
550	30	5,066	- 4.7		251	12.6
500	30	5,819	- 9.6		256	13.8
450	30	6,618	-15.2		270	14.8
400	30	7,506	-21.3		272	19.2
350	30	8,477	-28.5		268	22.5
300	30	9,564	-36.6		270	24.9
250	30	10,803	-45.5		260	29.5
200	30	12,262	-53.7		258	34.6
175	29	13,111	-58.1		260	34.2
150	29	14,071	-62.8		263	31.5
125	29	15,184	-66.0		267	23.3
100	29	16,534	-67.2		273	13.2
80	28	17,885	-65.0		296	4.7
70	27	18,704	-62.9		15	2.9
60	25	19,656	-61.0		64	2.3
50	24	20,793	-58.3		72	4.3
40	24	22,205	-55.4		78	3.7
30	23	24,053	-52.2		85	4.5
25	23	25,238	-50.4		83	5.2
20	23	26,701	-48.5		80	7.8
15	18	28,593	-45.8		89	5.6
10						
7						

Standard pressure surface (mb)	* LIHUE, HAWAII 1012 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	36	24.3	78	66	7.6
1000	30	142	23.7	78	69	11.1
950	30	587	20.2	85	78	15.7
900	30	1,055	16.9	83	81	15.2
850	30	1,541	14.0	80	83	14.8
800	30	2,051	11.9	70	86	14.2
750	30	2,587	10.5	44	86	12.2
700	30	3,163	8.6	37	85	9.1
650	30	3,767	5.3	36	77	7.4
600	30	4,422	1.5	31	91	3.3
550	30	5,114	- 2.5	30	136	.8
500	30	5,868	- 7.2	27	218	3.3
450	30	6,675	-12.8	28	221	6.2
400	30	7,570	-19.2	28	240	10.1
350	30	8,548	-26.6	31	240	15.5
300	30	9,642	-35.3	33	242	20.4
250	30	10,885	-45.1		249	25.8
200	30	12,337	-56.4		251	32.2
175	30	13,173	-62.2		250	33.4
150	30	14,114	-67.0		243	30.3
125	30	15,207	-69.3		246	21.4
100	30	16,532	-71.0		233	5.2
80	30	17,858	-68.7		91	9.1
70	30	18,661	-66.4		93	14.0
60	29	19,597	-63.9		99	18.8
50	29	20,723	-60.9		94	22.5
40	29	22,120	-57.7		93	26.6
30	28	23,950	-53.4		93	31.5
25	28	25,128	-51.4		94	34.0
20	28	26,583	-49.3		97	34.8
15	27	28,479	-46.6		97	36.1
10	27	31,186	-43.4		92	35.9
7	15	33,603	-39.0			

Standard pressure surface (mb)	LITTLE ROCK, ARK. 1008 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	79	18.1	89	7	1.0
1000	30	146	19.5	80	86	.8
950	30	589	20.0	62	169	4.3
900	30	1,056	17.9	62	198	3.7
850	30	1,544	15.3	62	224	3.5
800	30	2,056	12.6	60	239	4.7
750	30	2,593	9.7	53	257	4.5
700	30	3,166	6.6	53	257	6.8
650	30	3,768	3.2	49	258	8.7
600	30	4,418	- .2	46	265	9.5
550	29	5,107	- 3.8	41	252	10.5
500	29	5,859	- 7.9		250	13.6
450	29	6,665	-12.9		255	17.1
400	29	7,560	-18.9		260	18.3
350	29	8,542	-25.7		261	19.6
300	29	9,640	-34.2		260	22.1
250	29	10,890	-43.7		262	23.5
200	29	12,353	-54.8		262	23.9
175	29	13,197	-60.2		266	20.8
150	29	14,145	-65.7		272	17.5
125	29	15,239	-70.3		274	13.6
100	29	16,564	-69.7		279	5.8
80	29	17,902	-66.7		65	1.6
70	28	18,711	-64.2		92	5.2
60	28	19,664	-60.9		95	7.4
50	28	20,807	-57.5		82	9.3
40	27	22,227	-54.3		90	11.5
30	27	24,087	-50.4		94	11.1
25	27	25,282	-48.5		86	10.7
20	26	26,754	-46.5		97	11.7
15	19	28,650	-44.3		75	12.6
10	9	31,436	-40.8			
7						

Standard pressure surface (mb)	MCGRATH, ALASKA 998 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	103	5.0	90	190	1.9
1000	30	83			183	6.0
950	30	503	6.4	73	177	6.6
900	30	946	4.4	70	179	7.8
850	30	1,410	1.8	69	192	8.9
800	30	1,898	- .4	64	191	8.4
750	30	2,410	- 2.8	57	201	9.3
700	30	2,957	- 5.8	56	202	8.0
650	30	3,529	- 8.9	53	197	6.6
600	30	4,151	-12.5	56	195	6.2
550	30	4,806	-16.5	53	207	6.6
500	30	5,522	-20.8	49	213	7.8
450	30	6,284	-26.2	47	211	9.3
400	29	7,140	-32.2	48	221	8.9
350	29	8,071	-38.8		239	8.5
300	28	9,110	-46.2		253	16.5
250	28	10,303	-53.3		256	21.0
200	28	11,731	-54.7		263	21.4
175	28	12,588	-53.9		257	18.6
150	28	13,580	-53.0		254	18.1
125	27	14,752	-52.6		256	14.6
100	27	16,195	-52.1		251	14.0
80	27	17,640	-51.9		251	12.4
70	27	18,505	-51.9		256	13.0
60	27	19,504	-52.0		259	12.0
50	27	20,685	-52.0		262	11.8
40	27	22,130	-52.2		272	11.1
30	27	23,993	-51.9		279	12.2
25	26	25,183	-51.7		288	12.8
20	25	26,637	-51.4		294	15.9
15	18	28,505	-50.5		294	16.5
10	7	31,123	-50.3			
7						

Standard pressure surface (mb)	MAJURO, MARSHALL IS. + 1010 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	3	28.3	79	95	6.8
1000	30	88	27.1	77	98	7.4
950	30	536	23.2	76	109	9.3
900	30	1,012	20.1	77	109	13.0
850	30	1,504	17.4	74	108	12.2
800	30	2,021	15.0	71	106	12.8
750	30	2,563	12.2	70	103	12.6
700	30	3,141	9.2	68	100	12.4
650	30	3,753	5.8	65	99	13.0
600	30	4,404	2.2	58	98	13.0
550	30	5,100	- 1.4	54	99	12.4
500	30	5,857	- 5.6	54	95	11.5
450	30	6,677	-10.2	46	94	11.1
400	30	7,576	-15.7	41	96	8.0
350	30	8,570	-22.6	36	96	6.2
300	30	9,683	-31.0		93	4.1
250	30	10,949	-41.3		12	3.3
200	30	12,424	-54.0		295	6.8
175	30	13,268	-61.2		294	10.1
150	30	14,208	-68.8		295	14.4
125	30	15,280	-75.4		284	12.2
100	30	16,572	-75.0		98	2.1
80	29	17,884	-69.0		92	4.7
70	29	18,689	-65.9		165	1.9
60	29	19,627	-64.2		239	3.3
50	29	20,748	-62.0		259	6.6
40	28	22,134	-59.9		101	1.7
30	27	23,955	-54.6		95	14.2
25	27	25,128	-52.9		92	31.5
20	24	26,576	-50.7		93	53.6
15	24	28,470	-46.5		91	67.6
10	11	31,197	-41.4			
7						

Standard pressure surface (mb)	* MARCUS IS., N. PACIFIC 1013 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	9	27.7	80	99	8.2
1000	30	123	26.8	80	98	10.3
950	30	572	23.3	85	97	13.8
900	30	1,047	20.4	77	99	13.8
850	30	1,540	17.7	73	100	13.8
800	30	2,057	15.2	66	98	13.8
750	30	2,598	12.5	59	96	13.6
700	30	3,179	9.7	47	95	14.8
650	30	3,785	6.4	43	91	15.2
600	30	4,444	2.7	41	90	15.3
550	30	5,138	- 1.4	38	91	15.9
500	30	5,896	- 5.8	34	87	15.7
450	30	6,708	-10.9	30	90	18.3
400	30	7,610	-17.0	29	91	18.3
350	30	8,597	-24.3	28	85	21.4
300	30	9,702	-32.9	27	85	21.8
250	30	10,958	-43.0		78	22.7
200	30	12,424	-54.7		70	25.6
175	30	13,266	-60.9		72	27.0
150	30	14,211	-67.0		77	24.3
125	30	15,296	-72.7		75	25.8
100	30	16,594	-75.2		82	24.1
80	30	17,897	-71.3		88	20.4
70	30	18,692	-67.8		84	20.6
60	30	19,629	-63.9		86	22.1
50	30	20,756	-60.8		84	24.9
40	30	22,155	-57.3		88	29.1
30	30	23,991	-53.5		85	32.8
25	29	25,169	-51.0		86	36.5
20	29	26,630	-48.3		89	34.6
15	29	28,533	-46.3		90	33.6
10	27	31,246	-42.1		82	28.7
7	9	33,667	-39.0			

Standard pressure surface (mb)	MEDFORD, OREG. 971 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	401	7.7	81	264	.8
1000	30	154				
950	30	582	12.1	63	302	1.6
900	30	1,035	12.5	58	322	1.6
850	30	1,514	11.0	51	44	1.2
800	30	2,018	9.3	40	265	1.2
750	30	2,548	6.6	31	284	4.1
700	30	3,114	4.1		302	7.4
650	30	3,709	1.3		304	11.3
600	30	4,353	- 2.4		305	14.6
550	30	5,030	- 6.9		304	16.9
500	30	5,775	-11.9		306	19.8
450	30	6,566	-17.5		301	21.6
400	30	7,444	-24.4		301	24.9
350	30	8,403	-31.6		303	27.0
300	30	9,476	-39.6		308	27.8
250	30	10,699	-48.2		302	26.6
200	30	12,143	-55.1		289	28.0
175	30	12,992	-57.3		281	31.1
150	30	13,961	-59.6		277	30.5
125	30	15,095	-62.0		276	25.8
100	30	16,474	-62.0		278	19.4
80	30	17,855	-61.2		282	13.6
70	30	18,687	-59.4		299	10.1
60	30	19,654	-58.2		315	6.8
50	30	20,802	-57.7		346	5.2
40	30	22,216	-55.6		352	4.5
30	30	24,059	-53.0		321	2.3
25	29	25,233	-51.0		309	3.1
20	27	26,688	-48.5		266	2.9
15	23	28,594	-46.5		284	4.9
10	19	31,282	-43.1		265	11.5
7						

Standard pressure surface (mb)	MERIDA, MEXICO 1013 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	11	22.4	97	111	4.1
1000	30	125	23.7	90	116	7.2
950	30	579	23.1	80	136	11.7
900	30	1,047	20.9	72	129	10.1
850	30	1,541	18.3	69	122	9.5
800	30	2,059	15.3	69	117	8.0
750	30	2,597	12.4	66	118	8.2
700	30	3,181	9.2	61	112	7.6
650	30	3,784	5.6	59	106	8.2
600	30	4,444	1.8	57	92	8.5
550	30	5,129	- 2.0	51	89	9.1
500	30	5,894	- 6.4	47	79	11.3
450	30	6,703	-11.3	38	74	11.5
400	30	7,607	-17.1	35	77	12.0
350	30	8,595	-23.9		78	11.1
300	30	9,702	-32.2		76	9.9
250	30	10,962	-42.3		77	9.1
200	30	12,433	-54.2		71	9.7
175	30	13,276	-60.6		67	12.0
150	30	14,221	-67.1		60	13.4
125	30	15,304	-73.0		60	16.9
100	30	16,606	-74.4		69	20.6
80	30	17,922	-69.4		87	22.0
70	30	18,721	-66.9		90	22.7
60	30	19,663	-63.3		93	23.7
50	30	20,794	-59.2		91	24.5
40	30	22,205	-55.5		91	26.2
30	29	24,056	-51.6		93	30.9
25	27	25,242	-49.3		93	34.6
20	26	26,719	-46.0		93	36.9
15	26	28,647	-43.1		92	44.5
10	13	31,416	-38.8			
7						

Standard pressure surface (mb)	* MIAMI, FLA. 1014 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	25.1	89	55	1.0
1000	30	124	25.1	85	94	1.6
950	30	579	22.3	84	121	4.3
900	30	1,045	19.3	80	132	4.3
850	30	1,536	16.8	75	143	3.7
800	30	2,052	14.1	72	172	3.5
750	30	2,596	11.4	62	168	1.9
700	30	3,170	8.3	59	153	2.1
650	30	3,781	4.9	51	113	1.0
600	30	4,429	1.1	46	66	2.7
550	30	5,116	- 2.6	42	52	3.7
500	30	5,876	- 6.9	37	49	3.7
450	30	6,685	-12.2	38	52	6.2
400	30	7,583	-17.7	36	47	8.4
350	30	8,569	-24.5	30	39	10.7
300	30	9,672	-33.1	30	32	14.0
250	30	10,929	-42.7		29	16.5
200	30	12,396	-54.7		23	18.8
175	30	13,238	-61.0		27	18.1
150	29	14,179	-67.1		37	15.2
125	29	15,265	-72.1		53	12.0
100	29	16,572	-73.5		57	15.7
80	29	17,889	-69.2		82	16.1
70	29	18,693	-66.1		85	18.3
60	29	19,636	-62.5		87	20.8
50	29	20,770	-59.1		90	22.5
40	29	22,181	-55.8		91	28.0
30	29	24,027	-52.2		91	28.4
25	29	25,213	-49.9		90	28.9
20	27	26,678	-47.3		86	27.8
15	27	28,592	-44.7		82	28.4
10	20	31,322	-41.7		94	27.0
7	9	33,775	-37.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1964

• MIDLAND, TEXAS
916 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	874	18.7	82	126	3.7
1000	30	111				
950	30	558				
900	30	1,026	18.7	78	153	8.2
850	30	1,518	17.6	69	183	14.2
800	30	2,036	15.4	63	190	9.3
750	30	2,581	11.9	62	191	6.4
700	30	3,156	7.9	61	193	3.7
650	30	3,764	4.0	56	209	3.1
600	30	4,411	.2	50	233	4.9
550	30	5,099	- 3.6	46	224	7.8
500	30	5,852	- 8.1	36	226	10.7
450	30	6,663	-13.0	33	232	12.2
400	30	7,552	-18.8	30	242	17.1
350	30	8,533	-25.9	30	244	20.4
300	30	9,630	-34.0	28	245	23.7
250	30	10,883	-43.3		244	27.6
200	30	12,348	-54.3		243	28.9
175	30	13,193	-60.1		249	29.5
150	30	14,140	-66.2		254	27.2
125	30	15,231	-71.3		258	20.8
100	30	16,543	-72.7		271	7.4
80	30	17,861	-69.7		96	4.1
70	30	18,661	-66.9		101	7.2
60	30	19,602	-63.2		98	7.6
50	30	20,732	-59.9		96	10.3
40	30	22,136	-56.6		86	12.0
30	29	23,978	-53.3		88	16.3
25	28	25,162	-50.9		96	15.9
20	28	26,621	-48.7		95	15.0
15	28	28,520	-46.8		93	15.2
10	26	31,231	-42.9		90	21.0
7	15	33,676	-38.7		87	16.7
5	8	35,998	-35.3			

MONTGOMERY, ALA.
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	61	19.6	92	47	4.3
1000	30	143	20.4	85	74	6.2
950	30	589	21.2	72	97	9.3
900	30	1,058	19.2	71	98	6.2
850	30	1,548	16.6	64	87	5.4
800	30	2,063	13.8	60	55	4.7
750	30	2,601	10.9	56	38	3.9
700	30	3,178	8.1	46	19	3.5
650	30	3,783	5.3	39	330	2.5
600	30	4,437	1.6	39	328	3.9
550	30	5,130	- 1.8	35	308	4.3
500	30	5,888	- 6.0	32	301	5.6
450	30	6,700	-11.0		292	6.0
400	30	7,601	-17.4		274	6.4
350	30	8,587	-24.2		273	6.8
300	30	9,693	-32.6		280	8.2
250	30	10,949	-43.0		295	10.1
200	30	12,413	-54.8		293	14.0
175	30	13,255	-60.8		290	15.3
150	30	14,199	-66.6		293	13.4
125	30	15,290	-71.0		300	10.7
100	30	16,605	-71.9		300	4.7
80	30	17,932	-68.3		52	5.4
70	30	18,745	-64.8		84	5.8
60	30	19,688	-60.8		79	7.6
50	30	20,830	-57.7		84	9.5
40	30	22,247	-54.4		88	14.0
30	30	24,103	-51.4		93	15.0
25	30	25,290	-49.5		88	15.3
20	29	26,756	-47.4		89	17.1
15	26	28,661	-44.7		96	13.6
10	15	31,412	-41.4			
7						
5						

NANTUCKET, MASS.
1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	14	15.4	84	55	2.1
1000	30	162	15.2	79	34	1.4
950	30	594	13.9	68	339	5.1
900	30	1,052	12.3	64	306	5.8
850	30	1,531	10.9	59	284	11.3
800	30	2,035	9.1	54	278	15.3
750	30	2,562	6.5	54	275	19.0
700	30	3,132	3.6	49	270	20.4
650	30	3,724	.7	45	272	23.1
600	30	4,370	- 2.3		268	25.4
550	30	5,050	- 6.0		265	26.4
500	30	5,797	-10.4		264	28.7
450	30	6,593	-15.5		266	31.9
400	30	7,481	-21.6		266	37.1
350	30	8,451	-28.4		265	40.4
300	30	9,538	-36.5		264	43.7
250	30	10,777	-45.6		268	45.8
200	30	12,232	-55.0		269	49.5
175	30	13,076	-59.5		275	50.1
150	30	14,033	-62.4		275	44.3
125	30	15,152	-64.7		275	37.7
100	30	16,513	-64.2		273	29.5
80	30	17,886	-62.1		272	18.8
70	30	18,715	-59.8		279	12.8
60	30	19,684	-57.5		282	8.5
50	30	20,842	-55.1		284	5.2
40	28	22,278	-52.4		277	2.9
30	27	24,154	-49.7		100	1.9
25	27	25,352	-47.9		175	1.2
20	26	26,831	-46.0		99	2.5
15	23	28,761	-43.6		149	1.4
10	19	31,519	-39.2			
7						
5						

NASHVILLE, TENN.
997 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	177	17.0	86	117	1.6
1000	30	156				
950	30	596	19.7	63	195	4.9
900	30	1,061	17.1	65	213	6.0
850	30	1,547	14.5	60	247	6.6
800	30	2,057	11.6	56	265	6.2
750	30	2,591	9.3	48	280	6.6
700	30	3,164	6.0	48	279	8.5
650	30	3,765	3.0	42	276	8.5
600	30	4,413	- .2	38	268	11.3
550	30	5,100	- 3.7		263	12.8
500	30	5,852	- 8.0		263	16.1
450	30	6,661	-13.1		263	18.3
400	30	7,551	-18.9		267	22.1
350	30	8,531	-25.9		264	24.5
300	30	9,629	-34.3		266	26.8
250	30	10,878	-44.1		268	29.5
200	30	12,337	-55.1		272	34.6
175	30	13,178	-60.7		271	34.0
150	30	14,126	-65.6		273	29.5
125	30	15,221	-69.2		276	22.7
100	30	16,551	-69.3		279	15.9
80	30	17,893	-66.1		280	5.4
70	30	18,707	-63.3		272	2.9
60	30	19,659	-60.5		336	1.4
50	30	20,805	-56.7		78	5.1
40	29	22,228	-53.7		84	6.8
30	29	24,087	-50.9		101	6.6
25	28	25,279	-48.7		94	6.6
20	28	26,752	-46.7		82	7.8
15	24	28,669	-45.0		74	8.7
10	21	31,383	-42.0		77	13.4
7	6	33,833	-38.6			
5						

NOME, ALASKA
1008 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	24	7	5.7	84	98	1.4
1000	24	72	5.9	83	154	3.5
950	24	489	4.1	77	174	4.9
900	23	928	2.0	78	195	7.4
850	23	1,388	.1	75	195	8.5
800	23	1,872	- 2.1	73	199	9.9
750	23	2,380	- 4.1	66	[illegible]	13.8
700	23	2,926	- 6.6	63	209	14.6
650	23	3,497	- 9.2	62	217	15.7
600	23	4,117	-12.6	59	225	17.1
550	23	4,771	-16.4	56	224	20.8
500	23	5,487	-21.1	55	224	21.8
450	23	6,249	-26.2	52	226	23.5
400	23	7,100	-31.7	47	228	28.6
350	23	8,032	-38.1		236	30.5
300	23	9,076	-45.6		237	34.4
250	23	10,269	-53.4		238	35.4
200	23	11,695	-54.1		237	28.0
175	23	12,554	-52.9		234	21.0
150	23	13,550	-52.0		234	22.3
125	22	14,727	-51.7		231	16.9
100	22	16,176	-51.1		237	14.6
80	21	17,618	-51.0		244	11.7
70	21	18,486	-50.7		244	10.1
60	20	19,483	-51.0		253	8.2
50	20	20,669	-51.1		256	8.2
40	20	22,118	-51.6		274	7.4
30	19	23,993	-51.5		277	8.0
25	18	25,179	-51.1		295	8.4
20	17	26,617	-50.7		299	7.0
15	12	28,487	-49.5			
10	5	31,156	-47.7			
7						
5						

NORFOLK, VA.
1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	9	19.1	86	26	3.7
1000	30	162	20.2	76	6	3.5
950	30	603	18.0	68	9	5.6
900	30	1,065	15.3	63	21	6.0
850	30	1,549	13.0	59	28	3.7
800	30	2,057	11.0	52	327	1.6
750	30	2,593	8.4	47	293	4.7
700	30	3,162	6.0	39	277	7.8
650	30	3,763	3.2	37	270	10.5
600	30	4,412	.1	35	274	12.0
550	30	5,097	- 3.5		274	13.8
500	30	5,852	- 7.8		276	17.1
450	30	6,659	-12.8		282	18.6
400	30	7,554	-18.9		282	23.1
350	30	8,534	-26.0		283	22.9
300	30	9,631	-34.4		282	26.4
250	30	10,879	-43.7		281	28.6
200	29	12,341	-54.3		283	31.3
175	29	13,186	-59.7		280	29.9
150	29	14,139	-64.4		277	27.4
125	27	15,239	-68.1		278	26.8
100	27	16,578	-68.1		275	19.4
80	27	17,928	-64.7		293	10.1
70	27	18,747	-62.0		309	5.2
60	27	19,708	-58.7		356	1.6
50	27	20,860	-56.0		72	4.3
40	27	22,290	-52.7		89	7.8
30	26	24,161	-49.5		85	5.8
25	26	25,362	-47.4		86	9.1
20	23	26,840	-45.5		97	8.5
15	14	28,763	-43.0			
10						
7						

NORTH PLATTE, NEBR.
918 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	848	11.2	79	89	1.9
1000	30	122				
950	30	560				
900	30	1,011	12.9	73	117	3.1
850	30	1,493	13.3	60	211	7.4
800	30	2,002	11.9	52	246	9.5
750	30	2,537	9.4	49	259	11.5
700	30	3,110	6.5	46	267	15.3
650	30	3,709	2.5	47	261	17.9
600	30	4,356	- 2.1	52	261	19.4
550	30	5,035	- 6.9	52	264	22.1
500	30	5,779	-11.8	42	266	24.1
450	30	6,574	-16.6		263	28.2
400	30	7,455	-22.9		263	32.2
350	30	8,420	-29.9		264	37.7
300	30	9,501	-37.5		263	44.5
250	30	10,736	-46.4		261	49.0
200	30	12,188	-55.0		261	52.1
175	30	13,034	-58.6		261	48.4
150	30	13,995	-62.4		261	44.9
125	30	15,111	-65.4		264	37.3
100	30	16,468	-65.3		266	27.6
80	30	17,835	-62.3		265	16.9
70	30	18,668	-61.2		271	11.5
60	30	19,623	-59.0		276	7.8
50	30	20,772	-56.9		263	5.8
40	30	22,191	-54.6		286	4.1
30	30	24,047	-51.3		264	4.1
25	29	25,236	-49.5		270	5.2
20	28	26,704	-47.4		276	5.4
15	27	28,616	-45.3		255	5.1
10	24	31,342	-42.2		274	6.0
7	11	33,742	-40.4			

• OAKLAND, CALIF.
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	6	13.3	77	234	2.5
1000	30	115	14.4	71	239	2.5
950	30	558	15.0	61	315	2.7
900	30	1,010	17.1	48	354	5.4
850	30	1,497	15.8	33	334	4.5
800	30	2,009	13.7	30	316	4.1
750	30	2,549	11.4	27	284	4.3
700	30	3,123	8.1	27	288	5.4
650	30	3,727	4.5	27	293	8.2
600	30	4,378	.4	27	290	12.4
550	30	5,061	- 4.3	28	291	13.6
500	30	5,815	-10.0	29	296	16.1
450	30	6,615	-15.7	28	297	18.3
400	30	7,498	-22.5	28	294	18.8
350	30	8,465	-29.9	28	289	21.0
300	30	9,545	-38.1	29	285	22.9
250	30	10,778	-46.4		273	26.6
200	30	12,235	-53.9		267	30.7
175	30	13,085	-57.4		266	30.5
150	30	14,051	-60.9		266	28.7
125	30	15,175	-64.2		267	25.3
100	30	16,536	-64.9		281	16.1
80	29	17,905	-63.1		286	6.4
70	29	18,728	-61.8		327	3.3
60	29	19,687	-60.4		21	2.3
50	29	20,829	-58.5		57	4.5
40	29	22,240	-56.0		61	5.1
30	29	24,082	-53.1		76	2.9
25	29	25,262	-51.5		79	2.7
20	28	26,719	-49.6		91	1.7
15	27	28,620	-47.1		92	2.3
10	21	31,320	-43.9		37	2.5
7	11	33,712	-40.7			

OKLAHOMA CITY, OKLA.
971 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	392	18.1	84	131	3.9
1000	30	135				
950	30	578	19.0	74	165	[illegible]
900	30	1,042	18.4	64	198	[illegible]
850	30	1,531	16.2	63	218	11.8
800	30	2,045	13.3	66	235	11.1
750	30	2,585	10.3	61	241	8.4
700	30	3,157	6.8	59	238	8.2
650	30	3,760	3.2	54	226	7.2
600	30	4,408	- .3	46	249	7.4
550	30	5,094	- 4.1	36	246	8.7
500	30	5,846	- 8.2		245	12.2
450	30	6,650	-13.3		249	15.0
400	30	7,543	-19.5		252	17.7
350	30	8,522	-26.5		251	21.8
300	30	9,618	-34.3		249	28.2
250	30	10,868	-43.9		250	31.1
200	30	12,330	-54.5		253	37.7
175	30	13,175	-59.8		254	37.7
150	30	14,127	-64.7		262	34.2
125	29	15,232	-68.7		270	24.3
100	29	16,563	-69.9		269	14.4
80	29	17,900	-66.9		252	4.3
70	28	18,714	-64.1		120	.8
60	28	19,665	-60.9		120	2.5
50	27	20,809	-57.9		93	5.2
40	26	22,228	-54.6		90	6.2
30	26	24,081	-51.4		83	6.9
25	25	25,265	-49.5		84	9.3
20	23	26,732	-47.7		91	9.7
15	14	28,612	-45.7			

OMAHA, NEBR.
969 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	403	13.9	88	199	2.7
1000	30	137				
950	30	570	15.2	77	213	4.9
900	30	1,031	14.5	65	245	10.3
850	30	1,513	12.6	63	254	11.7
800	30	2,021	10.3	56	255	13.6
750	30	2,553	7.4	53	257	[illegible]
700	30	3,121	4.4	52	259	16.9
650	30	3,717	.7	52	265	[illegible]
600	30	4,360	- 3.5	49	267	21.0
550	30	5,035	- 7.3	43	269	[illegible]
500	30	5,781	-11.5	38	266	28.9
450	30	6,573	-16.7	39	265	32.8
400	30	7,457	-22.5		266	36.1
350	30	8,426	-29.1		262	[illegible]
300	30	9,509	-37.1		265	46.2
250	30	10,746	-46.0		263	50.7
200	29	12,205	-54.9		264	53.6
175	29	13,051	-58.9		265	52.4
150	28	14,014	-62.3		268	50.1
125	27	15,128	-64.6		269	39.6
100	27	16,489	-64.6		267	29.9
80	27	17,857	-62.7		269	21.2
70	25	18,685	-60.2		276	16.5
60	25	19,649	-58.9		283	8.4
50	24	20,801	-56.4		281	4.9
40	22	22,215	-53.6		265	5.1
30	22	24,077	-50.1		265	5.4
25	22	25,271	-48.9		261	[illegible]
20	21	26,732	-47.2		263	6.0
15	19	28,652	-44.7		270	5.8
10	10	31,369	-42.3			

PEORIA, ILL.
994 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	200	13.4	84	150	1.0
1000	30	153				
950	30	590	16.2	66	232	5.8
900	30	1,048	14.4	61	259	9.5
850	30	1,529	12.1	57	271	12.4
800	30	2,036	9.8	55	267	14.4
750	30	2,566	7.0	53	269	16.7
700	30	3,135	4.2	52	267	18.5
650	30	3,735	.8	52	266	20.8
600	30	4,375	- 2.5	48	263	22.7
550	30	5,056	- 6.4	39	267	23.9
500	30	5,801	-10.6	34	267	25.6
450	30	6,600	-15.5		268	29.1
400	30	7,484	-21.6		269	33.8
350	30	8,455	-28.5		269	38.7
300	30	9,541	-36.3		270	46.0
250	30	10,782	-45.2		269	54.0
200	30	12,241	-54.3		271	57.3
175	30	13,089	-58.2		271	54.0
150	30	14,050	-62.5		271	46.6
125	30	15,165	-65.6		269	40.4
100	30	16,521	-65.4		272	27.4
80	30	17,888	-62.4		275	15.7
70	30	18,715	-60.5		276	11.3
60	30	19,682	-58.1		285	6.2
50	30	20,836	-56.0		293	1.6
40	30	22,263	-53.4		260	1.4
30	30	24,129	-50.1		272	1.6
25	30	25,324	-48.7		283	1.2
20	30	26,797	-46.9		250	1.4
15	30	28,713	-44.6		308	1.9
10	29	31,448	-41.2		172	1.2
7	21	33,907	-37.7		271	3.9
5	13	36,215	-35.1			

PITTSBURGH, PA.
978 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	353	12.6	84	143	.8
1000	30	166				
950	30	600	15.4	67	202	2.7
900	30	1,057	13.5	60	267	6.4
850	30	1,537	11.2	55	269	8.9
800	30	2,041	9.3	49	275	12.6
750	30	2,571	6.7	52	270	15.2
700	30	3,139	3.7	49	267	16.9
650	30	3,734	.6	44	270	19.2
600	30	4,376	- 2.5	40	270	20.4
550	30	5,058	- 6.1		267	23.5
500	30	5,803	-10.5	36	269	28.3
450	30	6,599	-15.6		272	28.4
400	30	7,486	-21.4		274	33.0
350	30	8,457	-28.2		276	38.7
300	30	9,546	-36.2		273	42.2
250	30	10,787	-45.1		277	50.9
200	30	12,246	-54.5		279	55.4
175	30	13,092	-59.1		280	53.4
150	30	14,049	-62.9		279	46.2
125	30	15,165	-65.1		277	38.5
100	30	16,521	-65.5		277	26.2
80	29	17,884	-62.7		280	17.3
70	29	18,708	-61.0		284	12.6
60	29	19,674	-58.6		292	6.6
50	29	20,827	-55.8		281	4.1
40	29	22,258	-53.0		293	1.7
30	29	24,127	-49.9		256	2.1
25	29	25,324	-48.2		297	2.3
20	29	26,801	-46.4		292	1.4
15	26	28,721	-44.2		280	1.4
10	22	31,455	-42.1		305	2.7
7	13	33,858	-39.7			
5	5	36,160	-36.5			

• POINT ARGUELLO, CALIF.
1000 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	113	12.0	93	6	2.1
1000	29	116			345	2.1
950	29	555	14.9	68	4	8.4
900	29	1,010	19.1	33	12	5.4
850	29	1,500	18.4	26	5	2.1
800	29	2,017	15.7	23	284	1.6
750	29	2,558	12.6	23	247	2.5
700	29	3,136	9.5	24	280	5.1
650	29	3,745	6.2	23	292	7.2
600	29	4,398	2.2	22	310	8.9
550	29	5,088	- 2.5	21	306	10.5
500	29	5,843	- 8.3	22	295	12.0
450	29	6,649	-14.4	22	292	14.6
400	29	7,534	-21.3	23	280	17.1
350	29	8,504	-28.9	24	270	22.0
300	29	9,590	-37.0	25	268	25.4
250	29	10,828	-45.6		262	30.1
200	29	12,285	-54.4		259	34.4
175	29	13,132	-58.9		256	33.0
150	29	14,090	-63.0		259	28.0
125	29	15,201	-66.8		261	22.7
100	29	16,545	-67.5		279	12.0
80	29	17,896	-65.4		283	1.7
70	29	18,711	-63.7		44	2.7
60	29	19,663	-61.4		64	5.8
50	29	20,800	-58.9		82	8.2
40	28	22,210	-56.1		80	8.4
30	26	24,051	-53.1		80	8.9
25	26	25,231	-51.3		88	10.5
20	25	26,687	-48.9		92	10.5
15	23	28,586	-46.5		89	8.5
10	18	31,283	-42.9		80	9.7
7	11	33,705	-39.5			
5						

PONAPE, CAROLINE IS.
+ 1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	39	28.5	79	75	3.9
1000	30	79	28.0	78	82	4.3
950	30	525	24.1	79	104	7.4
900	30	1,005	20.8	81	112	9.5
850	30	1,499	17.9	79	108	11.7
800	30	2,017	15.1	73	101	11.1
750	30	2,561	12.4	70	98	11.3
700	30	3,140	9.5	65	96	11.7
650	30	3,752	6.0	67	94	11.8
600	30	4,406	2.5	64	94	12.8
550	30	5,101	- 1.4	63	91	11.3
500	30	5,861	- 5.4	57	89	10.7
450	30	6,681	- 9.9	57	79	8.2
400	30	7,584	-15.3	50	75	6.2
350	30	8,580	-22.0	42	80	6.8
300	30	9,695	-30.4	33	65	6.4
250	30	10,964	-40.7		77	5.1
200	30	12,443	-53.3		54	3.1
175	30	13,289	-60.5		8	3.7
150	30	14,232	-68.2		313	5.1
125	30	15,307	-75.3		294	6.2
100	30	16,589	-75.9		60	5.8
80	29	17,900	-68.9		95	7.0
70	28	18,703	-66.0		95	3.9
60	27	19,643	-64.0		253	3.5
50	26	20,766	-61.5		286	6.6
40	24	22,160	-58.6		350	.2
30	23	23,980	-55.0		90	16.9
25	20	25,150	-52.5		94	33.8
20	17	26,594	-49.7		93	53.2
15	6	28,505	-46.5			

PORTLAND, ME.
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	20	9.7	88	275	2.7
1000	30	161	11.9	70	276	3.3
950	30	591	11.6	61	[illegible]	5.4
900	30	1,042	9.8	55	274	8.4
850	30	1,515	7.9	49	279	[illegible]
800	30	2,014	[illegible]	44	273	16.5
750	30	2,535	4.5	41	271	20.6
700	30	3,102	1.9	38	270	24.1
650	30	3,694	- .8	38	271	28.6
600	30	4,333	- 3.9	41	275	31.1
550	30	5,009	- 7.9		275	34.6
500	30	5,750	-12.5		273	35.2
450	30	6,538	-17.7		271	42.3
400	30	7,420	-23.7		272	44.9
350	30	8,383	-30.3		269	49.5
300	30	9,462	-38.2		269	55.0
250	30	10,693	-46.9		269	59.4
200	30	12,147	-54.2		272	61.2
175	30	12,998	-57.2		275	58.7
150	30	13,967	-59.6		276	50.1
125	30	15,100	-61.9		274	44.5
100	30	16,481	-61.2		274	34.4
80	30	17,873	-59.4		270	19.8
70	30	18,711	-58.0		268	14.4
60	30	19,687	-56.1		270	10.3
50	30	20,849	-54.5		275	5.6
40	27	22,295	-52.1		275	4.1
30	26	24,173	-49.1		270	2.5
25	26	25,372	-47.9		284	1.9
20	20	26,854	-45.9		241	1.0
15	14	28,811	-42.1		88	2.7
10	10	31,621	-37.0			
7	7	34,099	-32.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1964

RAPID CITY, S. DAK.

905 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	966	8.9	69	319	2.1
1000	30	129				
950	30	559				
900	30	1,012			315	2.1
850	30	1,490	12.5	48	271	8.0
800	30	1,997	10.3	45	266	9.9
750	30	2,525	7.3	43	268	12.2
700	30	3,096	4.0	41	264	15.3
650	30	3,687	.0	42	272	18.5
600	30	4,330	-4.5	40	271	22.9
550	30	5,003	-8.8	34	267	27.2
500	30	5,741	-13.7	30	266	29.9
450	30	6,527	-18.8		266	32.2
400	30	7,401	-25.1		266	36.1
350	30	8,358	-32.1		264	41.2
300	30	9,429	-39.7		263	47.6
250	30	10,653	-47.8		260	51.7
200	29	12,102	-54.6		265	56.9
175	29	12,951	-57.4		264	54.2
150	29	13,919	-59.9		266	51.9
125	29	15,053	-61.8		266	40.0
100	28	16,434	-61.5		270	30.1
80	28	17,821	-60.0		269	18.5
70	28	18,654	-59.3		272	13.8
60	27	19,624	-57.4		284	9.1
50	26	20,780	-56.6		285	6.8
40	26	22,202	-54.3		291	4.3
30	25	24,054	-51.2		295	4.3
25	25	25,244	-49.3		275	5.2
20	22	26,720	-47.0		256	6.6
15	17	28,652	-44.2		259	7.4

ST. CLOUD, MINN.

978 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	316	10.7	87	257	.8
1000	30	127				
950	30	559	11.8	79	259	3.9
900	30	1,008	10.3	72	261	9.3
850	30	1,483	8.6	66	274	12.8
800	30	1,984	6.9	58	269	15.7
750	30	2,508	4.0	54	269	18.8
700	30	3,071	1.3	46	271	21.0
650	30	3,660	-2.0	46	274	24.1
600	30	4,297	-5.9	49	276	26.8
550	30	4,966	-10.1	48	275	30.3
500	30	5,703	-14.5	44	272	32.2
450	30	6,487	-19.9	43	269	36.5
400	30	7,358	-26.1	41	270	41.0
350	30	8,312	-32.8		266	47.6
300	30	9,380	-40.4		266	52.4
250	30	10,601	-48.1		265	59.6
200	30	12,049	-54.7		268	64.1
175	30	12,998	-57.2		268	61.2
150	30	13,968	-59.3		269	56.3
125	30	15,004	-61.1		270	43.1
100	30	16,390	-60.6		270	30.9
80	30	17,783	-59.1		273	22.3
70	30	18,622	-57.5		278	16.3
60	30	19,598	-55.8		281	12.0
50	30	20,756	-55.5		276	8.2
40	30	22,184	-54.1		275	6.6
30	30	24,044	-50.9		280	7.2
25	30	25,235	-49.1		269	9.3
20	29	26,704	-47.2		260	8.7
15	24	28,626	-45.1		263	10.1
10	12	31,357	-41.8			

ST. PAUL IS., ALASKA

1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	5.9	94	213	3.5
1000	30	40			209	8.9
950	30	459	3.5	87	223	8.4
900	30	897	1.5	83	221	10.7
850	30	1,357	.2	78	229	9.7
800	30	1,842	-1.7	72	217	10.1
750	30	2,356	-3.8	66	213	10.5
700	30	2,897	-6.2	60	216	11.7
650	30	3,473	-9.4	52	221	13.4
600	30	4,089	-12.8	50	216	13.8
550	30	4,746	-16.8	51	215	15.0
500	30	5,458	-21.4	48	212	15.7
450	29	6,217	-27.1	47	211	17.1
400	29	7,059	-32.7	50	212	17.5
350	29	7,987	-39.1		210	18.1
300	29	9,029	-46.0		215	21.0
250	29	10,226	-51.6		231	22.9
200	29	11,674	-51.3		236	26.0
175	29	12,541	-51.4		239	24.7
150	29	13,542	-51.5		240	24.7
125	29	14,725	-51.5		237	21.0
100	29	16,172	-51.9		239	18.1
80	29	17,617	-52.2		237	15.5
70	29	18,481	-52.1		238	15.0
60	29	19,480	-52.0		235	11.3
50	28	20,663	-52.0		241	9.9
40	28	22,109	-51.8		245	8.4
30	26	23,983	-51.5		233	5.1
25	25	25,174	-51.0		244	4.9
20	24	26,630	-50.4		261	3.3
15	19	28,522	-48.8		350	1.9
10	9	31,255	-46.0			

SALEM, OREG.

1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	9.7	91	215	1.4
1000	30	155	11.6	81	305	1.0
950	30	584	11.8	70	340	2.1
900	30	1,037	10.6	65	300	2.9
850	30	1,512	8.7	59	292	4.9
800	30	2,012	6.6	52	284	7.0
750	30	2,537	4.2	37	290	10.9
700	30	3,098	1.6	33	293	13.2
650	30	3,687	-1.2		293	15.7
600	30	4,326	-4.7		297	19.4
550	30	4,996	-9.0		294	23.3
500	30	5,736	-13.9	33	291	25.1
450	30	6,522	-19.2		294	28.4
400	30	7,393	-25.3		298	29.3
350	30	8,349	-32.3		300	33.6
300	30	9,417	-40.4		302	34.0
250	30	10,637	-48.6		306	34.4
200	30	12,080	-55.3		300	33.4
175	30	12,927	-57.4		291	33.4
150	29	13,899	-58.8		286	32.6
125	29	15,038	-60.2		287	29.7
100	29	16,427	-60.5		284	21.6
80	29	17,821	-59.0		283	14.4
70	29	18,658	-58.8		283	11.7
60	29	19,631	-57.3		296	9.5
50	29	20,783	-56.9		307	7.2
40	29	22,201	-55.4		317	5.1
30	29	24,045	-52.9		341	2.3
25	29	25,226	-51.2		298	3.3
20	28	26,682	-49.0		302	3.1
15	25	28,594	-46.6		287	4.5
10	5	31,396	-42.2			

SALT LAKE CITY, UTAH

873 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,288	9.5	51	150	6.2
1000	30	136				
950	30	569				
900	30	1,027				
850	30	1,508	15.5	35	163	7.4
800	30	2,020	13.6	29	183	6.8
750	30	2,556	10.1	30	227	5.6
700	30	3,130	5.8	32	253	7.4
650	30	3,727	1.6	34	260	11.3
600	30	4,371	-2.9	36	261	14.2
550	30	5,048	-7.9	39	255	16.3
500	30	5,789	-13.0	36	256	18.8
450	30	6,579	-18.1		257	20.0
400	30	7,455	-24.0		253	24.7
350	30	8,416	-30.9		258	26.0
300	30	9,492	-38.8		259	32.2
250	30	10,720	-46.8		262	33.6
200	30	12,174	-54.3		264	37.9
175	30	13,022	-58.1		268	34.6
150	30	13,984	-61.1		271	31.7
125	30	15,112	-63.1		271	26.8
100	30	16,482	-64.0		276	19.4
80	30	17,852	-62.5		279	13.0
70	29	18,679	-60.7		286	10.3
60	29	19,641	-59.3		295	6.0
50	29	20,788	-57.6		341	4.5
40	28	22,204	-55.8		334	2.1
30	28	24,051	-52.7		289	2.7
25	27	25,232	-50.9		292	3.7
20	26	26,693	-49.0		267	4.3
15	26	28,591	-46.7		270	6.8
10	10	31,339	-42.9			

SAN ANTONIO, TEXAS

987 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	243	22.5	87	53	1.7
1000	30	131				
950	30	582	21.2	82	150	6.4
900	30	1,047	19.[illegible]	77	157	9.9
850	30	1,538	16.9	73	153	8.4
800	30	2,054	14.2	72	155	7.0
750	30	2,595	11.3	68	161	5.6
700	30	3,171	8.0	62	171	4.5
650	30	3,779	4.8	56	181	4.3
600	30	4,430	1.0	52	198	5.4
550	30	5,118	-2.8	47	212	5.6
500	30	5,876	-7.1	37	216	7.0
450	30	6,687	-12.2		216	7.4
400	30	7,584	-18.1		231	8.9
350	30	8,568	-24.9		238	7.8
300	30	9,672	-33.1		260	10.3
250	30	10,929	-43.0		261	13.2
200	29	12,398	-54.6		266	14.4
175	29	13,241	-61.0		260	13.4
150	29	14,185	-67.3		263	11.8
125	28	15,272	-72.6		269	7.8
100	28	16,574	-73.8		320	1.4
80	27	17,889	-69.8		74	9.3
70	26	18,683	-66.2		86	13.0
60	26	19,633	-62.4		92	14.4
50	26	20,766	-59.3		92	16.7
40	26	22,174	-56.0		83	18.8
30	26	24,022	-51.6		90	20.4
25	26	25,209	-49.8		91	20.4
20	26	26,674	-48.1		94	21.4
15	26	28,584	-45.0		86	21.0
10	15	31,294	-41.7			

SAN DIEGO, CALIF.

998 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	124	16.3	87	345	1.2
1000	30	106				
950	30	544	16.8	65	12	2.1
900	30	1,007	19.8	34	338	2.9
850	30	1,499	18.6	28	315	2.7
800	30	2,017	16.1	26	239	3.1
750	30	2,556	12.4	29	229	3.3
700	30	3,136	8.6	28	239	4.1
650	30	3,740	5.3		256	6.0
600	30	4,395	1.1		266	8.7
550	30	5,080	-3.1		272	8.5
500	30	5,839	-7.8		285	11.3
450	30	6,543	-13.8		282	13.8
400	30	7,535	-20.3		277	15.5
350	30	8,510	-27.4		275	19.8
300	30	9,602	-35.5		271	23.3
250	30	10,848	-44.0		266	28.6
200	30	12,316	-53.1		257	31.9
175	30	13,167	-58.3		254	34.0
150	29	14,122	-63.9		255	28.9
125	28	15,225	-68.[illegible]		252	22.0
100	28	16,561	-68.8		275	9.9
80	28	17,906	-65.8		64	2.9
70	28	18,720	-63.6		83	6.0
60	28	19,673	-61.2		89	8.0
50	28	20,813	-58.2		95	10.3
40	28	22,227	-55.3		85	10.7
30	27	24,076	-52.0		82	14.0
25	27	25,261	-50.3		86	14.6
20	22	26,728	-47.9		91	13.6
15	18	28,636	-45.[illegible]		88	13.6
10	9	31,324	-41.7			

* SAN JUAN, P. R.

1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	26.1	84	151	2.5
1000	30	127	25.6	77	119	7.0
950	30	575	22.7	71	110	9.3
900	30	1,048	19.9	68	110	9.7
850	30	1,539	17.2	63	105	10.9
800	30	2,054	14.7	54	103	9.9
750	30	2,590	11.8	49	97	9.1
700	30	3,173	8.4	49	101	8.2
650	30	3,773	5.0	42	103	6.4
600	30	4,431	1.2	38	103	5.6
550	30	5,117	-2.7	34	106	4.3
500	30	5,875	-7.2	32	98	2.5
450	30	6,682	-12.3	27	27	1.4
400	30	7,579	-18.1	26	19	1.4
350	30	8,562	-25.1	25	328	2.3
300	30	9,662	-33.6	26	308	2.9
250	30	10,915	-43.3		341	4.1
200	30	12,378	-55.3		21	4.7
175	30	13,217	-61.7		37	4.9
150	30	14,157	-68.0		49	7.2
125	30	15,238	-72.9		60	11.1
100	30	16,541	-73.2		65	11.7
80	30	17,858	-69.7		82	14.8
70	30	18,661	-65.9		81	16.9
60	30	19,602	-62.8		80	21.2
50	29	20,736	-59.7		88	23.9
40	29	22,144	-56.1		93	27.8
30	27	23,985	-52.8		94	34.6
25	26	25,166	-50.2		93	35.9
20	26	26,631	-47.7		91	44.1
15	25	28,546	-44.3		88	48.8
10	23	31,297	-38.7		89	54.4
7	18	33,768	-35.3		91	52.8
5	12	36,115	-32.3			

SAN NICOLAS, CALIF.

992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	174	13.7	82	313	6.0
1000	27	102				
950	27	540	17.3	51	315	3.9
900	27	1,003	20.3	26	300	3.5
850	27	1,495	18.9	22	280	3.7
800	27	2,012	15.9	26	247	3.3
750	27	2,557	12.4	27	229	4.7
700	27	3,132	9.3	25	255	5.1
650	27	3,742	5.9	26	270	8.2
600	27	4,393	2.1	22	284	9.3
550	27	5,089	-2.7	21	287	9.3
500	27	5,836	-8.6	21	279	12.0
450	27	6,643	-14.5	20	274	15.2
400	27	7,526	-20.0	19	265	18.6
350	27	8,502	-27.5	21	263	21.0
300	27	9,592	-35.8	23	259	25.4
250	27	10,835	-44.4	25	255	31.9
200	27	12,200	-53.4	25	250	35.0
175	27	13,149	-58.9	25	248	34.6
150	27	14,104	-64.1	23	243	31.3
125	27	15,209	-67.9		248	23.5
100	26	16,543	-67.9		269	11.8
80	26	17,892	-65.5		63	.8
70	26	18,709	-63.0		82	3.3
60	26	19,663	-60.6		97	6.0
50	25	20,806	-57.9		94	6.6
40	24	22,220	-55.8		91	10.3
30	24	24,066	-52.6		83	13.0
25	24	25,251	-50.4		85	13.4
20	24	26,712	-48.5		90	12.6
15	22	28,615	-45.6		91	13.0
10	20	31,328	-42.7		70	13.4
7	15	33,755	-38.4		90	9.7
5	6	36,057	-34.4			

SANTA MONICA, CALIF.

1008 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	38	16.8	81	56	1.9
1000	30	108	16.6	79	74	1.9
950	30	546	17.5	60	75	2.3
900	30	1,010	19.6	34	22	.8
850	30	1,500	18.1	26	295	2.9
800	30	2,016	15.2	24	247	4.7
750	30	2,557	12.0		239	5.8
700	30	3,135	8.4	27	242	5.8
650	30	3,739	5.2		262	8.2
600	30	4,393	1.5		277	9.5
550	30	5,078	-3.3		292	10.7
500	30	5,835	-8.7		298	12.0
450	30	6,634	-14.5		289	14.2
400	30	7,525	-21.1		281	16.9
350	30	8,498	-28.4		275	19.8
300	30	9,584	-36.7		270	24.7
250	30	10,824	-45.4		262	30.1
200	30	12,283	-54.5		261	33.8
175	30	13,129	-59.2		255	31.7
150	30	14,083	-64.5		254	28.4
125	30	15,186	-68.0		260	22.9
100	30	16,523	-68.5		282	11.3
80	30	17,868	-66.0		16	2.7
70	30	18,681	-63.9		67	3.7
60	30	19,632	-61.4		89	6.6
50	30	20,770	-58.6		95	6.8
40	30	22,182	-55.8		84	9.1
30	30	24,027	-52.6		88	9.7
25	30	25,209	-50.8		90	10.9
20	28	26,668	-48.7		90	10.7
15	23	28,566	-46.4		83	9.1
10	13	31,230	-44.5			

SAULT STE. MARIE, MICH.

990 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	221	9.8	90	179	1.4
1000	30	134				
950	30	562	10.4	78	236	8.5
900	30	1,012	8.5	75	257	12.6
850	30	1,483	6.1	70	266	14.8
800	30	1,978	3.8	65	267	17.7
750	30	2,513	1.8	57	268	21.6
700	30	3,055	-.9	54	269	24.7
650	30	3,643	-3.8	52	272	28.6
600	30	4,272	-7.2	48	273	32.1
550	30	4,946	-10.7	41	271	34.8
500	30	5,673	-14.9	37	269	41.2
450	30	6,460	-19.8		274	41.8
400	30	7,327	-25.7		274	45.5
350	30	8,281	-32.7		273	49.9
300	30	9,349	-40.3		274	53.2
250	30	10,571	-47.6		274	65.1
200	30	12,020	-54.1		276	72.1
175	30	12,872	-56.2		278	67.8
150	30	13,847	-58.1		277	58.3
125	30	14,991	-59.0		274	45.3
100	30	16,388	-59.0		274	32.4
80	30	17,790	-57.8		272	22.1
70	30	18,634	-56.6		272	17.9
60	30	19,615	-55.4		274	12.2
50	30	20,780	-54.4		272	11.3
40	30	22,214	-52.9		269	7.2
30	29	24,081	-50.0		255	6.6
25	29	25,278	-48.1		261	8.0
20	28	26,755	-46.1		264	7.6
15	27	28,683	-43.5		259	6.2
10	20	31,430	-39.6		241	7.6
7	5	33,858	-36.8			

SHEMYA, ALASKA

1003 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	38	6.6	89	282	6.8
1000	30	61			296	7.4
950	30	479	4.0	82	275	9.7
900	30	918	1.6	80	283	9.7
850	30	1,378	-.4	73	284	10.5
800	30	1,961	-2.4	68	279	11.7
750	30	2,373	-4.4	61	275	13.2
700	30	2,914	-7.0	60	275	13.2
650	30	3,487	-10.0	60	270	15.5
600	30	4,103	-13.5	55	265	18.1
550	30	4,757	-17.5	54	269	20.0
500	30	5,467	-21.9	50	267	22.5
450	30	6,225	-27.2	49	265	24.3
400	30	7,072	-33.2	47	264	27.0
350	30	7,998	-39.4		264	31.5
300	30	9,039	-45.5		267	34.6
250	30	10,242	-49.4		271	33.6
200	30	11,700	-50.3		275	36.1
175	30	12,571	-50.5		272	34.4
150	30	13,573	-51.4		268	31.5
125	30	14,756	-51.7		269	28.7
100	30	16,201	-52.2		261	22.5
80	30	17,643	-52.4		256	18.1
70	30	18,507	-52.2		253	14.6
60	30	19,505	-51.8		253	13.2
50	30	20,686	-52.3		238	8.7
40	29	22,130	-51.9		249	7.4
30	29	23,996	-51.2		248	7.0
25	29	25,183	-50.7		259	4.5
20	28	26,629	-50.0		252	4.7
15	26	28,515	-48.5		288	1.7
10	25	31,198	-45.8		269	6.8
7	14	33,605	-43.6			

* SHREVEPORT, LA.

1008 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	79	21.7	85	108	2.7
1000	30	147	21.8	82	110	3.5
950	30	596	20.7	69	142	5.8
900	30	1,060	18.9	60	154	6.2
850	30	1,550	16.5	59	168	5.1
800	30	2,064	13.4	59	187	2.7
750	30	2,600	10.2	57	206	2.5
700	30	3,177	7.1	50	208	2.3
650	30	3,780	3.8	47	234	3.3
600	30	4,430	.2	47	248	6.4
550	30	5,121	-3.3	44	244	8.7
500	30	5,873	-7.3	37	246	10.9
450	30	6,684	-12.3	33	244	12.8
400	30	7,579	-18.1	32	246	14.6
350	30	8,563	-25.2	28	247	16.3
300	30	9,664	-33.5	26	251	16.5
250	30	10,918	-43.0		258	18.8
200	30	12,385	-54.1		265	22.0
175	30	13,230	-59.9		267	22.1
150	30	14,179	-65.9		269	22.1
125	30	15,272	-70.7		275	16.1
100	30	16,590	-71.2		274	7.8
80	29	17,918	-68.1		37	4.3
70	29	18,725	-64.8		82	6.2
60	29	19,672	-61.6		99	8.7
50	29	20,812	-57.8		93	10.5
40	29	22,228	-55.2		88	12.6
30	29	24,079	-52.0		85	15.7
25	29	25,264	-50.6		88	15.5
20	29	26,725	-48.4		87	17.5
15	26	28,634	-45.2		85	17.3
10	25	31,367	-41.3		92	15.2
7	23	33,823	-37.7		91	16.9
5	12	36,191	-33.8		98	12.6

SPOKANE, WASH.

933 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	722	7.8	74	133	2.7
1000	30	139				
950	30	566				
900	30	1,017	10.9	58	199	3.9
850	30	1,493	9.0	52	249	5.1
800	30	1,992	5.8	50	263	8.2
750	30	2,512	2.5	49	262	10.3
700	30	3,072	-1.0	52	270	13.4
650	30	3,656	-4.1	44	274	17.1
600	30	4,288	-7.5	38	275	20.2
550	30	4,954	-11.5	36	276	23.7
500	30	5,685	-15.5	37	279	27.2
450	30	6,464	-20.3		280	29.9
400	30	7,335	-26.6	37	280	32.1
350	30	8,285	-33.6		279	34.2
300	30	9,349	-41.6		280	34.6
250	30	10,562	-49.9		281	39.0
200	30	12,004	-54.3		282	34.6
175	30	12,857	-55.6		282	36.5
150	30	13,837	-56.6		278	34.4
125	30	14,990	-57.8		279	29.5
100	30	16,295	-58.3		285	24.5
80	30	17,801	-57.5		284	19.8
70	30	18,643	-57.1		286	15.9
60	30	19,622	-56.2		286	13.4
50	30	20,782	-55.7		295	10.3
40	30	22,205	-54.7		303	8.4
30	29	24,055	-52.8		289	6.2
25	27	25,227	-51.5		291	6.6
20	24	26,698	-49.5		276	6.0
15	19	28,578	-46.0		266	11.8

SWAN ISLAND, W. I.

1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	26.9	82	102	7.8
1000	30	107	26.3	81	98	8.9
950	30	566	23.4	79	109	10.3
900	30	1,030	20.5	74	114	12.0
850	30	1,523	17.7	71	113	12.0
800	30	2,040	14.7	66	114	12.0
750	30	2,588	11.8	59	114	11.8
700	30	3,159	8.8	53	115	11.3
650	30	3,771	5.2	56	115	10.7
600	30	4,418	1.4	55	118	10.3
550	30	5,108	-2.7	50	112	8.2
500	30	5,864	-7.1	47	110	8.5
450	30	6,680	-11.9	40	101	7.2
400	30	7,571	-17.5	33	83	7.2
350	30	8,557	-24.6	31	65	7.6
300	30	9,659	-33.0		56	7.6
250	30	10,915	-43.1		55	7.0
200	30	12,378	-55.4		46	7.6
175	30	13,216	-62.1		50	9.9
150	30	14,153	-68.8		54	12.2
125	29	15,229	-73.8		62	16.5
100	29	16,525	-74.6		73	18.1
80	29	17,837	-70.1		84	17.5
70	27	18,648	-67.9		87	18.1
60	27	19,571	-64.5		85	19.2
50	27	20,695	-61.1		85	23.9
40	27	22,095	-57.4		92	28.0
30	26	23,927	-53.4		95	35.0
25	25	25,108	-50.4		93	38.5
20	23	26,574	-48.0		91	44.5
15	19	28,493	-44.1		91	53.2
10	11	31,224	-41.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

TAMPA, FLA.
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	8	23.1	91	68	4.3
1000	29	129	23.7	83	85	6.0
950	29	575	22.0	76	113	6.6
900	29	1,046	19.3	73	144	4.1
850	29	1,537	16.4	69	183	3.1
800	29	2,052	13.9	63	220	2.3
750	29	2,589	11.2	55	218	2.7
700	29	3,168	8.4	51	255	2.5
650	29	3,772	5.5	47	269	2.1
600	29	4,429	2.1	37	295	2.1
550	29	5,118	- 1.9	35	332	3.7
500	29	5,880	- 6.2		1	5.2
450	29	6,687	-11.2	35	11	5.2
400	29	7,592	-17.0		13	6.2
350	29	8,581	-23.9		11	6.4
300	29	9,687	-32.1		3	8.5
250	29	10,946	-42.1		3	11.8
200	29	12,416	-54.0		6	14.2
175	29	13,260	-60.5		5	14.0
150	29	14,205	-66.6		8	12.4
125	29	15,293	-71.5		22	11.3
100	29	16,603	-72.4		50	12.6
80	29	17,925	-68.4		76	14.4
70	29	18,730	-65.3		84	14.2
60	29	19,677	-61.9		87	15.2
50	29	20,815	-58.1		85	18.5
40	29	22,233	-54.5		90	21.8
30	27	24,088	-50.7		94	23.3
25	27	25,281	-48.5		88	22.1
20	25	26,759	-46.3		84	23.1
15	22	28,672	-43.4		84	24.3
10	13	31,415	-40.2		95	22.0
7						
5						

*** TATOOSH IS., WASH**
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	31	10.9	92	132	4.5
1000	30	142	12.0	84	152	5.1
950	30	568	10.8	78	220	4.5
900	30	1,022	9.2	69	257	5.2
850	30	1,494	6.6	67	267	8.2
800	30	1,990	4.3	64	281	9.9
750	30	2,508	2.2	50	282	13.4
700	30	3,068	- .5	52	285	15.5
650	30	3,651	- 3.2	45	288	19.4
600	30	4,288	- 6.5	47	291	22.0
550	30	4,954	-10.6	44	292	24.3
500	30	5,691	-15.3	44	294	27.4
450	30	6,469	-20.6	42	299	29.9
400	30	7,341	-26.6	34	303	35.0
350	30	8,292	-33.4	38	302	38.9
300	30	9,357	-40.9		301	39.8
250	30	10,576	-48.5		294	36.3
200	30	12,018	-55.2		294	36.7
175	30	12,867	-56.7		291	36.1
150	30	13,842	-57.6		286	32.1
125	30	14,991	-58.2		282	30.1
100	30	16,295	-58.4		287	24.5
80	29	17,804	-57.8		288	19.0
70	29	18,647	-57.2		286	16.9
60	29	19,624	-56.5		290	13.2
50	29	20,782	-55.9		293	12.4
40	28	22,204	-55.0		297	9.9
30	27	24,052	-53.3		293	11.3
25	26	25,239	-51.7		296	10.1
20	26	26,691	-50.5		295	10.9
15	23	28,667	-48.7		288	15.0
10	16	31,246	-45.5		272	17.1
7	7	33,628	-40.6			

TOPEKA, KANS.
985 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	16.2	87	136	1.6
1000	30	142				
950	30	582	17.2	73	187	6.6
900	30	1,042	16.3	62	217	9.9
850	30	1,528	14.1	59	238	10.1
800	30	2,038	11.6	58	248	10.3
750	30	2,573	9.0	53	254	11.7
700	30	3,145	5.8	50	258	14.0
650	30	3,744	2.1	49	263	15.5
600	30	4,390	- 2.1	48	264	18.3
550	30	5,070	- 5.9	42	264	19.4
500	30	5,819	-10.2	35	263	22.0
450	30	6,616	-15.3		261	25.3
400	30	7,504	-21.3		261	29.3
350	30	8,476	-28.1		263	33.4
300	30	9,564	-36.2		262	38.3
250	30	10,806	-45.2		262	46.4
200	30	12,264	-54.7		264	49.0
175	30	13,109	-59.1		265	47.8
150	30	14,064	-63.6		266	43.5
125	30	15,175	-66.4		267	34.4
100	30	16,521	-67.3		270	24.7
80	28	17,881	-64.2		263	13.6
70	28	18,703	-61.5		265	7.0
60	28	19,665	-59.1		261	3.7
50	28	20,814	-56.7		267	2.3
40	26	22,240	-54.1		32	1.0
30	26	24,101	-50.8		61	.8
25	26	25,292	-49.3		[illegible]	1.0
20	25	26,762	-47.6		73	1.9
15	20	28,676	-45.9		63	3.5
10	17	31,438	-42.0		97	4.9
7	11	33,809	-38.0		[illegible]	2.5
5	10	36,149	-34.0			

TRUK, CAROLINE IS.
+ 1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	2	28.2	78	103	3.3
1000	30	83	27.4	78	100	4.7
950	30	529	23.8	79	107	7.6
900	30	1,009	20.8	78	114	9.3
850	30	1,503	18.0	76	111	10.3
800	30	2,022	15.3	72	111	10.7
750	30	2,567	12.7	68	103	10.5
700	30	3,145	9.5	70	93	10.9
650	30	3,756	6.0	70	96	10.7
600	30	4,411	2.3	67	99	10.3
550	30	5,105	- 1.4	67	98	10.9
500	30	5,866	- 5.5	65	91	11.3
450	30	6,684	-10.	57	84	10.3
400	30	7,589	-15.4	51	86	8.2
350	30	8,583	-22.3	42	88	[illegible]
300	30	9,698	-30.6	38	86	[illegible]
250	30	10,966	-41.0		64	7.8
200	30	12,442	-53.7		48	8.5
175	30	13,286	-61.1		37	7.0
150	30	14,226	-68.9		27	4.3
125	30	15,298	-76.1		354	4.1
100	30	16,579	-75.6		75	10.5
80	30	17,892	-68.8		105	7.8
70	30	18,695	-66.3		92	3.7
60	30	19,635	-63.7		122	1.9
50	29	20,761	-60.6		259	2.3
40	26	22,153	-59.1		35	3.5
30	24	23,972	-54.3		97	20.6
25	21	25,143	-51.7		96	34.8
20	17	26,589	-49.9		97	51.5
15	9	28,482	-46.0			

TUCSON, ARIZ.
923 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	789	19.8	68	136	5.2
1000	30	90				
950	30	536				
900	30	1,008	22.1	53	140	5.8
850	30	1,503	19.7	49	154	4.1
800	30	2,022	16.1	54	[illegible]	3.7
750	30	2,563	11.9	59	188	5.1
700	30	3,141	7.8	58	186	6.6
650	30	3,745	3.8	51	[illegible]	6.8
600	30	4,395	.2	43	216	7.8
550	30	5,079	- 4.1	41	233	8.9
500	30	5,834	- 8.7	38	[illegible]	10.5
450	30	6,637	-13.8		259	13.2
400	30	7,529	-20.1		259	14.4
350	30	8,505	-26.9		252	18.1
300	30	9,599	-34.7		248	23.5
250	30	10,849	-43.3		245	30.3
200	30	12,318	[illegible]		249	33.4
175	30	13,167	-58.6		248	31.3
150	30	14,122	-64.3		247	31.7
125	30	15,213	-69.4		249	25.4
100	29	16,545	-70.6		243	11.7
80	29	17,876	-67.9		[illegible]	2.3
70	28	18,685	-64.7		111	[illegible]
60	28	19,635	-61.6		86	7.2
50	28	20,773	-58.6		98	8.2
40	28	22,184	-55.7		86	12.4
30	28	24,030	[illegible]		89	16.1
25	28	25,213	-50.7		87	15.0
20	28	26,674	-48.3		86	16.3
15	27	28,588	-45.5		83	16.9
10	21	31,306	[illegible]		86	18.6
7	10	33,747	-37.3			

*** WAKE IS., PACIFIC AREA**
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	26.9	82	83	8.9
1000	30	120	26.1	82	84	12.0
950	30	571	22.6	87	88	16.1
900	30	1,043	19.7	83	93	16.7
850	30	1,535	16.9	79	94	16.1
800	30	2,050	14.2	75	94	14.2
750	30	2,594	11.7	61	92	14.2
700	30	3,173	8.8	53	88	13.0
650	30	3,778	5.6	47	89	11.8
600	30	4,431	1.8	42	91	12.2
550	30	5,124	- 2.6	49	86	10.7
500	30	5,879	- 6.8	43	87	9.9
450	30	6,692	-11.9	40	82	8.5
400	30	7,587	-18.0	38	73	9.5
350	30	8,572	-25.1	38	77	9.5
300	30	9,673	-33.6	34	79	9.1
250	30	10,925	-43.8		79	7.0
200	30	12,385	-55.6		58	5.1
175	30	13,224	-61.5		45	5.2
150	30	14,166	-67.6		45	8.9
125	28	15,249	-72.1		53	12.0
100	28	16,557	-73.0		69	14.4
80	28	17,873	-70.1		82	16.9
70	27	18,674	-66.9		85	18.6
60	27	19,609	-64.2		85	21.0
50	26	20,732	-61.4		87	25.3
40	25	22,125	-58.2		90	29.3
30	25	23,956	-53.7		87	37.1
25	24	25,134	-51.2		89	39.0
20	23	26,533	-48.8		91	43.1
15	23	28,493	-46.8		90	46.6
10	21	31,198	-42.7		87	51.1
7	11	33,610	-38.4			

WALLOPS IS. VA. NASA
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	20	3	18.7	87	341	3.3
1000	20	155	19.5	76	315	5.1
950	20	595	17.6	67	325	8.4
900	20	1,058	15.6	61	331	7.0
850	20	1,542	13.3	55	312	6.0
800	20	2,050	11.0	51	290	5.6
750	20	2,587	8.5	52	284	7.0
700	20	3,155	6.0	45	281	10.5
650	20	3,757	3.2	38	284	12.0
600	20	4,405	.2	30	283	16.3
550	20	5,093	- 3.5	31	287	19.0
500	20	5,847	- 7.6	29	284	22.3
450	20	6,654	-12.7	26	292	24.1
400	20	7,549	-19.2	27	285	[illegible]
350	20	8,527	-26.3	27	295	26.8
300	20	9,623	-34.8	25	279	32.1
250	20	10,871	-44.1		289	32.1
200	20	12,334	-54.7		291	33.4
175	20	13,178	-60.1		287	34.6
150	20	14,127	-65.2		288	32.2
125	20	15,229	-68.4		290	[illegible]
100	20	16,567	[illegible]		295	[illegible]
80	20	17,915	-64.9		292	12.8
70	20	18,734	-61.9		312	6.2
60	20	19,694	-59.0		343	[illegible]
50	19	20,840	-56.2		36	3.3
40	18	22,257	-52.9		75	3.5
30	16	24,123	-50.7		104	2.5
25	16	25,314	-49.0		80	2.9
20	15	26,785	-47.2		73	6.2
15	14	28,701	-45.0		97	6.4
10	12	31,425	-42.2		45	3.9
7	10	33,872	-37.3			

WASHINGTON, D. C.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	84	12.5	84	329	1.6
1000	30	168	14.8	77	325	1.9
950	30	605	15.7	63	339	3.5
900	30	1,062	14.1	59	308	4.5
850	30	1,543	12.0	54	[illegible]	7.2
800	30	2,049	10.1	50	292	8.9
750	30	2,583	7.3	52	286	10.3
700	30	3,149	4.5	49	272	12.8
650	30	3,750	1.5	44	276	15.0
600	30	4,391	- 1.7	40	272	16.9
550	30	5,073	- 5.3	38	270	21.8
500	30	5,822	- 9.4		271	23.9
450	30	6,624	-14.4		272	26.6
400	30	7,513	-20.5		274	30.7
350	30	8,486	-27.8		275	34.2
300	30	9,575	-36.1		273	37.3
250	30	10,816	-45.3		276	40.0
200	30	12,272	[illegible]		278	42.7
175	30	13,114	-60.1		280	42.9
150	30	14,066	-64.2		279	37.9
125	30	15,172	-67.5		277	30.7
100	30	16,516	-66.9		277	21.8
80	28	17,868	-64.5		284	11.8
70	28	18,680	-62.1		[illegible]	7.4
60	26	19,652	-59.6		[illegible]	3.5
50	26	20,811	-56.4		[illegible]	1.4
40	26	22,225	-53.9		39	1.0
30	25	24,090	-50.2		95	2.3
25	24	25,282	-48.5		83	2.9
20	20	26,758	-47.0		70	2.5
15	7	28,646	-45.8			

WINNEMUCCA, NEV.
871 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	1,310	4.4	51	121	1.7
1000	29	155				
950	29	582				
900	29	1,037				
850	29	1,507	13.1	31	71	2.3
800	29	2,016	11.5	28	15	1.2
750	29	2,550	[illegible]	30	293	4.5
700	29	3,118	4.7	[illegible]	268	7.0
650	29	3,717	.8	[illegible]	264	9.9
600	29	4,357	- 3.1		264	13.2
550	29	5,039	- 7.0		275	14.0
500	29	5,779	-11.6		277	15.2
450	29	6,573	-17.4		277	17.1
400	29	7,450	-24.2		279	17.7
350	29	8,410	-31.5		277	19.6
300	29	9,483	-39.3		274	23.3
250	29	10,710	-47.1		269	27.8
200	29	12,162	-54.2		264	[illegible]
175	29	13,014	-57.0		265	35.4
150	29	13,982	-59.8		266	32.1
125	29	15,113	[illegible]		269	[illegible]
100	29	16,488	-62.9		273	[illegible]
80	29	17,867	-61.4		276	10.7
70	29	18,696	-60.4		296	7.4
60	29	19,661	-58.9		321	4.7
50	29	20,808	-57.5		341	3.1
40	29	22,224	-55.3		[illegible]	2.7
30	29	24,072	-52.6		5	1.7
25	28	25,259	-50.5		287	1.6
20	28	26,721	-48.2		[illegible]	3.4
15	21	28,637	-45.4		282	2.7

WINSLOW, ARIZ.
852 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,492	14.0	66	162	2.5
1000	30	116				
950	30	559				
900	30	1,023				
850	30	1,513			177	2.3
800	30	2,028	[illegible]	49	218	4.5
750	30	2,568	12.3	52	[illegible]	6.2
700	30	3,148	8.0	55	[illegible]	5.6
650	30	3,748	3.4	59	[illegible]	5.4
600	30	4,400	- 1.0	54	[illegible]	6.6
550	30	[illegible]	- 5.3	[illegible]	[illegible]	[illegible]
500	30	[illegible]	- 9.9	37	[illegible]	[illegible]
450	30	6,631	-15.2		[illegible]	[illegible]
400	30	7,519	-21.4		[illegible]	[illegible]
350	30	8,491	-28.0		[illegible]	[illegible]
300	30	9,582	[illegible]		254	22.7
250	30	10,829	-44.1		[illegible]	28.2
200	30	12,295	-53.5		[illegible]	34.6
175	30	13,145	[illegible]		[illegible]	36.7
150	30	14,105	-63.2		[illegible]	[illegible]
125	30	15,213	-67.2		[illegible]	[illegible]
100	30	16,554	-68.3		[illegible]	14.8
80	30	17,899	-65.5		[illegible]	[illegible]
70	30	18,715	[illegible]		[illegible]	1.9
60	30	19,667	-61.1		13	.7
50	30	20,807	[illegible]		[illegible]	4.7
40	30	22,219	-55.6		[illegible]	[illegible]
30	29	24,066	-52.3		[illegible]	[illegible]
25	28	25,249	-50.7		91	7.6
20	24	26,706	-48.6		[illegible]	6.6
15	14	28,594	-46.4		[illegible]	4.9

YAKUTAT, ALASKA
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	12	6.2	96	86	3.7
1000	30	122	8.8	87	100	4.7
950	30	540	7.5	76	132	8.4
900	30	990	5.3	71	145	9.1
850	30	1,455	2.6	71	156	7.8
800	30	1,943	.2	67	162	6.8
750	30	2,454	- 2.4	64	189	6.4
700	30	3,004	- 5.2	61	207	6.6
650	30	3,577	- 8.6	55	238	7.0
600	30	4,200	-12.0	46	256	8.2
550	30	4,855	-16.1	40	267	10.9
500	30	5,672	-20.8	42	269	11.1
450	30	6,340	-25.9	41	274	14.8
400	30	7,187	-31.8	42	278	16.5
350	30	8,119	-38.1		282	22.5
300	30	9,165	-45.0		283	24.5
250	30	10,366	-51.2		286	28.7
200	30	11,806	-53.6		281	30.7
175	30	12,664	-53.8		279	26.6
150	30	13,655	-53.5		280	24.9
125	29	14,822	-53.5		277	22.3
100	29	16,258	-53.1		277	18.6
80	29	17,696	-53.0		278	15.0
70	28	18,556	-52.9		278	13.2
60	28	19,551	-52.9		283	13.2
50	28	20,727	-52.9		289	12.4
40	29	22,165	-53.0		295	11.1
30	26	24,015	-52.8		304	13.0
25	25	25,193	-52.6		306	12.2
20	23	26,647	-51.9		315	12.6
15	16	28,556	-49.9		298	13.4
10	7	31,293	-46.5			

YAP, CAROLINE IS.
+ 1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	17	28.5	81	146	1.6
1000	30	[illegible]	27.7	81	142	1.4
950	30	525	23.7	81	170	1.0
900	30	1,006	20.7	79	147	1.7
850	30	1,499	17.9	76	142	3.5
800	30	2,017	15.3	73	134	4.1
750	30	2,562	12.5	71	116	5.1
700	30	3,140	9.5	67	109	7.0
650	30	3,746	6.1	67	106	7.2
600	30	4,405	2.5	66	134	8.4
550	30	5,100	- 1.5	67	101	9.1
500	29	5,859	- 5.7	63	90	8.9
450	29	6,677	-10.4	56	90	9.5
400	29	7,576	-15.8	49	87	8.4
350	29	8,569	-22.6	41	80	8.4
300	29	9,681	-31.0		79	7.6
250	29	10,946	-41.3		71	10.1
200	29	12,418	-54.0		54	13.8
175	29	13,261	-61.3		59	16.3
150	29	14,199	-68.8		49	[illegible]
125	29	15,269	-76.1		59	17.7
100	29	16,545	-77.3		71	19.0
80	29	17,845	-71.0		76	17.3
70	29	18,641	-67.8		97	14.2
60	28	19,576	-64.0		80	9.9
50	27	20,701	-61.7		79	10.3
40	25	22,089	-59.9		91	14.6
30	24	23,904	-55.5		90	27.4
25	24	25,074	-52.9		89	37.9
20	15	26,533	-49.7		89	51.1
15	8	28,440	-47.1			

YUCCA FLAT, NEV.
881 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,196	9.8	24	15	1.0
1000	30	117				
950	30	551				
900	30	1,008				
850	30	1,495	18.1	21	292	1.6
800	30	2,011	15.2	23	194	4.1
750	30	2,546	11.5	25	[illegible]	9.9
700	30	3,126	7.4	28	201	8.7
650	30	3,725	3.2	27	215	8.9
600	30	4,375	- .5		243	9.3
550	30	5,055	- 4.8		255	12.4
500	30	5,807	- 9.8		263	15.7
450	30	6,601	-15.4		267	17.3
400	30	7,491	-21.7		272	19.6
350	30	8,459	-29.3		270	[illegible]
300	30	9,542	-37.4		270	27.4
250	29	10,775	-45.9		258	32.4
200	29	12,232	-54.1		254	37.7
175	29	13,082	-57.9		258	35.7
150	28	14,044	-62.0		256	34.6
125	28	15,162	-65.3		262	27.2
100	28	16,518	-65.9		271	14.6
80	26	17,880	-63.8		282	5.4
70	26	18,701	-62.2		315	2.7
60	26	19,659	-60.2		27	1.9
50	26	20,802	-58.1		58	4.9
40	26	22,217	-55.6		64	4.5
30	26	24,062	-52.6		66	2.5
25	26	25,245	-50.8		76	3.5
20	23	26,710	-49.1		114	4.7
15	17	28,613	-46.4		[illegible]	2.5
10	7	31,285	-45.1			

* [illegible] altitudes.

+ [illegible]

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at a given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic — height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. SEPTEMBER 1964

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Sep.									
1-----	0.59	0.68	0.84	1.04	1.32	----	----	----	----
2-----	.67	.68	.91	1.07	1.35	----	----	----	----
3-----	.67	.78	.94	1.13	1.29	----	1.00	0.96	----
5-----	----	----	----	----	1.20	----	----	----	----
6-----	.55	.68	.79	.98	1.26	----	----	----	----
7-----	----	----	----	----	1.31	----	----	----	----
8-----	----	.84	.97	1.10	1.31	----	----	----	----
9-----	----	----	----	1.09	1.30	1.14	----	----	----
10----	----	.83	.99	1.09	1.28	1.10	----	----	0.76
11----	----	----	.89	(1.12)	----	----	----	----	----
13----	.83	.94	----	----	1.32	1.21	1.02	----	----
14----	----	----	1.00	1.13	1.29	----	----	----	----
15----	----	----	----	1.13	----	1.07	----	----	----
16----	----	----	----	----	----	----	----	.91	.81
17----	.84	.95	1.06	1.22	1.41	1.25	1.07	.96	.85
18----	.82	.86	.97	1.09	(1.28)	(.97)	(.76)	(.60)	(.46)
19----	.70	.80	.96	1.16	1.36	(1.16)	----	(.89)	----
20----	----	----	----	----	----	----	----	(.85)	----
21----	.69	.80	(.98)	----	(1.37)	(1.04)	----	----	----
22----	M	M	M	1.19	1.37	(1.18)	(.93)	----	----
23----	----	.88	1.00	1.19	----	----	----	----	----
24----	----	----	.95	(1.08)	1.32	1.16	.97	.84	.74
25----	----	----	----	----	1.35	1.15	----	----	----
26----	.80	.93	1.06	1.22	1.34	1.12	.93	.79	----
27----	D (.28)	D (.38)	D (.51)	D (.76)	D(1.03)	D (.96)	D (.76)	D (.61)	D (.45)
28----	.73	.85	.99	1.15	1.33	(1.10)	----	----	----
29----	.79	.90	1.02	1.20	1.37	1.19	1.01	.88	.77
30----	.69	.80	.94	1.11	1.31	1.15	1.00	.86	.74
Averages	0.72	0.83	0.96	1.13	1.32	1.15	1.00	0.89	0.78
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Sep.									
1-----	----	0.86	0.95	----	----	----	----	----	----
2-----	0.77	.86	.98	----	----	----	----	----	----
7-----	----	.83	----	1.11	----	----	----	----	----
13----	.53	.67	----	----	----	----	----	----	----
15----	.76	----	----	----	----	----	----	----	----
16----	.73	.83	----	----	----	----	----	----	0.73
17----	.74	.85	.98	----	----	----	----	----	----
18----	.91	----	----	----	----	----	----	----	----
19----	----	----	----	----	----	----	----	0.80	.70
20----	.70	.84	.96	----	----	----	----	----	----
21----	.66	.78	----	----	----	----	----	.86	----
25----	----	----	----	----	----	----	0.98	----	----
26----	----	----	----	----	----	----	----	----	.63
27----	.67	.77	.89	----	----	----	----	.69	.58
28----	.74	.82	.96	----	----	----	----	.81	.72
29----	.79	.91	1.02	----	----	----	----	----	.68
30----	.67	----	----	----	----	----	----	----	.44
Averages	0.72	0.82	0.96	----	----	----	----	0.79	0.64
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Sep.									
1-----	----	----	----	----	HM1.16	----	----	----	----
2-----	HS0.58	HS0.66	HS0.78	HS1.04	HS1.20	HS0.95	HS0.66	----	HS0.50
4-----	----	----	----	----	HS1.30	----	HM .92	----	----
7-----	----	----	----	----	HM1.14	HM .82	HM .64	HM0.46	HM .38
9-----	----	----	----	HM .97	HS1.14	----	----	----	----
12----	----	----	----	----	HS1.30	HS1.12	HS .98	HS .82	----
14----	HS .66	HS .77	HS .92	HS1.10	HS1.25	----	----	----	----
24----	.86	.96	1.08	1.24	----	----	1.02	.82	----
25----	----	----	HS .89	HS1.14	HS1.24	HM1.08	HM .74	HM .54	HM .34
27----	HS .81	1.03	1.16	1.25	HS1.40	1.27	1.11	----	----
28----	HS .91	HS .96	HS1.10	HS1.28	HS1.35	HS1.15	HS .98	HS .88	HS .75
29----	HS .72	HS .78	HM .95	HS1.14	HS1.28	HS1.08	HS .91	HS .78	HS .65
30----	----	----	----	----	HS1.17	HM1.01	----	----	----
Averages	0.76	0.86	0.98	1.14	1.24	1.06	0.88	0.71	0.52

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Sep.									
4-----	----	----	S 1.04	S 1.18	S 1.31	S 1.15	----	----	----
5-----	----	----	S 1.07	S 1.21	S 1.31	----	----	----	----
13----	----	S 0.92	S 1.03	1.18	1.33	1.17	1.02	0.88	0.79
29----	----	----	HI .93	S 1.13	S 1.27	S 1.13	M .95	----	----
30----	S 0.74	S .68	S .80	----	----	----	----	----	----
Averages	0.74	0.80	0.97	1.18	1.31	1.15	0.99	0.88	0.79
	BLUE HILL OBS., MASS.								
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Sep.									
1-----	----	----	----	----	----	----	----	0.83	0.66
2-----	0.86	0.93	1.05	1.20	1.33	1.11	0.94	.79	.70
3-----	.75	.87	.99	1.13	1.30	1.10	.93	----	----
5-----	----	----	----	----	1.33	1.13	.96	.81	.72
6-----	.79	.89	.98	1.17	1.33	1.15	.93	.79	.70
7-----	.72	.81	.93	1.08	1.25	1.01	.87	.75	.65
15----	.65	.70	.86	.99	----	1.18	1.06	.94	.82
16----	.81	.93	1.04	1.22	1.32	----	----	----	----
24----	----	----	----	1.17	1.29	1.07	.82	.55	----
25----	.67	.77	.90	1.12	1.29	----	.82	.73	.62
26----	.84	.91	1.04	1.21	1.30	1.13	.94	.79	.67
Averages	0.76	0.85	0.97	1.14	1.30	1.11	0.92	0.78	0.69
	MAUNA LOA OBS., HAWAII								
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Sep.									
1-----	1.14	1.23	1.33	1.44	1.56	1.38	1.25	1.16	1.07
3-----	1.11	1.20	1.30	1.42	----	----	----	----	----
5-----	(.98)	(1.07)	(1.17)	----	----	----	----	----	----
7-----	HS1.03	HS1.13	HS1.24	HS1.37	1.52	1.35	1.22	1.14	1.04
9-----	(.98)	(1.07)	1.20	1.34	1.52	1.38	1.24	1.15	1.04
10----	1.10	1.19	1.28	1.39	1.52	1.38	1.26	1.16	1.08
11----	1.09	1.18	1.28	1.41	1.53	1.37	1.25	1.15	1.06
12----	1.09	1.17	1.28	1.41	1.53	1.38	1.25	1.15	1.06
13----	----	----	----	----	----	1.36	----	1.13	1.03
14----	1.05	1.15	1.26	1.39	----	----	----	----	----
15----	1.08	1.17	1.29	1.41	1.54	1.39	1.25	1.14	1.05
16----	(1.05)	----	(1.25)	----	(1.54)	----	----	----	----
17----	1.10	1.19	1.30	1.41	1.54	----	----	----	----
18----	1.06	1.15	1.26	1.38	----	----	----	----	----
19----	1.09	1.18	1.28	1.40	1.52	(1.32)	(1.16)	(1.05)	(.96)
20----	1.06	1.14	1.25	1.39	----	----	----	----	----
21----	1.12	1.21	1.30	1.42	----	----	----	----	----
22----	1.07	1.16	1.26	----	----	----	----	----	----
24----	HS1.02	HS1.10	HS1.21	HS1.34	(1.48)	----	----	----	----
25----	1.06	1.15	1.24	1.36	1.50	----	(1.19)	1.10	1.01
26----	1.07	1.15	----	----	----	----	----	----	----
27----	1.11	1.19	1.30	1.42	1.58	----	----	----	----
28----	----	----	----	----	(1.53)	1.37	1.26	1.15	1.06
29----	1.08	1.18	1.28	1.40	----	----	----	----	----
Averages	1.08	1.17	1.27	1.39	1.53	1.37	1.25	1.14	1.05
	GUAM, M. I.								
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observation due to cloudiness								

D	Dust
HS	Slight haze
HM	Moderate haze
HI	Intense haze
S	Slight haze - indeterminable
M	Moderate haze - indeterminable
( )	Clouds present
*	Values corresponding to true solar noon.

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

SEPTEMBER 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	549	554	607	416	356	507	533	520	494	540	384	237	535	555	413	463	565	536	543	370	487	---	357	469	488	547	504	510	517	508		485
AMES IOWA	375	514	342	555	312	434	492	390	496	116	462	512	484	386	316	154	85	102	316	154	217	234	426	420	438	135	474	456	374	407		353
ANNETTE ALASKA	373	352	350	294	325	261	338	329	323	309	313	111	29	61	99	75	217	61	72	95	127	98	90	145	188	31	183	115	24	117		183
APALACHICOLA FLORIDA	553	540	290	450	368	366	585	541	560	129	90	200	445	473	432	359	546	540	554	536	544	533	471	411	526	420	493	502	454	---		445
ARGONNE NAT. LAB.	516	505	519	577	577	207	489	495	464	403	451	392	549	503	386	266	258	54	216	272	310	202	499	202	306	51	459	437	457	410		381
ASTORIA OREGON	202	279	588	572	136	393	257	508	499	491	---	---	---	---	---	---	---	---	---	---	---	240	487	482	242	469	469	223	88	168		---
ATLANTA GEORGIA	625	565	554	488	538	457	598	600	---	267	138	134	395	534	574	553	540	389	166	465	331	471	471	507	491	544	208	321	227	202		426
BARROW ALASKA	140	136	252	176	139	108	117	138	190	132	281	274	232	119	139	78	104	168	60	138	70	---	114	92	117	67	36	52	47	154		133
BETHEL ALASKA	70	69	225	135	229	416	160	346	114	67	117	198	283	113	255	276	160	232	236	171	231	80	278	89	118	106	132	100	273	242		184
BISMARCK N.DAK.	508	501	438	548	507	289	336	163	248	367	400	501	483	496	256	440	465	305	380	456	380	188	---	387	199	152	422	355	334	225		370
BLUE HILL MASS.	547	600	594	331	563	573	572	512	270	183	343	414	318	155	513	539	180	459	499	534	454	189	149	489	410	492	334	284	63	161		391
BOISE IDAHO	151	441	578	574	567	552	542	546	560	526	537	531	522	432	515	522	302	523	509	446	482	480	474	476	464	465	466	428	412	261		476
BOSTON MASSACHUSETTS	---	---	---	---	515	549	544	501	234	164	354	412	329	115	505	493	180	445	505	509	490	157	107	---	---	---	---	---	57	155		348
BROWNSVILLE TEXAS	436	577	329	314	466	508	358	394	490	592	601	540	423	564	578	555	556	511	554	596	462	407	---	519	224	471	389	85	191	262		446
BURLINGTON VERMONT	485	507	486	163	289	258	547	365	357	299	41	512	542	508	447	462	291	321	467	397	453	469	435	278	85	393	172	432	177	297		364
CAPE HATTERAS N.C.	235	531	603	567	558	422	564	506	505	550	519	352	81	391	569	529	494	507	437	321	102	93	431	248	529	515	466	455	427	429		431
CARIBOU MAINE	298	456	282	327	92	303	526	85	---	298	61	520	513	319	484	317	359	124	483	472	437	410	89	423	137	358	161	394	436	245		324
CHARLESTON S.C.	619	530	494	462	478	477	559	479	217	340	401	276	95	603	466	474	476	195	336	437	417	---	464	454	514	341	389	398	376	340		417
CLEVELAND OHIO	357	484	492	469	535	481	486	493	466	446	169	427	498	506	145	368	400	54	100	300	363	130	357	160	265	421	44	310	315	390		348
COLUMBIA MISSOURI	552	532	551	483	396	485	470	498	426	457	327	511	543	464	347	193	79	334	447	291	191	323	455	511	441	180	386	479	459	457		409
DAVIS CALIFORNIA	562	572	560	552	550	526	530	551	520	532	520	514	508	501	519	495	448	500	510	500	475	485	482	461	428	467	460	423	432	431		500
DODGE CITY KANSAS	520	515	502	468	416	452	433	490	471	393	108	439	347	420	45	65	209	470	363	224	411	418	192	220	424	373	327	436	410	219		359
E. LANSING MICHIGAN	324	416	549	---	557	188	414	437	331	435	444	593	580	466	485	416	482	75	---	353	294	188	488	227	390	204	---	481	---	473		396
EL CENTRO CALIF NARF	512	514	497	488	478	496	477	478	448	479	474	458	463	496	474	445	442	471	423	446	439	437	414	388	357	397	405	408	423	406		451
EL PASO TEXAS	632	614	612*	647	632	632	584	610	605	603	443	247	421	441	635	588	601	611	391	566	600	547	386	379	472	507	556	568	550	519		540*
ELY NEVADA	560	650	636	635	627	623	629	603	618	600	588	582	571	492	574	573	516	409	579	504	552	541	531	525	501	485	501	483	497	496		556
EPPLEY.NEWPORT R.I.	462	557	547	346	481	547	531	518	321	216	220	291	203	173	495	491	222	415	113	431	454	176	162	457	354	452	312	181	81	143		345
FAIRBANKS ALASKA	76	181	217	106	58	174	357	239	---	319	315	323	258	111	115	311	---	228	224	274	266	184	106	200	74	79	186	214	167	78		194
FORT WORTH TEXAS	432	402	412	418	368	417	443	379	358	450	368	339	407	389	332	72	396	459	317	126	275	188	234*	---	340	269	85	285	354	321		332*
FRESNO CALIFORNIA	610	612	603	590	591	597	585	587	581	549	552	542	549	551	527	528	390	526	516	518	520	515	507	496	451	474	483	473	473	469		532
GLASGOW MONTANA	346	345	293	563	531	286	353	490	296	485	420	530	519	486	446	487	449	359	488	374	441	408	403	318	229	325	382	313	292	184		395
GRAND JUNCTION COLO.	588	629	631	617	566	317	598	315	320	590	595	595	512	161	502	567	564	352	492	566	258	548	547	548	509	402	528	498	431	490		494
GREAT FALLS MONTANA	79	491	308	511	158	129	212	297	379	132	394	479	469	409	450	441	351	278	444	221	374	264	344	380	109	401	353	232	204	162		315
GREENSBORO N.C.	627	533	547	574	546	610	616	528	534	330	477	350	72	574	579	536	512	231	132	242	264	536	453	532	553	527	427	234	228	285		440
GRIFFIN EXP.STA.GA.	675	626	520	631	603	572	611	663	522	235	124	83	393	555	562	630	550	562	287	530	297	525	543	565	634	605	294	346	333	179		475
INDIANAPOLIS INDIANA	641	618	589	627	630	599	566	555	565	574	---	531	618	603	445	307	162	51	400	450	416	272	553	282	445	---	133	401	492	488		465
ITHACA NEW YORK	444	581	536	448	424	565	546	473	284	420	131	259	548	539	483	451	484	435	344	211	389	464	322	321	149	399	148	180	69	265		377
LAKE CHARLES LA.	567	539	557	510	312	527	450	259	536	502	516	551	592	583	518	215	95	369	368	473	516	520	366	441	531	401	---	173	63	253		424
LANDER WYOMING	582	598	602	593	583	551	568	596	571	557	559	552	542	497	458	530	517	221	462	410	348	504	490	488	414	216	493	442	264	189		480
LARAMIE WYOMING	492	429	567	537	550	393	524	225	348	531	530	437	519	311	269	497	488	328	127	502	387	478	469	458	451	399	462	363	383	360		427
LAS VEGAS NEVADA	650	667	668	651	641	658	660	623	624	615	602	558	546	598	586	584	571	556	581	593	574	544	545	369	435	514	516	539	537	532		578
LITTLE ROCK ARKANSAS	534	549	507	468	508	443	314	418	506	470	241	544	548	503	389	110	187	474	464	339	381	440	298	452	366	255	98	151	222	457		388
LOS ANGELES CALIF.	599	621	611	624	594	503	586	613	599	582	562	563*	578	539	477	401*	193	452	496	382	457	546	513	289	417	334	453	386	450	466		496*
LOS ANGELES CALIF. U	617	628	619	630	614	553	606	622	610	584	560	571	583	490	489	452	350	323	559	493	---	---	514	305	418	311	475	456	399	492		512
MADISON WISCONSIN	572	344	391	602	584	218	486	297	479	88	584	550	567	227	557	468	372	49	251	200	111	419	420	155	196	53	426	489	469	284		364
MANHATTAN KANSAS	583	592	558	609	316	548	561	426	553	329	551	556	482	499	191	111	90	376	467	293	230	336	472	385	469	491	499	535	169	496		426
MAUNA LOA OB.HAWAII	810	646	748	299	207	649	784	747	775	786	782	785	739	511	774	635	767	348	755	735	494	436	406	476	731	742	743	727	433	330		627
MEDFORD OREGON	344	587	591	552	553	569	571	562	556	540	541	535	484	535	525	494	342	524	503	460	---	481	479	470	440	453	458	429	420	342		494
MIAMI FLORIDA	606	535	565	428	438	592	509	509	431	444	339	339	260	274	403	435	425	230	501	329	495	438	399	355	381	513	395	493	557	415		434
MIDLAND TEXAS	603	595	592	505	541	562	488	546	539	469	394	63	66	396	432	522	525	537	172	112	116	448	92	75	147	420	145	522	496	449		386
NASHVILLE TENNESSEE	600	601	450	521	531	546	523	523	551	545	414	472	588	547	522	454	206	97	428	443	453	222	274	547	523	260	220	---	---	144		436
NEW YORK N.Y. U	555	593	562	397	537	570	510	478	437	437	422	311	163	398	519	438	375	382	140	341	445	200	392	424	387	432	292	83	31	108		379
NORTH OMAHA NEBRASKA	481	566	370	593	159	433	541	441	530	103	407	536	457	512	149	148	73	257	468	153	227	157	500	444	475	344	516	498	468	436		381
OAK RIDGE TENNESSEE	538	514	472	472	400	490	483	499	496	448	408	426	455	470	479	450	255	123	200	365	365	198	298	467	462	364	242	95	111	283		377
OKLAHOMA CITY OKLA.	---	---	---	---	---	---	---	---	466	473	90	488	471	491	51	149	234	488	438	174	150	155	429	406	316	260	315	462	337	193		320

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

SEPTEMBER 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	581	576	575	543	552	447	546	477	444	396	385	469	435	504	536	533	520	431	511	520	501	424	331	420	485	463	493	486	476	473		484
PORTLAND MAINE	547	504	542	140	443	534	506	510	339	160	349	305	471	---	487	506	109	439	501	500	492	313	111	446	361	435	203	393	---	309		391
RAPID CITY S.DAK.	508	505	529	518	503	334	417	478	470	441	409	484	473	424	253	456	461	411	375	463	382	377	395	383	339	396	433	416	404	181		421
RIVERSIDE CALIFORNIA	587	611	578	576	584	511	603	595	562	547	527	518	554	556	458	512	330	284	539	538	528	533	526	302	462	407	446	500	448	496		507
SAINT CLOUD MINN.	489	437	467	444	532	158	143	249	310	526	559	541	469	471	494	349	470	138	93	153	282	299	45	284*	198	174	453	423	444	244		345*
SALT LAKE CITY UTAH	409	677	668	654	659	556	651	533	646	638	627	631	555	480	572	592	581	290	592	515	372	555	548	543	483	537	547	443	515	496		552
SAN ANTONIO TEXAS	533	541	490	503	511	433	576	487	553	557	557	467	443	466	360	362	343	321	541	387	383	357	487	492	356	396	198	397	289	426		440
SANTA MARIA CALIF.	623	613	590	533	496	337	542	590	569	540	515	418	488	514	524	442	269	523	521	466	473	501	510	472	442	243	290	505	420	470		481
SAULT STE MARIE MICH	575	514	248	382	303	402	192	130	123	87	475	559	521	321	475	218	320	317	127	79	67	150	201	249	364	43	257	394	197	445		291
SEATTLE TACOMA WASH.	131	288	489	537	216	260	326	441	477	512	507	483	396	331	223	343	322	357	99	299	125	179	336	331	211	420	396	106	60	246		315
SHREVEPORT LOUISIANA	479	538	488	521	537	498	491	451	555	498	476	574	600	561	427	213	270	541	489	364	341	489	420	429	491*	354	150	121	146	172		423*
SPOKANE WASHINGTON	380	219	563	566	567	453	400	394	439	523	543	533	521	436	475	497	136	495	297	296	225	464	456	472	428	471	438	348	271	86		413
STATE COLLEGE PENN.	307	646	593	553	605	590	559	547	517	537	459	234	611	568	293	467	469	406	177	60	153	444	351	402	192	490	291	91	69	336		401
STERLING VIRGINA	571	591	591	555	565	---	533	514	537	515	422	144	109	558	459	466	448	264	118	64	404	355	417	491	496	478	407	51	69	152		391
STILLWATER OKLAHOMA	---	---	---	---	---	---	---	---	---	527	168	552	541	538	110	183	255	523	457	196	204	187	478	429	455	291	378	457	---	379		---
SWAN ISLAND W.I.	648	652	355	581	610	648	641	479	641	617	628	577	565	582	570	498	654	599	638	608	574	588	566	423	54	146	541	598	542	201		534
TAMPA FLORIDA	518	381	509	359	345	592	646	539	299	102	154	334	646	491	233	489	565	492	568	534	504	---	---	548	517	416	427	497	493	484		453
TUCSON ARIZONA	527	573	519	380	451	359	538	362	227	137	429	495	373	415	552	557	556	515	445	525	508	380	441	364	498	490	512	520	496	488		454
WAKE ISLAND,PACIFIC	592	579	562	533	275	578	380	555	575	542	494	363	199	---	551	391	544	541	343	460	543	341	426	521	494	486	446	521	476	464		475

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

SEPTEMBER 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	169	270	251	257	239	124	186	239	236	10	207	209	188	225	195	185	186	78	176	112	136	74	171	188	33	75	167	162	162	80		166

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. **The instrument with which they were measured has not been checked by the Weather Bureau.**

TOTAL OZONE DATA

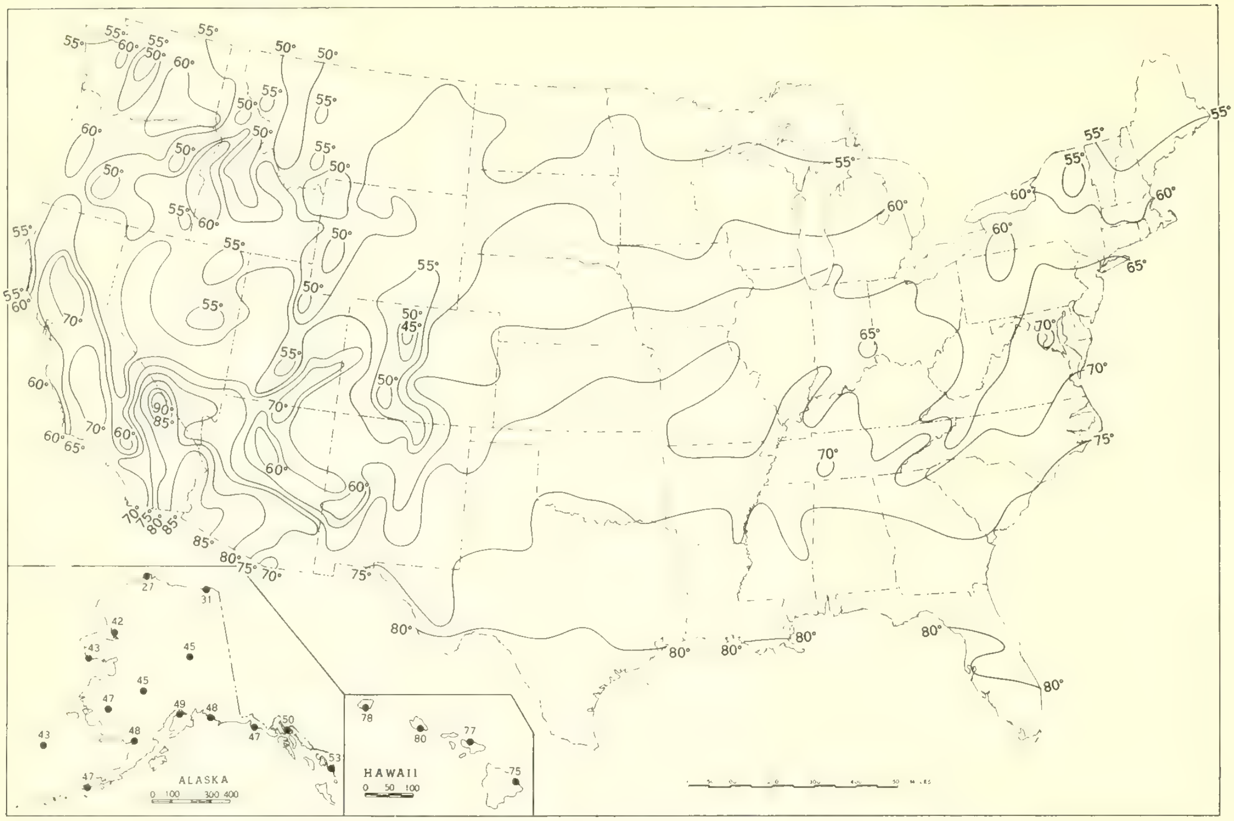
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

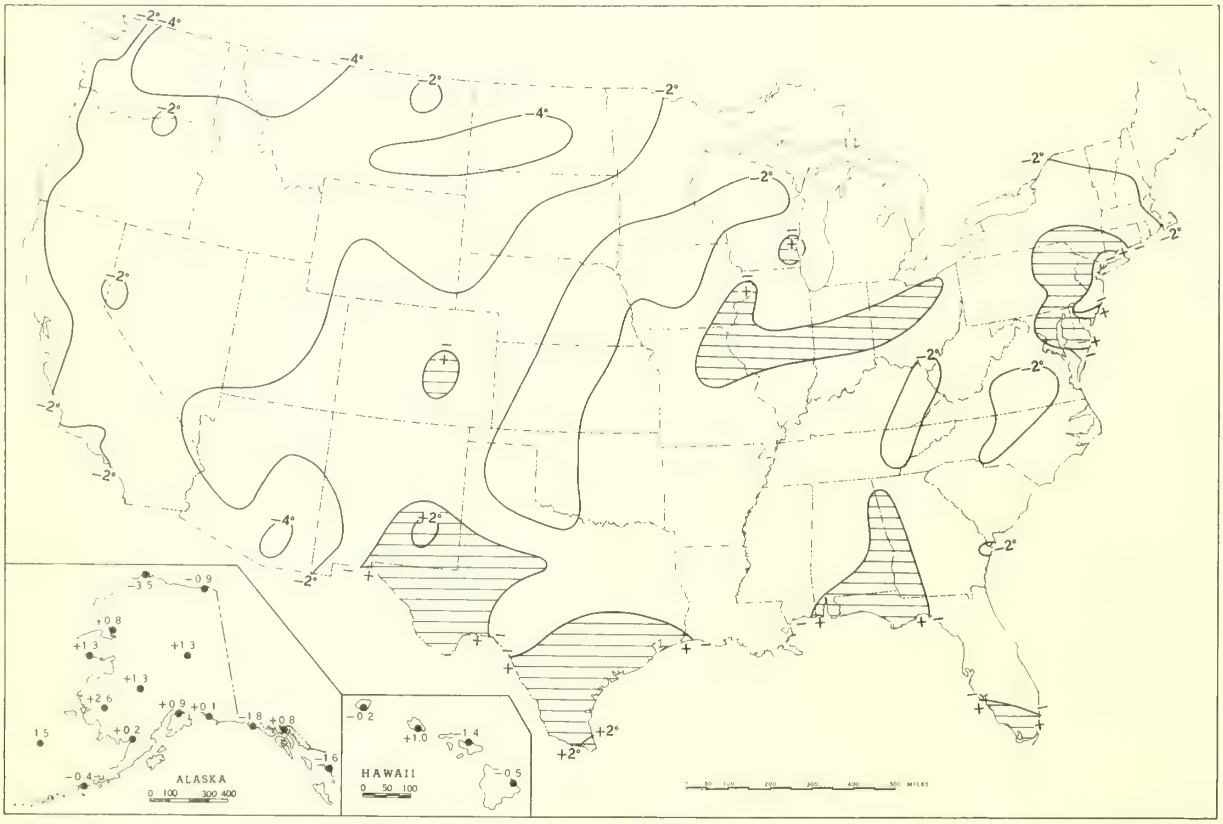
Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																	

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e. g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λ s designates the type of measurement made.

Chart I. A. Average Temperature (°F.) at Surface, September 1964.



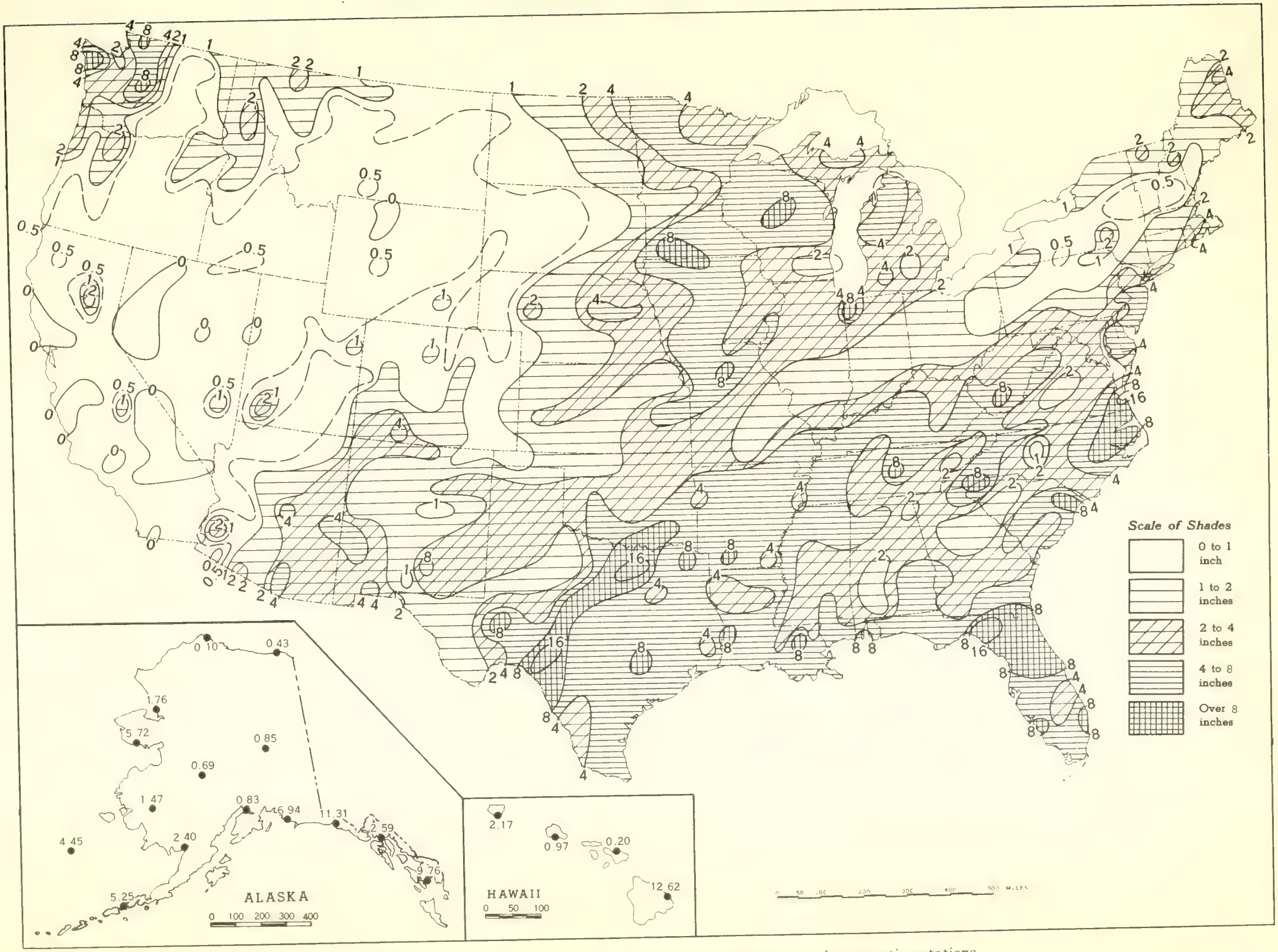
B. Departure of Average Temperature from Normal (°F.), September 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

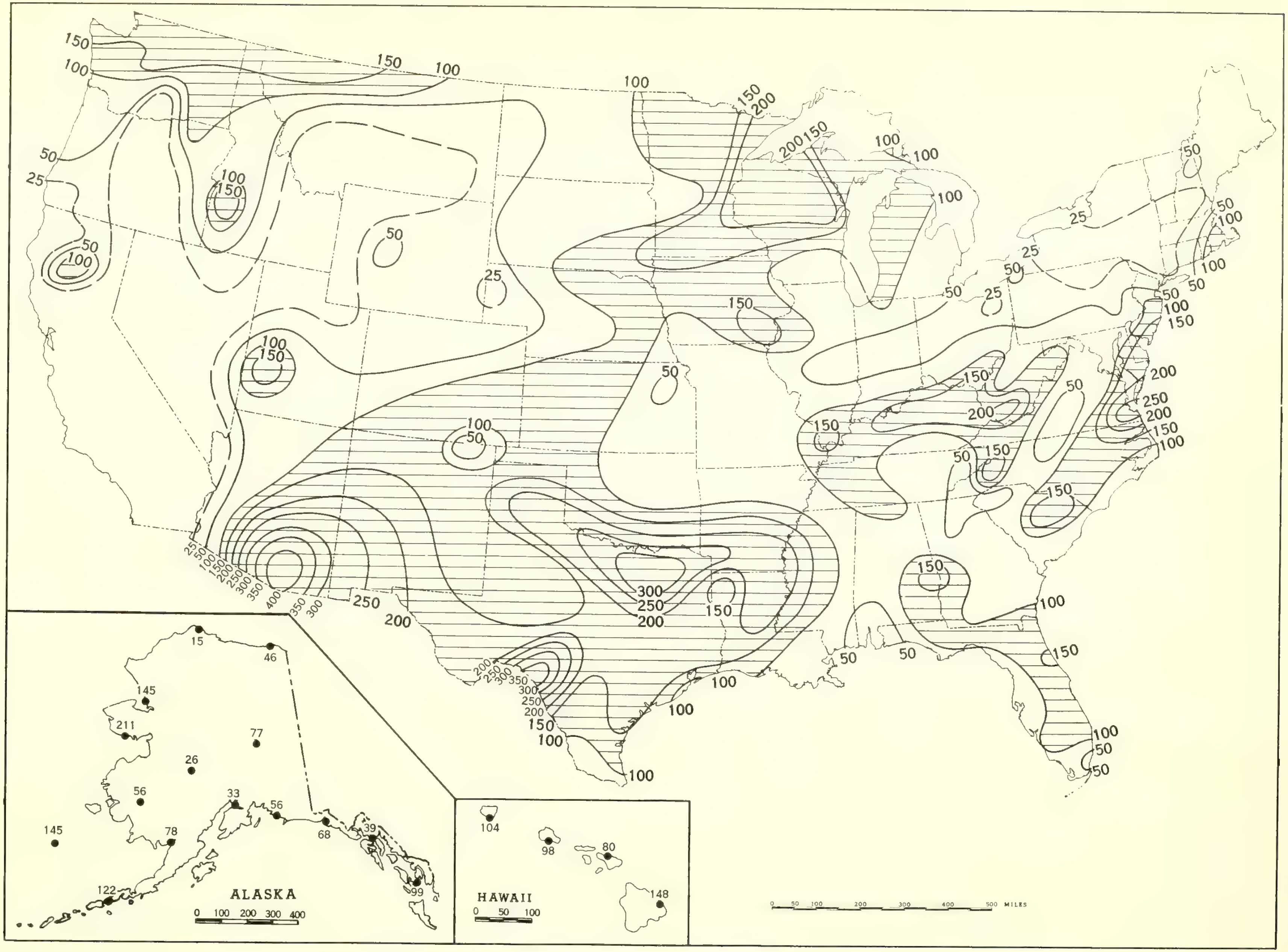
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), September 1964.



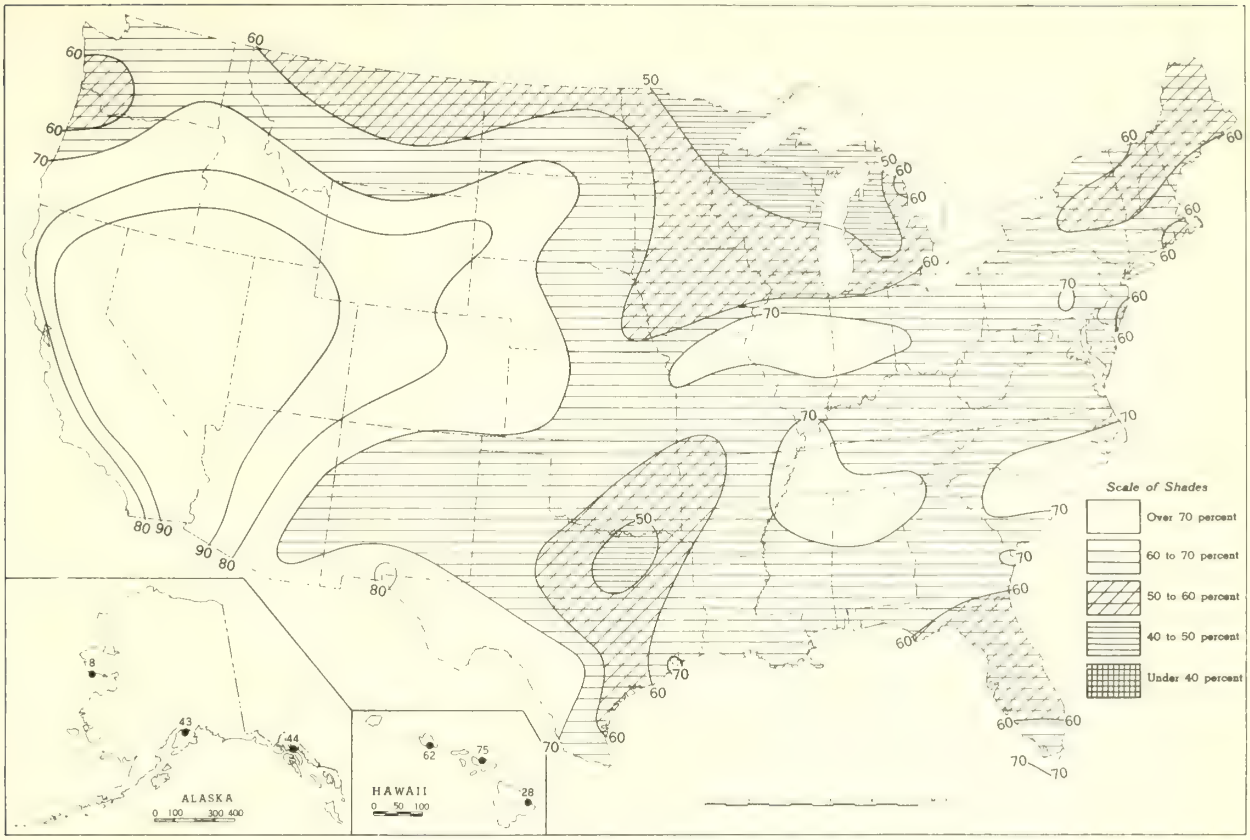
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, September 1964.

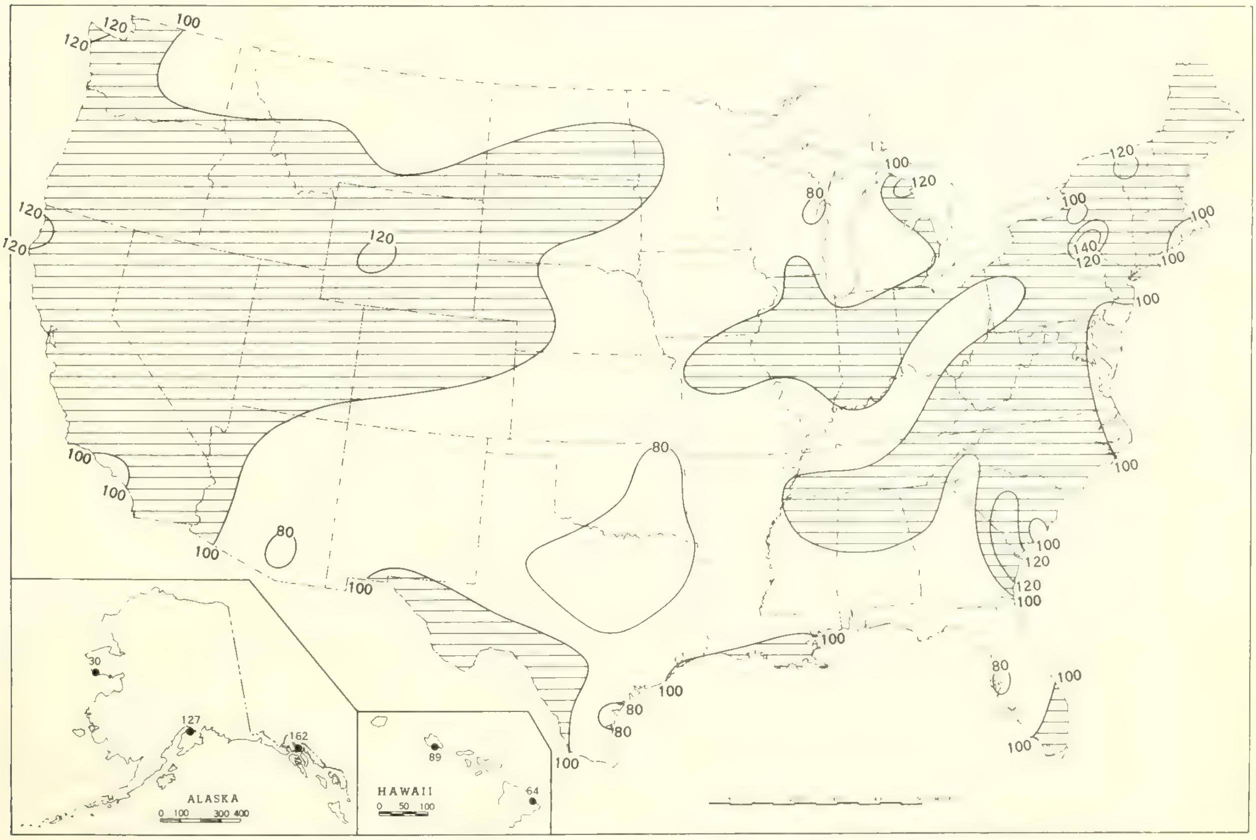


Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, September 1964.

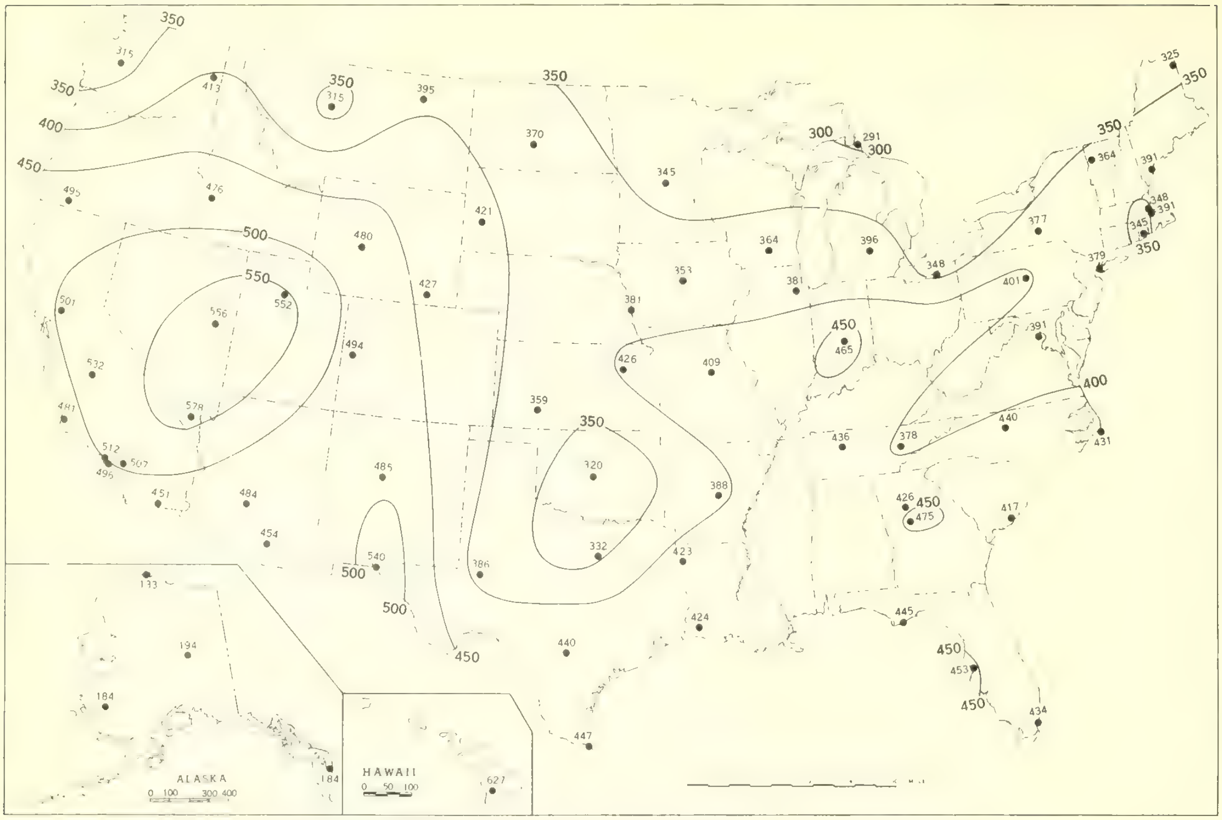


B. Percentage of Mean Monthly Sunshine, September 1964.

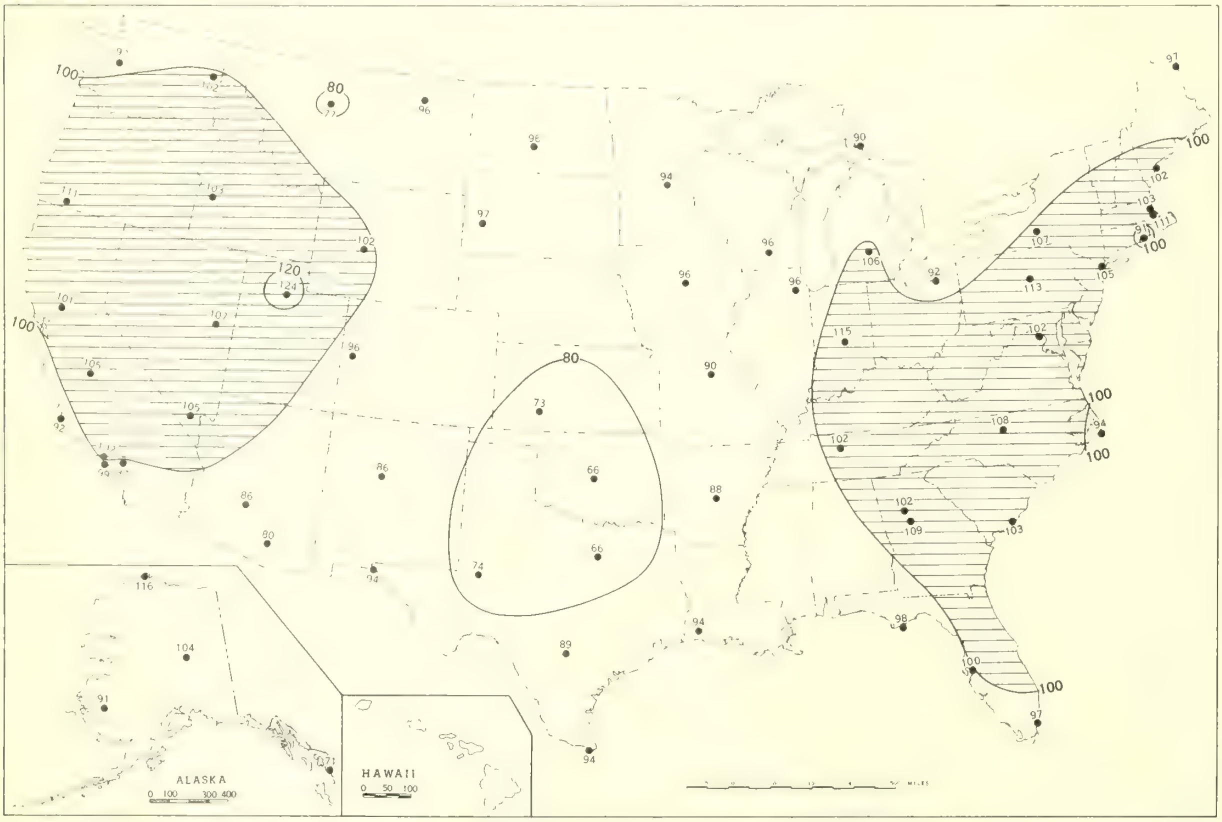


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, September 1964.

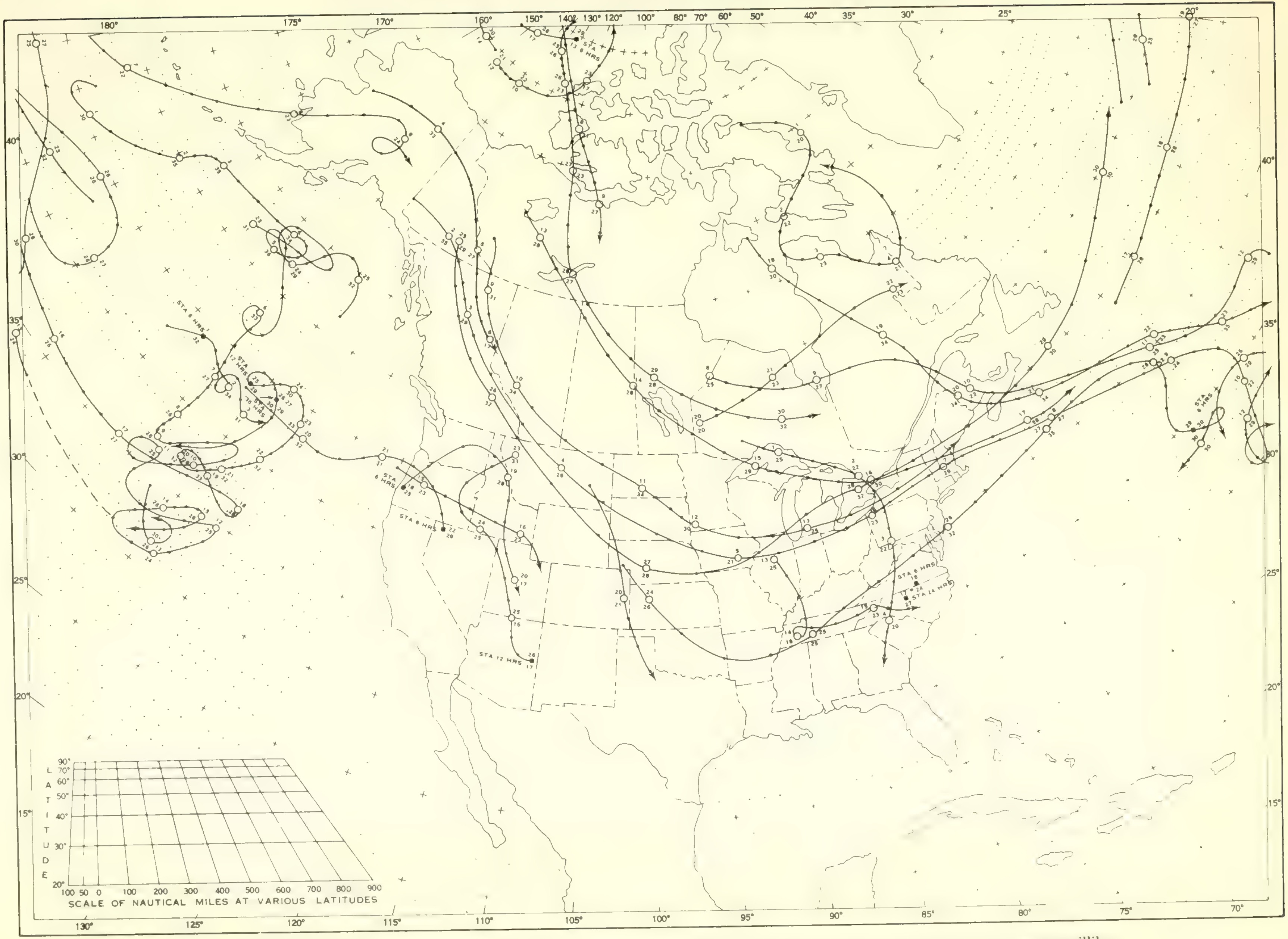


B. Percentage of Mean Daily Solar Radiation, September 1964.



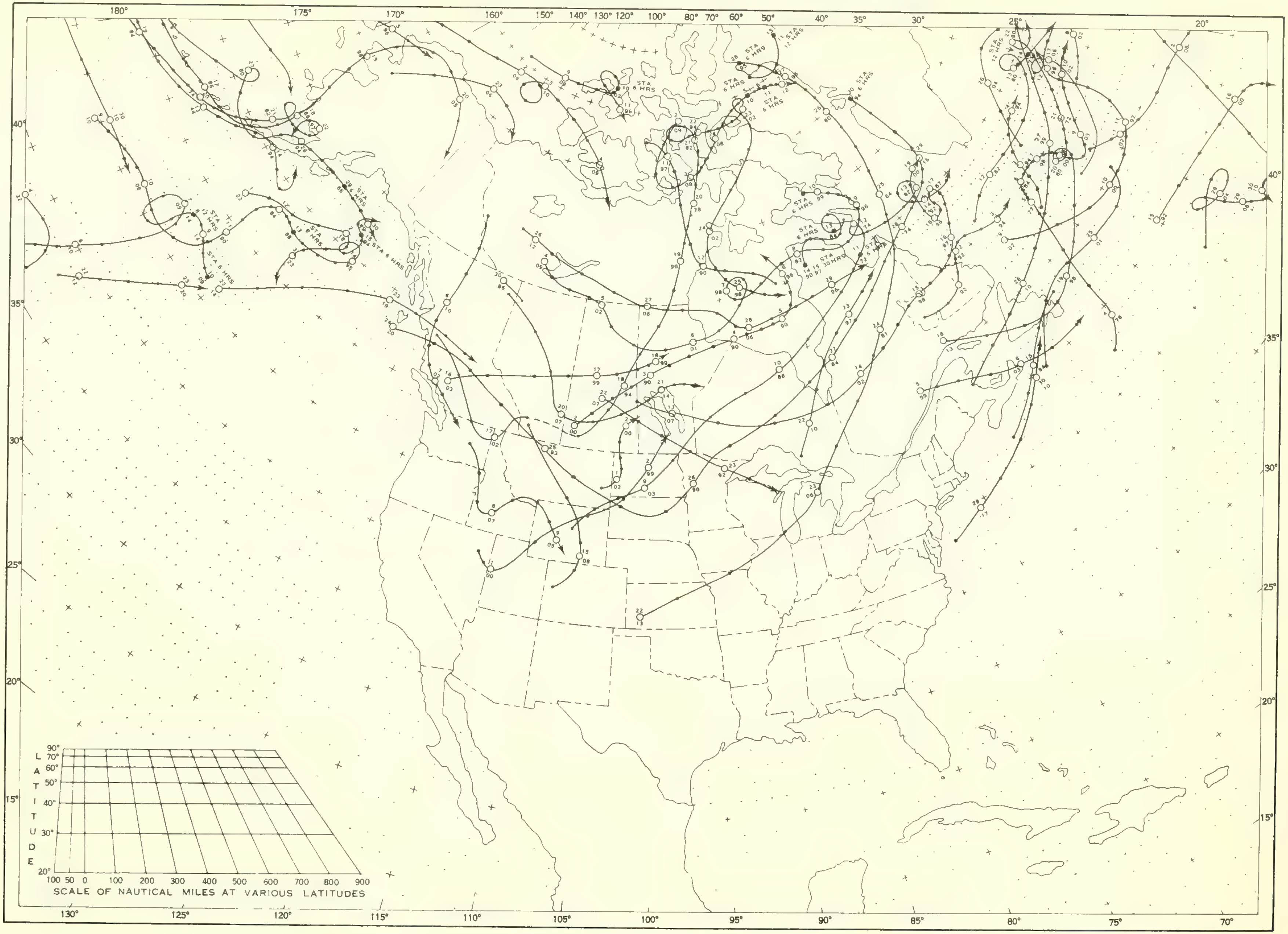
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, September 1964.



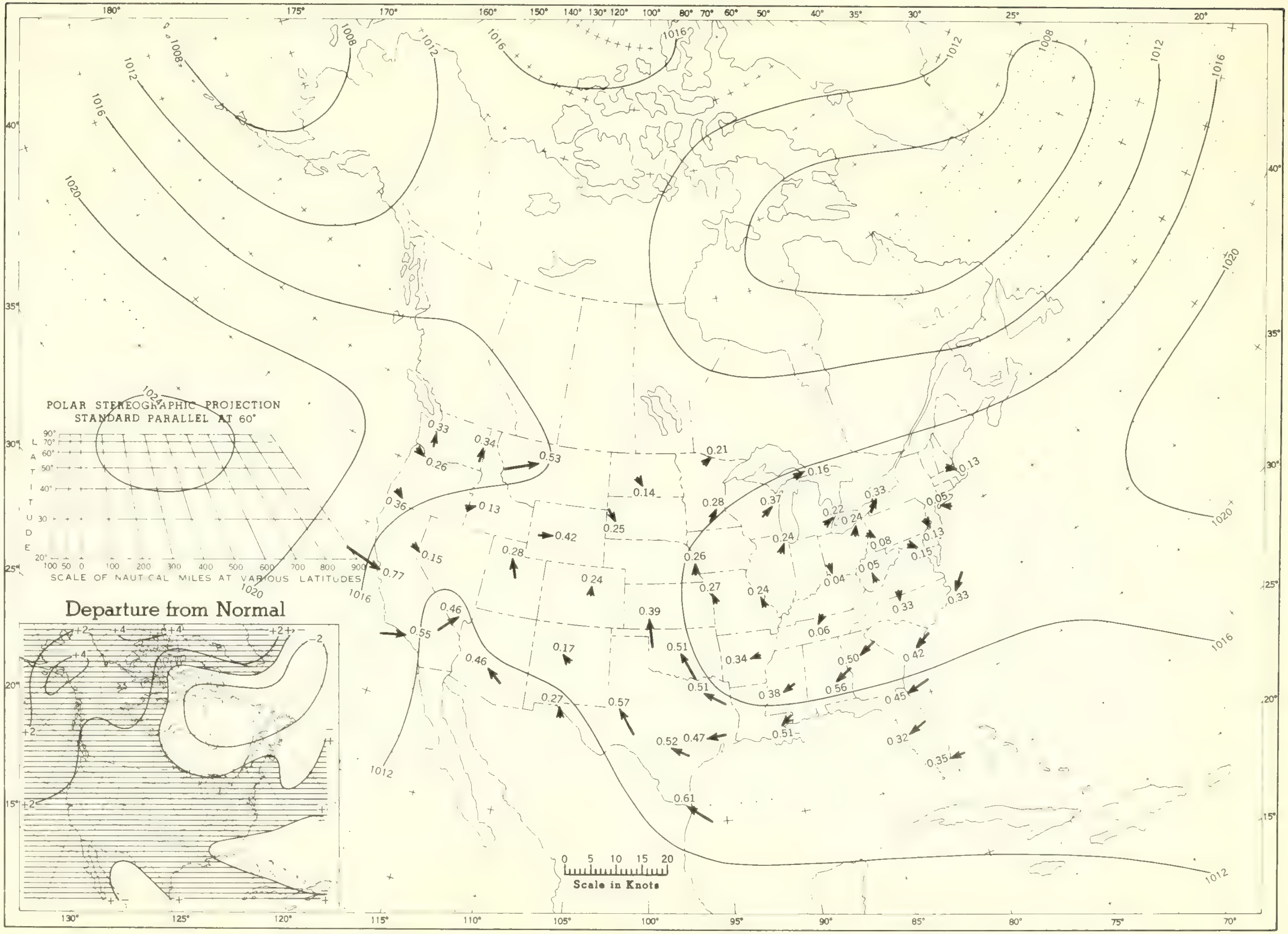
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, September 1964.



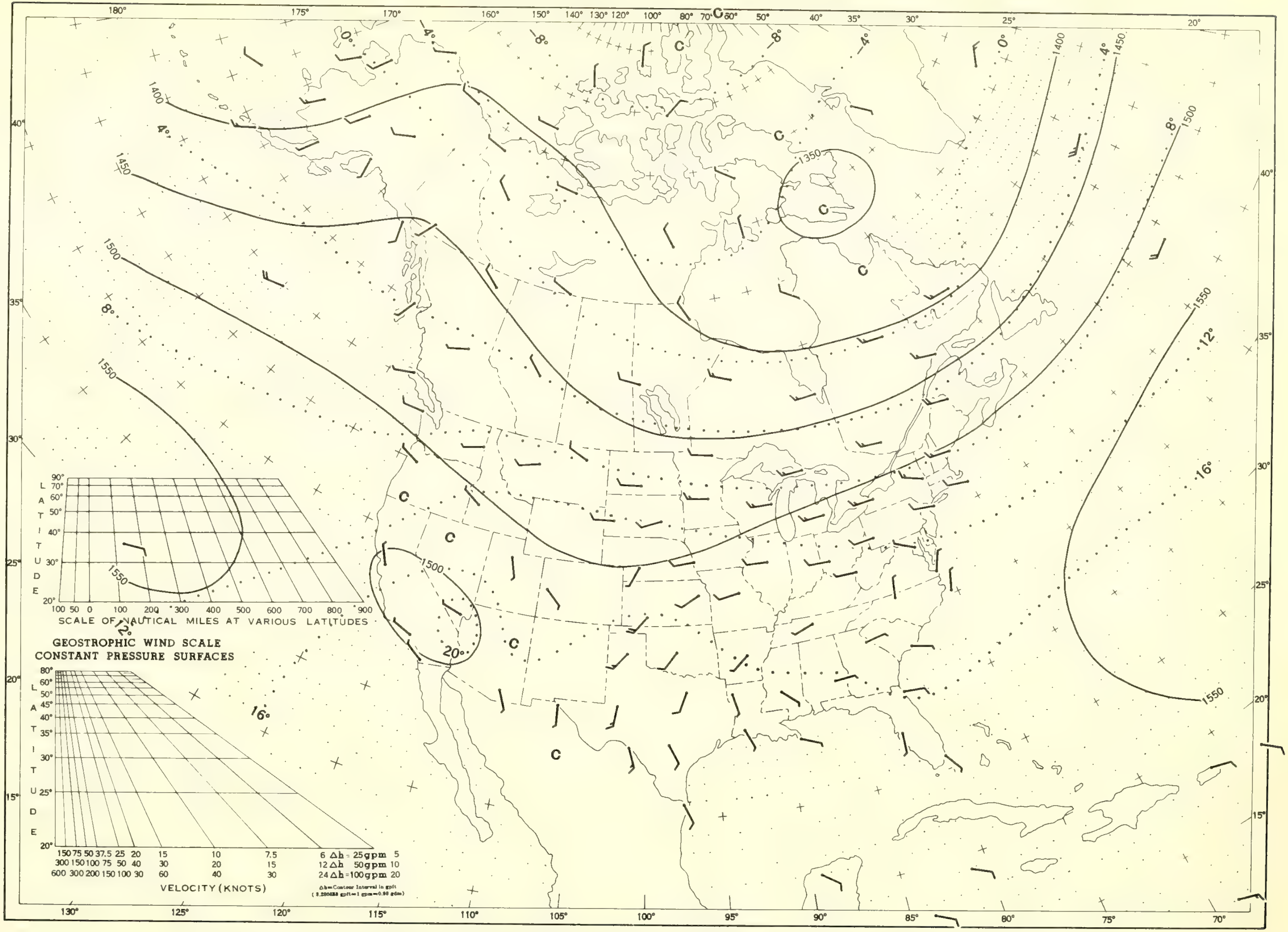
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, September 1964. Inset: Departure of Average Pressure (mb.) from Normal, September 1964.



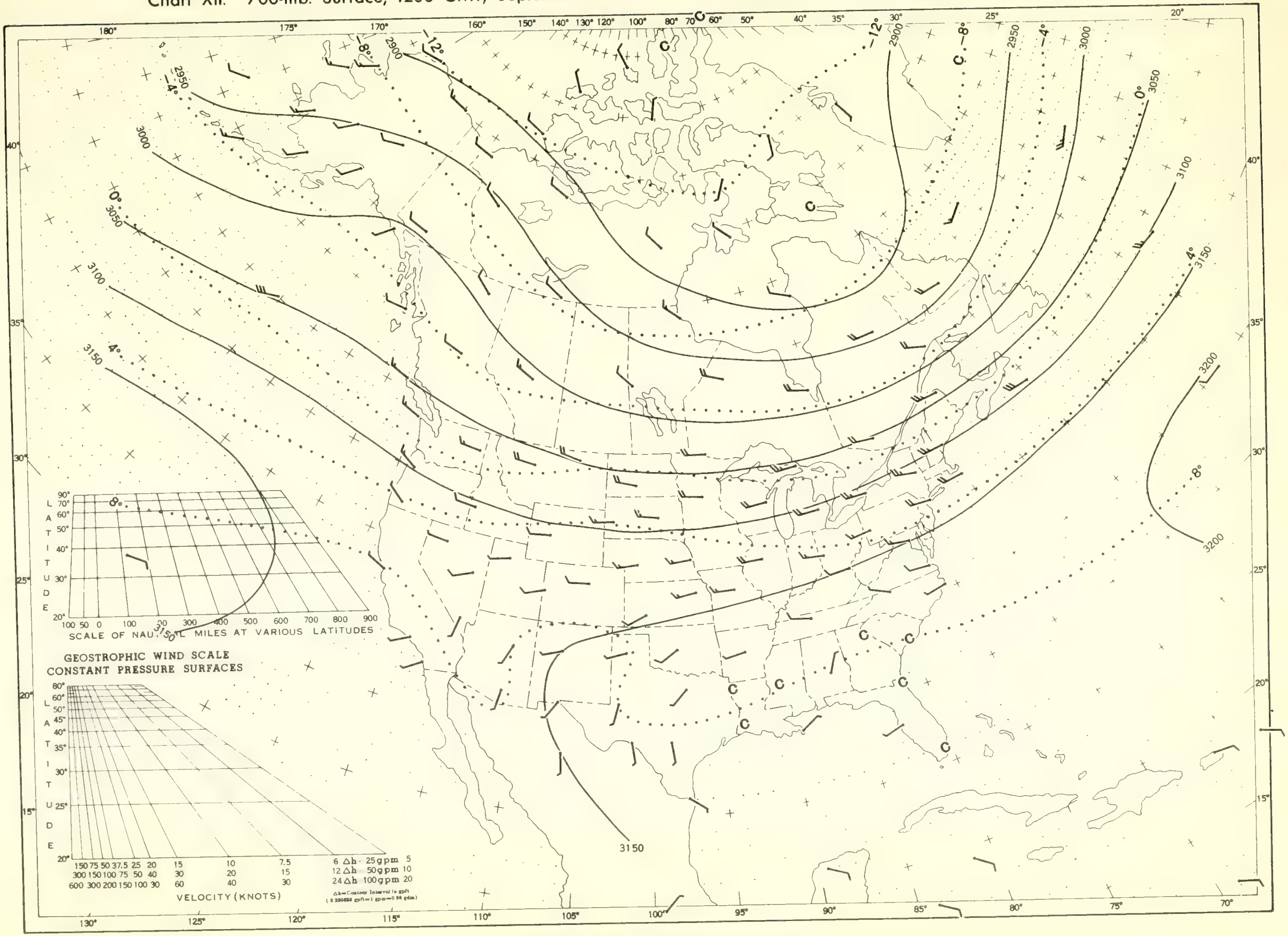
Average sea level pressures are obtained from the averages of 24 hourly readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, September 1964. Average Height and Temperature, and Resultant Winds.



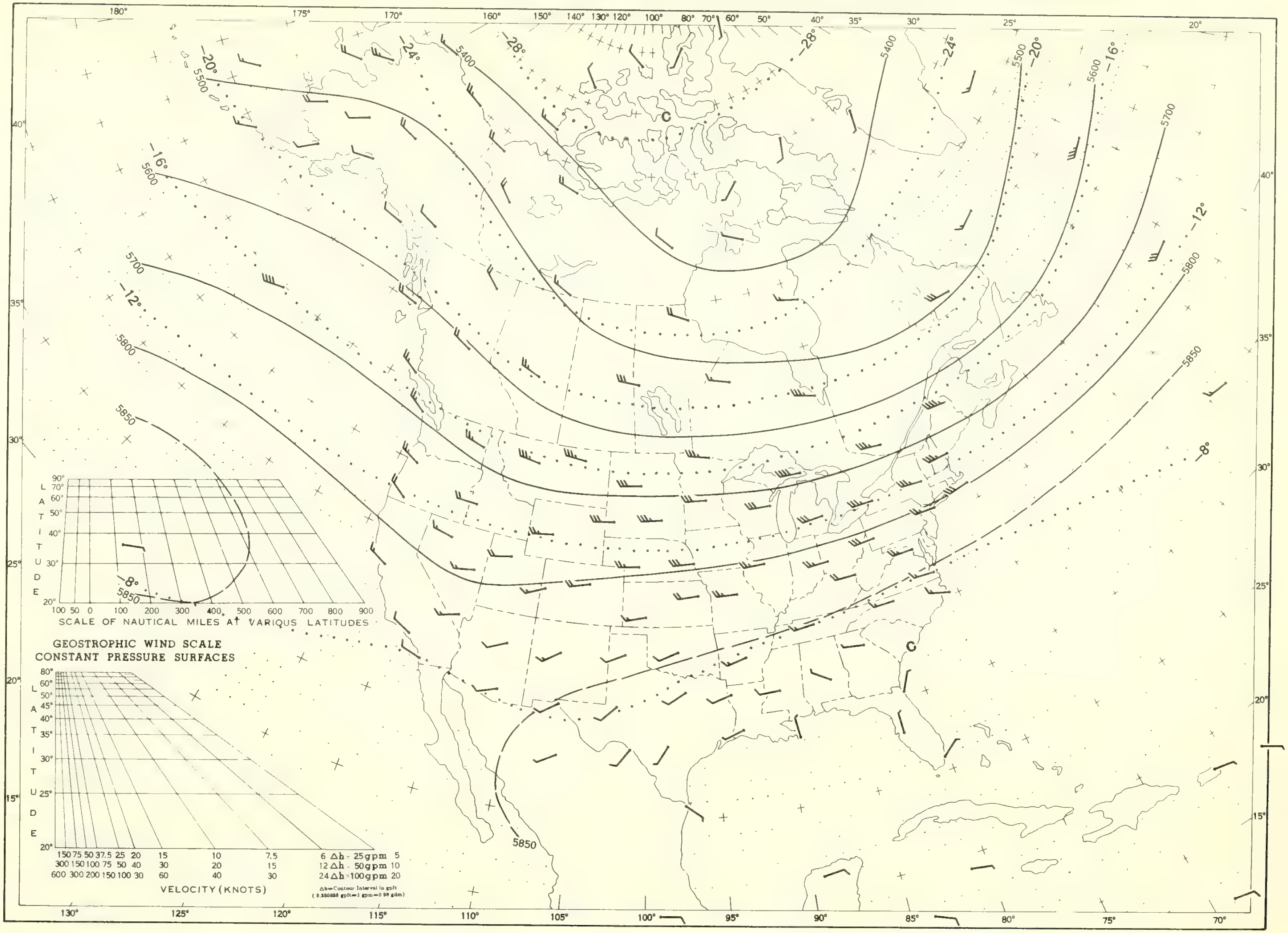
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, September 1964. Average Height and Temperature, and Resultant Winds.



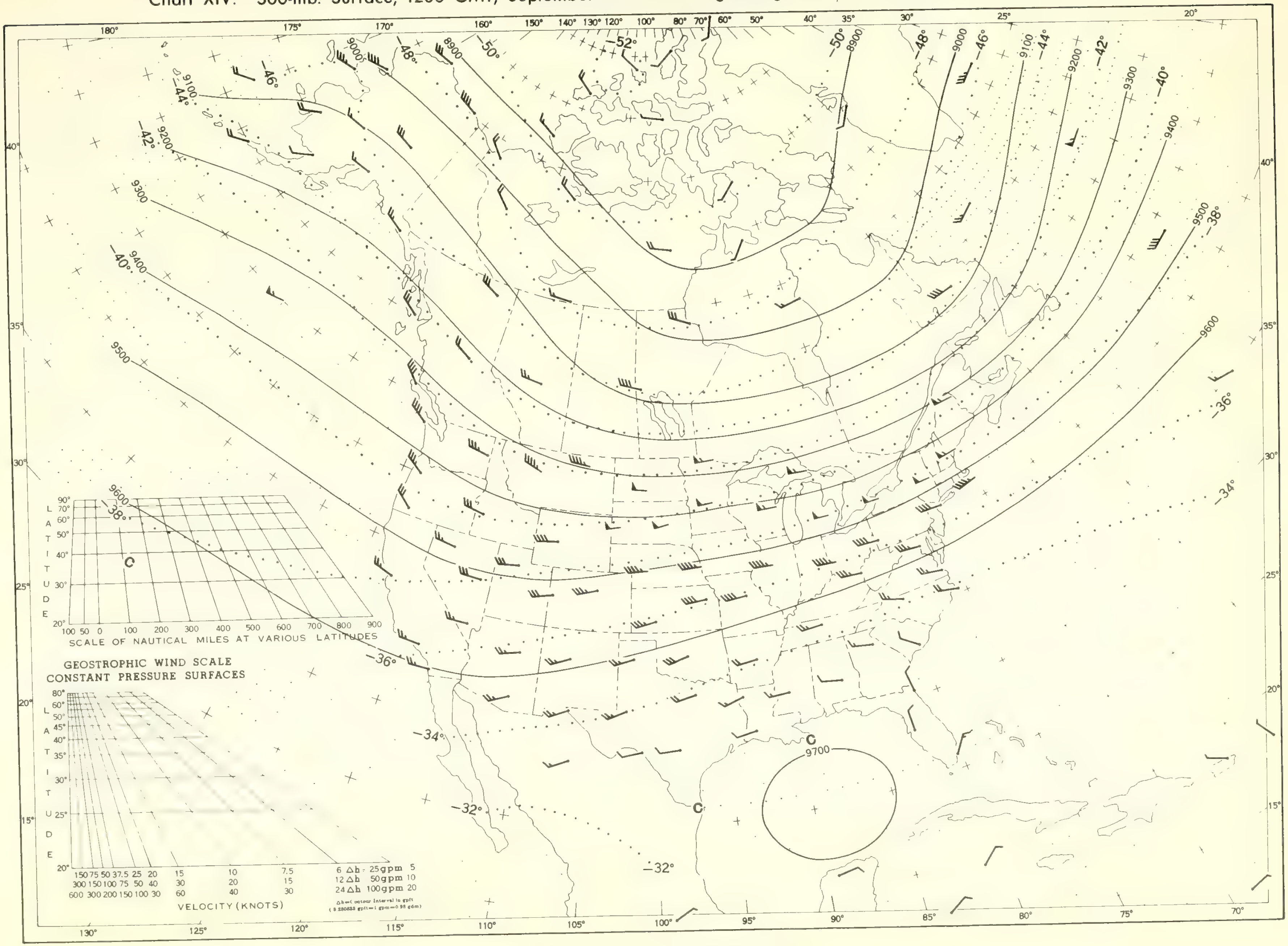
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, September 1964. Average Height and Temperature, and Resultant Winds.



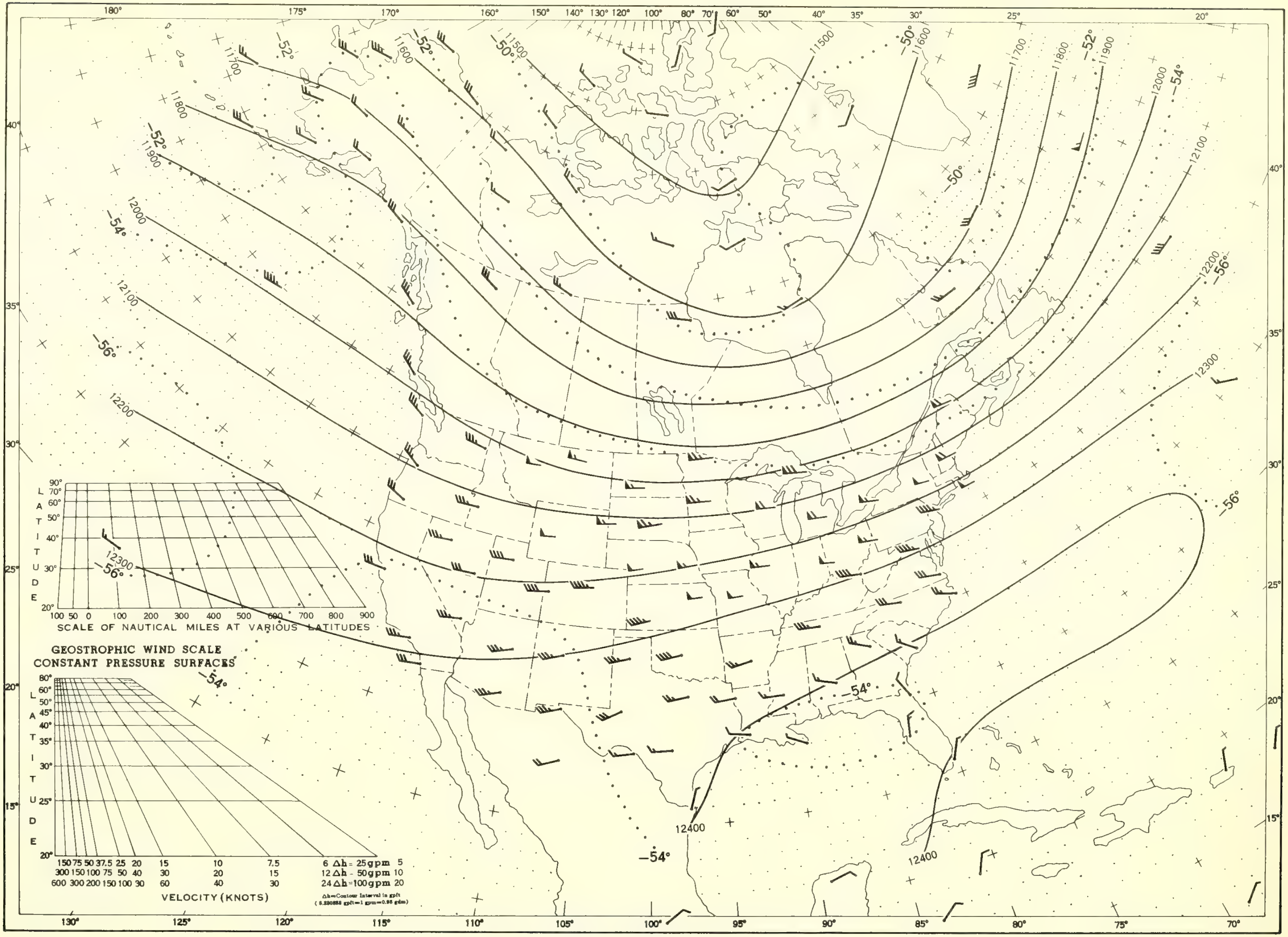
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, September 1964. Average Height and Temperature, and Resultant Winds.



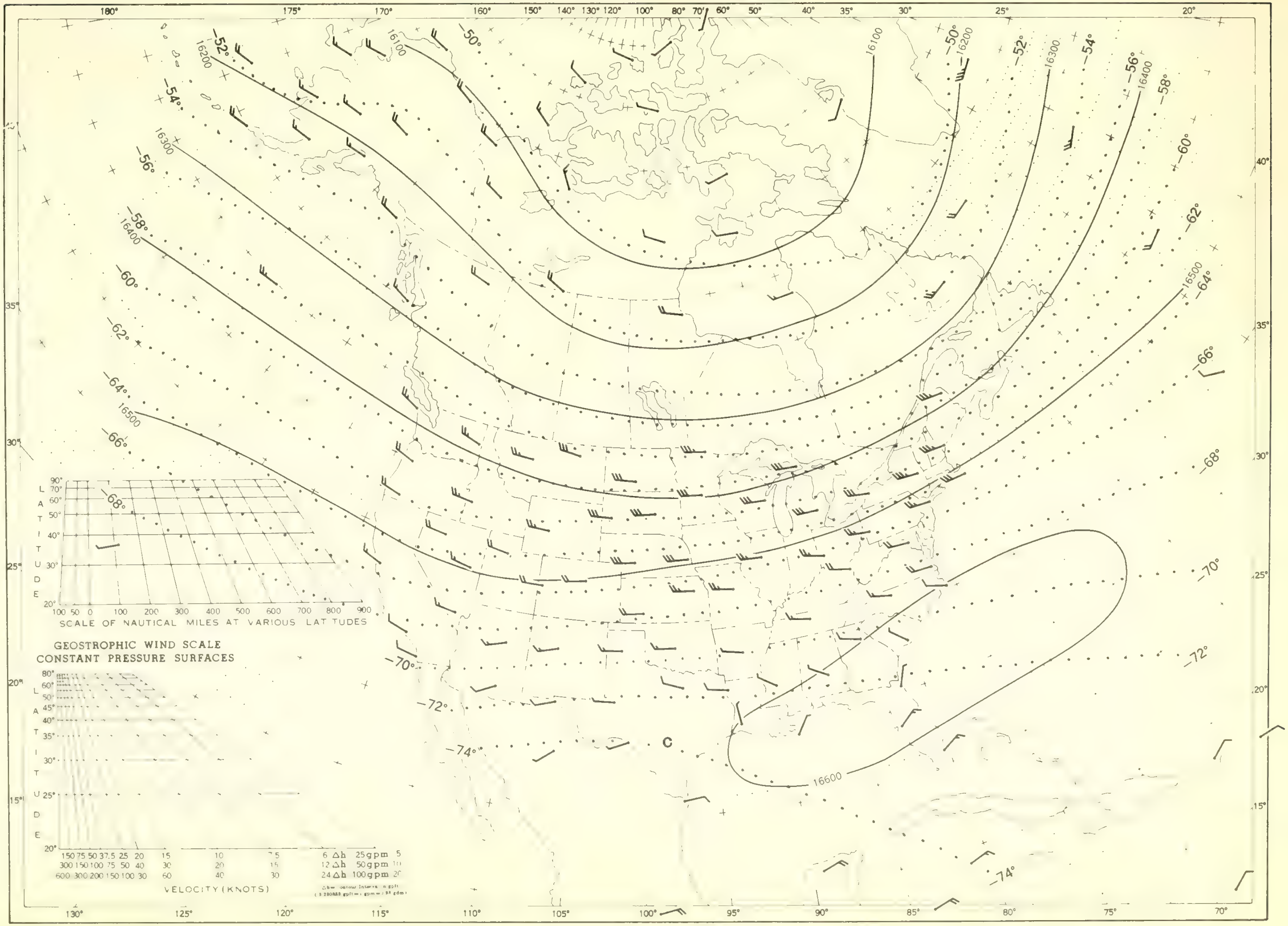
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, September 1964. Average Height and Temperature, and Resultant Winds.



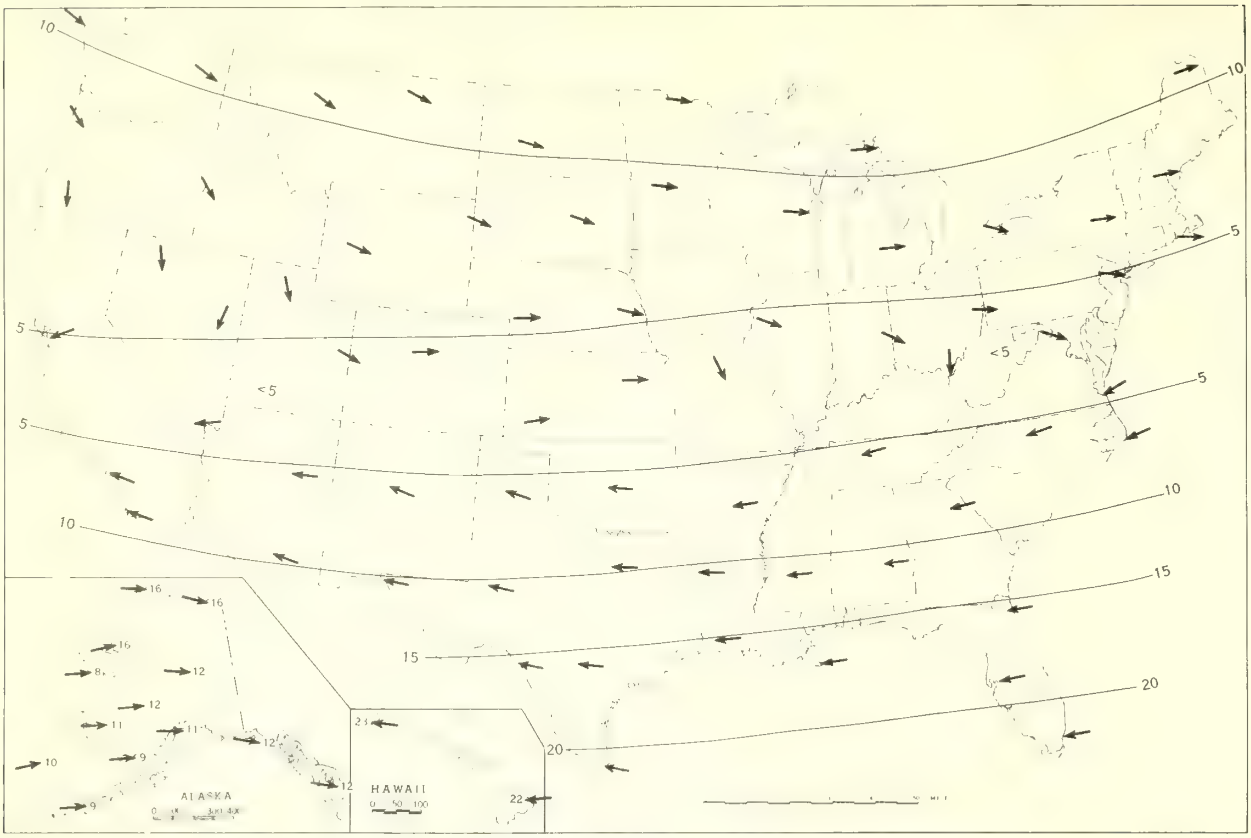
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, September 1964. Average Height and Temperature, and Resultant Winds.

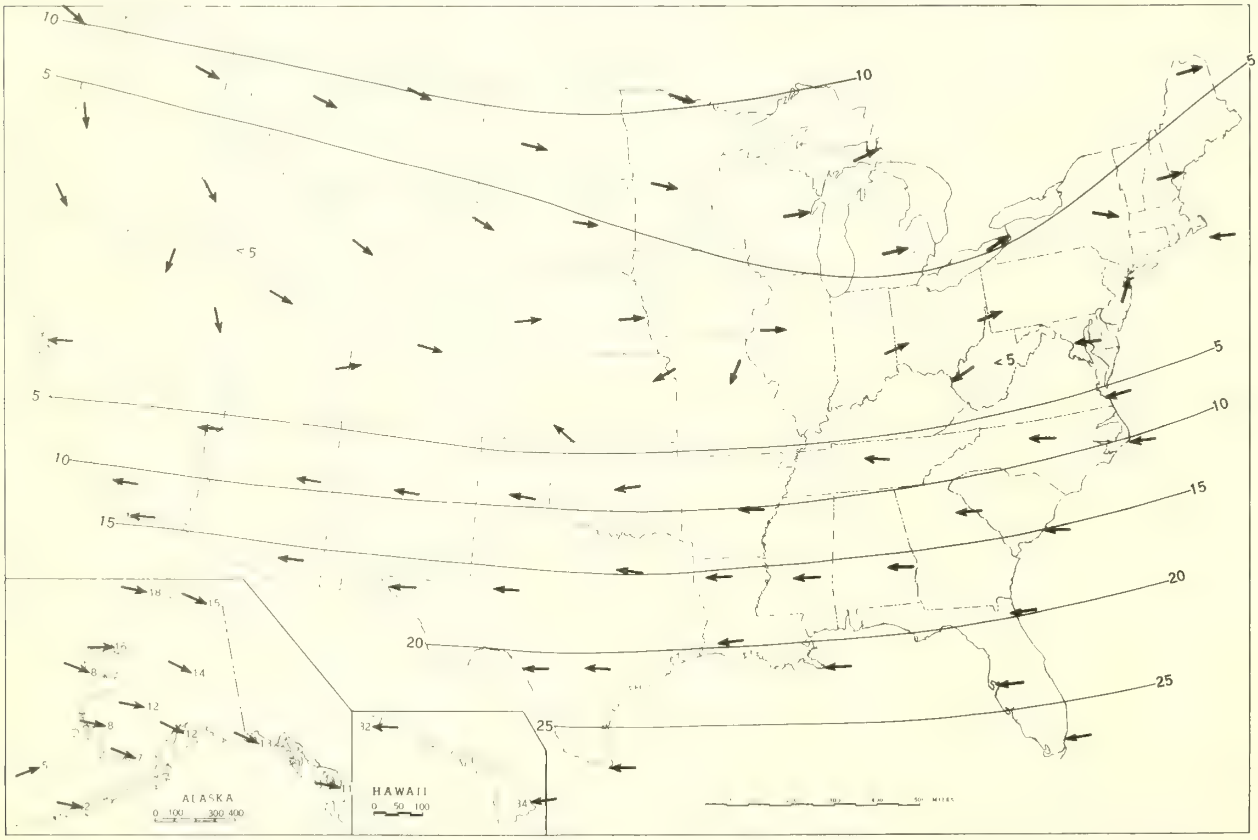


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, September 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, September 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 10

OCTOBER 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

Two hurricanes dumped generous rains over parts of the Southeast but the drought intensified in many other parts of the Country. Temperatures averaged warmer than normal from the Pacific Ocean to the western Great Plains and cooler than normal from the Great Plains to the Atlantic Ocean.

TEMPERATURE.--Fair, sunny weather over most of the Nation favored the harvest of fall crops and other outdoor activities. Afternoon temperatures exceeded 90° as far north as Kansas early in the month. Goodland, Kans., registered 91° on October 1. Temperatures reached the 90's frequently in Texas and the sunny Far Southwest during the first half of October. Santa Maria, Calif., registered 99° and Red Bluff, Calif., 93°, on the 19th. Repeated invasions of polar continental air and persistent high pressure resulted in mild, sunny, pleasant afternoons and cool nights over most of the eastern half of the Nation. By 1 a.m., October 21, the temperature at Tallahassee, Fla., had dropped to 37°. Cooling continued until 32° was registered before daybreak. Monthly temperature departures ranged from +4° over the southwestern deserts to -6° over the lower Ohio River Valley, southern Alabama, and along the eastern slopes of the Appalachians in North Carolina.

PRECIPITATION.--Hurricane Hilda moved from the Gulf of Mexico to Louisiana on October 1 and 2. It moved eastward across southern Mississippi and Alabama, northern Florida and southern Georgia to the Atlantic. It dropped rain in excess of 10 inches over much of southeastern Louisiana and southern Mississippi. Storm totals reached 4 to 7 inches over parts of neighboring States. The heavy rains sent many of the streams above flood stage and the rising waters forced many families to leave their homes. Several tornadoes occurred in connection with hurricane Hilda. Besides the deaths of several dozen persons, hurricane Hilda resulted in the damage or destruction of thousands of homes, heavy crop damage, and increased harvest costs.

Hurricane Isbell formed in the western Caribbean Sea early on October 10. The hurricane moved inland near Everglades, Fla., on the afternoon of the 14th. Numerous tornadoes, associated with Isbell, injured a number of persons and caused some property damage. The heavy rains, associated with the storm as it moved northward, caused flooding in portions of South Carolina.

The losses resulting from the hurricanes were probably not nearly so great and certainly were not nearly so extensive as the losses resulting from droughts in other parts of the Country. Reports of severe drought came from almost all States north and west of a line from central Texas to southern Maryland. In some areas, October was merely "warm and dry" but in others, the drought intensified becoming the worst in many years. Only a light sprinkle fell at Aberdeen, S. Dak., the second time in 84 years that the precipitation was too little to measure. Cairo, Ill., received only a "trace", setting a record for that station. The forest and range fire hazard increased in some areas and numerous fires occurred. The winds caused duststorms over the western parts of the Great Plains where the sprinkles had been too light and too widely scattered to support the vegetation.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			*°F*			*In.*		*In.*
Alabama	Andalusia 1NW	91	1	Valley Head	25	20	Phenix City 2NNW	10.92	Waterloo	1.81
Alaska	Tree Point Light Sta	72	5	Snowshoe Lake	-20	30	Little Port Walter	31.69	Northway FAA AP	.07
Arizona	Parker	107	6	Fort Valley	14	31	Kitt Peak	3.40	48 Stations	.00
Arkansas	2 Stations	91	17	Yellville	20	20	Helena	3.71	5 Stations	.00
California	Death Valley	108	6+	Bodie	6	25	Cazadero	6.79	9 Stations	.00
Colorado	Holyoke	94	1	2 Stations	1	19	Parshall 10SSE	.83	47 Stations	.00
Connecticut	Bulls Bridge Dam	82	16	Coventry	15	12	Lake Konomoc	3.25	Bridgeport WBAP	1.24
Delaware	Middletown 1WSW	81	15	Newark University Farm	24	24	Dover	3.26	Newark University Farm	1.27
Florida	2 Stations	95	5+	Fountain 3SSE	30	21	Wewahitchka	21.10	De Soto City 4SW	.08
Georgia	Waycross 4NE	94	1	Blairsville Exp Sta	24	21	Waynesboro 2NE	16.74	Tallapoosa 2NNW	2.38
Hawaii	Mana 1026, Kauai	91	4	Mauna Loa Slope Obs	30	27+	Kahana 883, Oahu	32.67	3 Stations	.00
Idaho	Glenns Ferry	93	7	Grouse	5	18	Powell	3.30	2 Stations	.00
Illinois	3 Stations	89	18+	Barrington 1NW	18	10	East St Louis Pks Col	.88	do	.00
Indiana	4 Stations	85	18+	Greenburg 3SW	16	20+	La Porte	1.21	do	.01
Iowa	Norwich Exp Farm	86	16	Elkader	13	10	Sheldon	.91	3 Stations	.00
Kansas	Garden City FAA AP	94	16	Brewster	19	19	Arkansas City	5.05	2 Stations	.00
Kentucky	Cumberland	87	1	Falmouth 5WNW	17	11	Cumberland	6.94	4 Stations	.00
Louisiana	Golden Meadow 9NW	93	2	Converse	26	20	Jeanerette Exp Farm	17.93	3 Stations	.00
Maine	Sanford 2NNW	83	16	St Francis	14	9	Bangor Dow Field	5.04	Gilead	1.98
Maryland	Baltimore WB City	82	26+	Sines Deep Creek 2	16	24+	Princess Anne	4.55	Hagerstown	.74
Massachusetts	Fitchburg 2S	86	17	Birch Hill Dam	16	8	Woods Hole	7.80	Plainfield	.71
Michigan	8 Stations	80	18+	Lupton 1SW	13	7	Thompsonville	3.12	Ann Arbor Univ of Mich	.06
Minnesota	Canby	83	15	Cotton 11E	10	29	Gunflint Lake	1.79	Canby	.00
Mississippi	Merrill	90	2	4 Stations	28	20	McComb FAA AP	12.74	Stoneville Exp Sta	.67
Missouri	Galena	91	17	2 Stations	18	20+	Mt Vernon M U Farm	3.07	11 Stations	.00
Montana	Roy 24NE Mobridge	92	13	Wisdom	3	18	Essex	4.71	7 Stations	.00
Nebraska	5 Stations	92	2+	2 Stations	12	19	Hickman	1.53	16 Stations	.00
Nevada	2 Stations	102	9+	Deeth	2	25	2 Stations	1.61	4 Stations	.00
New Hampshire	3 Stations	85	16	Grafton	11	8	Fabyan	3.82	Lebanon FAA AP	1.22
New Jersey	Plainfield	82	18	2 Stations	19	26+	Chatsworth	3.16	High Point Park	.67
New Mexico	2 Stations	95	18+	Eagle Nest 1S	5	26+	Thoreau 5ENE	1.12	86 Stations	.00
New York	Callicoon	85	16	3 Stations	12	24+	Lake Ronkonkoma	4.20	Phoenicia	.12
North Carolina	Mortimer	92	19	Celo 2S	18	25+	Rosman	22.11	Lake Michie	3.85
North Dakota	Waterford City 14S	89	13	3 Stations	10	23+	Washburn	.69	2 Stations	.00
Ohio	Xenia 5SSE	87	18	Charles Mill Dam	12	11	Painesville 4NW	2.57	Ironton	.21
Oklahoma	Frederick	95	17	Grove 1E	24	20	Jefferson	4.00	2 Stations	.00
Oregon	Rome 2NW	96	7	3 Stations	7	24+	Brightwood	4.23	do	T
Pennsylvania	Farrell Sharon	88	16	2 Stations	14	12+	Erie WBAP	2.96	Everett 1SW	.31
Puerto Rico	Utuado, P.R.	98	15	Juncos 1E, P.R.	58	21	Aceituna, P.R.	19.81	Granard, V.I.	.31
Rhode Island	2 Stations	78	27+	Kingston	21	24+	Newport	2.92	Greenville	1.95
South Carolina	Florence 2N	92	1	Chester 2WSW	27	21	Pee Dee	14.75	Sullivans Island	3.91
South Dakota	Wood	92	15	Ardmore 2N	8	19	Buffalo Gap	1.33	28 Stations	.00
Tennessee	3 Stations	89	27+	Mountain City 2	19	24+	Copperhill	8.54	Newbern	.19
Texas	2 Stations	99	18+	Lipscomb	26	19	Bay City Water Works	5.42	9 Stations	.00
Utah	Saint George Pwr House	97	4	Woodruff	6	18	Weber Basin Pump Pl 3	1.85	27 Stations	.00
Vermont	Cavendish	82	16	Rochester	9	8	Enosburg Falls	3.08	Cavendish	.97
Virginia	2 Stations	85	19+	Burkes Garden	15	24	Wallaceton Lk Drummond	9.27	Moores Creek Dam	.39
Washington	Grotto	87	6	2 Stations	12	27+	Quinault River RS	9.00	Inchelium 2NW	.10
West Virginia	Mannington 1N	85	17	Hopemont	14	7	Kopperston	3.99	Creston 1SSW	.11
Wisconsin	Shorewood	83	17	Necedah 2NNW	8	10	Gurney	1.94	Darlington	.02
Wyoming	Echeta 2NW	86	15	Bondurant 3NW	-1	25	Tower Falls	1.95	2 Stations	.00

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	994.4	1020.0	72	47	59.6	-6.1	85	1	32	20	0	1	48	71	2.95	0.00	1.67	8	0	0.0	0	6.2	9	34	NE	15	17	6	8	3.9	71
HUNTSVILLE	600	996.6	1020.0	69	45	57.2	-6.0	83	18	31	20	0	1	46	70	3.25	0.53	2.12	4	0	0.0	0	6.4	36	28*	36	5	17	6	8	4.0	
MOBILE	211	1015.5	1017.9	76	53	64.3	-5.6	86	1	39	20	0	0	53	72	2.42	-0.61	1.32	7	0	0.0	0	10.8	36	46*	36	4	19	3	9	3.8	
MONTGOMERY	195	1010.6	1018.9	73	49	61.4	-5.2	84	1	36	21	0	0	51	75	6.27	3.99	4.25	5	1	0.0	0	7.1	36	30	N	4	16	6	9	4.0	73
ALASKA												B																				
ANCHORAGE	143	998.7	1003.1	43	28	35.0		55	3	9	30	0	21	29	79	2.31		0.73	12	0	10.6	6	6.8	18	25*	18	22	2	11	18	7.6	36
ANNETTE	110	1006.9	1011.0	52	41	46.6	-0.1	71	5	32	30+	1	2	40	80	18.62	1.74	3.86	25	0	T	0	10.4	12	43*	15	18	1	5	25	8.8	
BARROW	22	1010.4	1011.0	18	8	12.9	-3.7	35	6	-16	30	0	31	10	84	0.81	0.31	0.20	18	0	13.3	12	13.7	8	31*	9	19	4	6	21	8.1	
BARTER ISLAND	39	1008.5	1010.2	21	9	15.1	-2.1	39	6	-18	30	0	31	12	84	0.55	-0.29	0.22	10	0	6.1	7	12.0	10	40*	10	31	1	4	26	0.9	
BETHEL	125	1002.2	1003.3	38	26	31.9	0.5	48	5+	5	30	0	24	29	90	1.14	-0.40	0.74	12	0	8.2	5	11.2	17	31*	16	19	0	6	25	8.7	
COLD BAY	94	1002.4	1006.0	44	35	39.7	-0.4	69	26	26	30	0	6	34	83	3.33	-1.26	0.65	27	0	3.4	1	16.7	25	52*	17	19	0	5	26	9.0	
CORDOVA	41	1001.4	1003.0	47	33	39.7	-0.1	57	2	11	31	0	16	35	85	13.37	1.47	3.76	22	0	10.4	8	5.9	11	37*	12	27	2	5	24	8.6	
FAIRBANKS	436	988.1	1005.4	35	21	28.4	2.2	57	6	-7	31	0	27	25	88	0.53	-0.32	0.20	9	0	4.7	3	4.4	36	17*	24	22	1	5	25	8.8	
JUNEAU	12	1007.2	1008.1	50	40	45.0	3.4	60	6	30	31	0	1	42	89	7.35	-0.98	1.52	26	0	T	0	9.3	12	44*	13	27	0	3	28	9.5	16
KING SALMON	43	1001.3	1002.6	43	28	35.0	-0.7	56	4	7	30	0	22	29	79	2.07	-0.08	0.79	13	1	4.8	4	9.8	36	51*	16	26	4	9	18	7.1	
KOTZEBUE	10	1003.8	1004.3	31	22	26.6	1.9	45	6	3	30+	0	27	22	81	0.59	0.00	0.22	12	0	8.8	6	13.2	11	44*	11	19	4	6	21	7.7	
MC GRATH	334	991.7	1004.6	34	22	28.2	1.4	49	6	-2	31	0	27	25	87	1.35	0.03	0.45	12	0	12.9	6	4.5	36	20*	21	22	1	3	27	9.2	
NOME	13	1002.0	1002.0	36	26	31.0	1.3	45	1	14	29+	0	24	26	80	1.24	-0.47	0.47	14	0	2.6	1	15.7	36	41*	15	19	5	7	19	7.5	28
ST. PAUL ISLAND	22	1003.4	1004.2	41	33	37.1	-0.1	47	5	26	16	0	18	34	86	4.55	1.40	1.12	24	0	2.9	1	18.4	32	60*	28	31	0	2	29	9.2	
SHEMYA	122	1007.5	1011.0	43	37	40.3	0.6	47	3	31	31	0	4	35	82	4.20	1.44	1.65	22	0	3.0	T	21.6	30	83*		29	1	8	22	8.5	
YAKUTAT	28	1005.3	1006.4	48	34	40.5	-1.4	60	5	12	31	0	13	38	92	15.67	-3.92	2.34	26	0	1.0	T	7.7	9	45*	13	21	3	3	25	8.5	
ARIZONA																																
FLAGSTAFF	6993	793.9	1019.0	71	32	51.3	4.3	81	3	20	31	0	17	24	42	0.02	-1.50	0.02	1	1	0.0	0	5.8	2	24*	2	18	23	4	4	2.4	
PHOENIX	1117	974.2	1012.9	90	60	74.9	4.2	97	11+	48	31	15	0	43	35	0.17	-0.29	0.15	3	1	0.0	0	6.5	11	28Y	E	19	25	3	3	1.8	92
PRESCOTT	5014	849.8	1016.5	79	46	62.0	4.4	89	3	34	31	0	0	32	38	0.20	-0.53	0.19	2	1	0.0	0	7.0	18	29	S	29	21	7	3	2.3	90
TUCSON	2584	926.2	1013.4	86	59	72.1	2.1	95	4	50	31	12	0	43	41	0.91	0.27	0.72	3	2	0.0	0	9.0	16	39	E	20	25	2	4	1.9	90
WINSLOW	4880	854.7	1018.3	78	42	60.0	2.6	86	9+	30	31	0	2	25	31	0.04	-0.62	0.04	2	0	0.0	0	5.2	12	24*	22	16	23	7	1	1.7	
YUMA	194	1006.8	1012.1	93	66	79.1	2.8	104	6+	54	31	20	0	53	46	0.24	-0.14	0.17	3	2	0.0	0	6.4	20	47	S	14	24	2	5	2.3	88
ARKANSAS																																
FORT SMITH	449	1003.4	1020.6	75	44	59.5	-4.3	91	17	30	20	1	1	44	65	T	-3.45	T	0	1	0.0	0	6.2	7	25	N	4	20	5	6	3.0	78
LITTLE ROCK	257	1007.5	1020.8	74	46	60.1	-3.0	86	17+	33	20	0	0	47	66	0.37	-2.51	0.35	2	1	0.0	0	6.4	25	25	NW	19	20	4	7	3.0	80
TEXARKANA	372	1006.8	1020.4	76	49	62.4	-3.7	85	17+	36	10	0	0	49	67	0.47	-2.51	0.21	3	2	0.0	0	6.3	5								
CALIFORNIA																																
BAKERSFIELD	494	997.4	1015.1	85	57	71.0	4.2	97	3	49	26+	10	0	47	46	0.67	0.35	0.39	3	0	0.0	0	6.1	10	26*	2	28	24	5	2	1.7	
BISHOP	4108	876.2		82	41	61.6	4.2	95	1	31	27+	8	3			0.37	-0.06	0.37	2	1	0.0	0						23	5	3	2.2	
BLUE CANYON	5280	841.2		68	51	59.5	5.7	82	4	36	29	0	0			2.12	-1.29	2.00	3	0	0.0	0	5.5		19*	19	7	20	5	6	2.9	
BURBANK	724	988.7	1014.5	83	57	70.4	4.1	100	6+	48	31	11	0	52	61	0.37	-0.12	0.22	2	0	0.0	0	6.0	16	23*	16	15	19	7	5	3.0	
EUREKA U	43	1015.4		61	49	54.9	0.5	77	18	42	17	0	0			1.82	-1.37	1.53	6	1	0.0	0	5.0	N#	24	N	1	8	7	16	6.7	54
FRESNO	328	1003.0	1015.1	84	52	68.3	3.7	96	4+	44	26	10	0	50	58	1.23	0.80	1.13	3	1	0.0	0	5.4	12	24	NW	28	23	5	3	2.1	93
LONG BEACH	34	1013.3	1015.0	77	58	67.5	1.0	95	20+	50	31+	5	0	55	72	0.18	0.01	0.13	2	0	0.0	0	6.1	28	21*	28	27	13	13	5	4.3	
LOS ANGELES	97	1011.4	1015.3	74	60	67.0	2.1	94	20	53	31+	2	0	57	76	0.30	-0.09	0.21	2	1	0.0	0	8.5	26	24Y	W	27+	11	13	7	4.7	
MT SHASTA R	3544	894.8		70	40	55.2	3.3	87	5	33	18+	0	0			1.11	-1.33	0.74	3	0	0.0	0						18	6	7	3.5	
OAKLAND	6	1015.7	1016.1	71	55	63.0	1.9	85	20+	49	17	0	0	52	73	1.46	0.68	0.97	3	0	0.0	0	6.7	32	23*	27	12	17	7	7	4.0	
RED BLUFF	341	1002.6	1015.4	83	52	67.6	2.0	98	4	41	24	9	0	40	44	1.19	-0.18	0.68	3	0	0.0	0	6.3	33	26	S	7	16	8	7	3.7	84
SACRAMENTO	17	1014.1	1015.7	81	52	66.7	3.2	95	4	44	24	7	0	49	60	1.72	0.95	1.36	3	0	0.0	0	5.7	22	25	SW	12	22	3	6	3.1	90
SACRAMENTO U	19			80	54	67.4	3.7	93	5+	47	24	4	0			1.55	0.75	1.20	3		0.0	0										
SANDBERG R	4517	864.6		75	56	65.6	6.9	88	6+	39	26	0	0			0.58	0.09	0.43	3	2	0.0	0	10.1		32*	6	20	21	7	3	2.5	
SAN DIEGO	13	1011.3	1014.6	77	61	68.6	2.5	97	19	52	31	2	0	58	76	0.02	-0.47	0.02	1	1	0.0	0	6.4	30	20	NE	15	14	8	9	4.8	63
SAN FRANCISCO	8	1015.7	1016.4	70	52	60.9	0.4	85	19+	46	23+	0	0	49	72	1.26	0.52	0.88	2	0	0.0	0	9.4	30	32	W	15	16	9	6	3.9	
SAN FRANCISCO U	52			71	55	63.1	1.7	86	19+	50	12	0	0			1.90	1.01	1.44	3	0	0.0	0	7.1	W#	26	W	11					79
SANTA CATALINA	1568	959.7		78	64	71.1	5.8	97	4	51	27+	7	0			0.26	-0.68	0.23	2	1	0.0	0						17	6	8	3.8	
SANTA MARIA	238	1007.5		74	48	60.9	0.5	99	19	42	14+	3	0			1.64	1.04	1.40	4	0	0.0	0						18	8	5	3.5	
STOCKTON	22	1014.0	1015.7	82	52	66.8	2.8	94	3	45	25+	5	0	48	58	1.68	1.05	1.59	2	0	0.0	0	7.6	30	21*	10	28+	23	2	6	2.8	
COLORADO																																
ALAMOSA	7536	775.3		67	23	44.9	0.5	79	1	11	26	0	30			T	-0.60	T	0	1	0.0	0						25	3	3	2.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 °F. or above	Min. 32 °F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6145	814.8	1019.6	68	37	52.3	2.0	86	1	24	19	0	5	20	31	0.03	- 0.66	0.03	1	2	0.0	0	10.0	36	35*	35	22+	20	7	4	2.9	
DENVER	5283	841.0	1018.5	70	35	52.7	1.3	86	1	19	19	0	10	21	34	0.18	- 0.83	0.18	1	1	T	T	7.1	20	36	W	10	19	8	4	3.0	90
GRAND JUNCTION	4855	862.6	1018.0	74	42	58.0	3.0	86	1	30	24	0	1	19	25	T	- 0.74	T	0	0	0.0	0	7.0	13	26	NW	30	22	8	1	2.4	91
PUEBLO	4684	860.0	1018.9	75	35	54.8	0.0	92	1	21	19	2	12	24	34	0.02	- 0.97	0.02	2	2	0.0	0	8.6	24	72	N	1	20	6	5	2.7	89
CONNECTICUT																																
BRIDGEPORT	7	1017.7	1018.5	63	44	53.1	- 2.3	75	16	31	24+	0	2	42	68	1.24	- 2.14	0.63	7	0	0.0	0	12.6	35	34*	25	30	13	7	11	4.9	
HARTFORD	169	1011.7	1017.6	64	39	51.3	- 1.7	81	16+	24	12	0	6	38	66	1.98	- 1.20	1.19	10	0	T	T	7.4	36	27	NW	10	11	7	13	5.8	64
NEW HAVEN	6	1017.4		62	42	52.1	- 1.9	74	16	27	12	0	3			2.05	- 1.40	0.87	7	0	0.0	0	7.5		24	SW	21	14	5	12	5.2	69
DELAWARE																																
WILMINGTON	78	1015.5	1018.8	64	41	52.8	- 3.8	77	18	27	24	0	5	41	67	1.29	- 1.62	0.66	6	0	0.0	0	8.1	29	25*	32	3	15	5	11	4.5	
DIST.OF COLUMBIA																																
WASHINGTON U	72			65	45	55.0		78	26	35	24+	0	0			1.54		0.79	6													
WASH NATL AP	14	1014.7	1019.0	66	45	55.1	- 3.9	79	18	32	24	0	1	41	63	1.34	- 1.73	0.71	6	0	0.0	0	8.2	34	26	NNW	23+	18	2	11	4.5	66
FLORIDA																																
APALACHICOLA U	13	1014.8		75	59	66.9	- 4.3	88	2	46	21	0	0			10.21	7.77	5.96	6	1	0.0	0	8.9					19	3	9	3.5	62
DAYTONA BEACH	31	1014.5	1016.3	78	63	70.4	- 3.0	89	4	48	22	0	0	63	81	3.54	- 2.07	1.86	10	1	0.0	0	11.9	36	29*	26	17+	6	9	16	6.2	
FORT MYERS	15	1014.0		83	66	74.5	- 1.6	91	3+	52	21	3	0			1.38	- 2.71	0.55	10	1	0.0	0	10.8		24*	4	14	8	11	12	6.1	
JACKSONVILLE	24	1014.8	1016.5	77	59	67.7	- 3.3	91	2	42	21	4	0	58	75	5.09	- 0.07	2.25	12	1	0.0	0	11.0	36	38	S	5	9	9	13	5.8	48
KEY WEST	4	1013.1	1014.1	83	74	78.3	- 0.7	89	5+	64	21	0	0	69	75	5.19	- 0.63	2.44	15	2	0.0	0	14.0	3	73	S	14	8	11	12	6.0	55
LAKELAND U	214			80	63	71.2	- 3.3	91	3	47	21	2	0			1.07	- 1.86	0.71	9	3	0.0	0	9.2					10	8	13	5.7	55
MIAMI BEACH	9			82	72	76.6	- 1.8	87	15	59	21	0	0			7.88	1.17	1.88	17	0	0.0	0	14.7					7	9	15	6.4	55
MIAMI	7	1012.9	1014.1	83	71	76.9	- 0.9	89	5	59	21	0	0	68	77	9.77	1.56	3.87	16	4	0.0	0	10.7	6	37*	17	14	6	9	16	6.7	
ORLANDO	108	1011.4	1016.0	81	64	72.5	- 1.5	92	3+	50	21	3	0	62	75	1.64	- 2.32	0.53	10	1	0.0	0	11.2	36	32*	14	2	9	11	11	5.7	
PENSACOLA	112			75	55	64.9	- 5.5	86	1	41	21	0	0			6.28	3.30	3.77	6	3	0.0	0	8.5	35	44	NW	4					69
TALLAHASSEE	58	1014.9	1017.6	76	53	64.6	- 5.0	90	1	32	21	1	1	54	74	10.48	8.05	5.95	7	2	0.0	0	9.6	36	27*	20	4	20	2	9	3.7	
TAMPA	19	1013.8	1015.5	81	61	70.9	- 3.8	89	3+	40	21	0	0	61	75	2.86	0.08	1.86	9	2	0.0	0	13.7	3	28*	31	15	10	10	11	5.6	54
WEST PALM BEACH	15	1013.4	1014.5	83	70	76.5	- 1.7	92	5	58	21	3	0	67	76	15.23	7.27	7.07	11	3	0.0	0	12.1	7	24*	16	14	6	10	15	6.9	
GEORGIA																																
ATHENS	802	990.0	1019.2	70	47	58.3	- 4.7	82	18	34	21	0	0	48	72	7.73	4.87	4.70	10	0	0.0	0	7.5	5	25*	6	15	17	4	10	4.0	
ATLANTA	1005	977.0	1019.3	69	48	58.8	- 3.9	82	18	35	21+	0	0	47	69	5.63	3.19	3.27	7	0	0.0	0	7.8	6	26	NW	17	17	4	10	4.0	72
AUGUSTA	143	1011.5	1018.4	74	47	60.6	- 4.6	86	18+	35	26+	0	0	49	75	6.34	4.33	2.67	8	1	0.0	0	6.4	33	25*	2	5	18	2	11	4.2	
COLUMBUS	385	1004.2		74	50	61.6	- 3.8	83	18+	35	21	0	0			8.09	6.32	5.63	7	1	0.0	0	6.0		22*	36	5+	17	4	10	4.1	
MACON	354	1005.1	1018.8	73	47	60.1	- 6.1	87	1	32	26	0	1	50	76	4.93	2.92	1.80	8	0	0.0	0	7.3	3	29	N	5	20	1	10	3.6	65
ROME	637	996.4		71	43	56.8	- 4.4	81	18+	28	21	0	3			6.26	3.33	4.01	9		0.0	0									3.9	
SAVANNAH	46	1015.3	1017.9	74	52	63.1	- 4.1	87	2+	37	25+	0	0	52	73	6.94	4.36	3.16	8	3	0.0	0	8.3	4	28	NE	5	16	6	9	4.5	68
HAWAII																																
HILO	31	1014.4	1016.3	81	67	73.7	- 1.4	86	18	64	4	0	0	66	80	11.56	0.76	2.47	27	0	0.0	0	8.4	25	24*	6	24	2	10	19	7.8	17
HONOLULU	7	1015.3		85	71	78.3	0.1	88	18+	66	13	0	0	62	60	0.34	- 1.50	0.11	13	0	0.0	0	9.9	6	27	NE	26	5	17	9	6.0	47
KAHULUI	48	1012.7	1015.8	82	67	74.5	- 2.8	87	8	58	13	0	0	66	80	0.16	- 0.71	0.05	8	0	0.0	0	11.0	6	29	NE	1	5	16	10	6.0	65
LIHUE	115	1011.5	1017.3	80	70	75.1	- 1.8	83	14	64	18	0	0	67	78	3.22	- 0.81	0.59	26	0	0.0	0	10.3	6	25	E	26	4	11	16	7.2	
IDAHO																																
BOISE	2838	923.6	1020.4	66	40	52.9	1.3	82	7	30	18	0	2	32	52	0.21	- 0.63	0.08	4	0	0.0	0	6.8	13	28	E	29	18	6	7	3.7	77
IDAHO FALLS 42NW R	4790			64	22	43.1	- 1.0	79	6	9	17	0	27			1.14	0.73	1.12	3				4.3		33A	NNW	1					
IDAHO FALLS 46W R	4933	852.4		64	25	44.7	- 0.2	79	7	12	18+	0	26			0.74	0.08	0.69	4	0	T		5.1		30A	WSW	16					
LEWISTON	1413	968.1		64	41	52.3	0.3	80	7	33	27+	0	0			0.94	- 0.27	0.48	7	1	0.0	0						15	5	11	4.8	
POCATELLO	4454	867.4	1021.2	67	31	49.3	0.2	83	7	19	18	0	16	24	44	0.50	- 0.39	0.50	2	0	0.0	0	6.9	25	36	SW	1	18	4	9	4.2	83
ILLINOIS																																
CAIRO U	314	1007.1		69	47	58.3	- 3.6	83	17	37	20+	0	0			T	- 2.88	T	0	0	0.0	0	6.9	N#	26	N	18+	20	7	4	3.0	84
CHICAGO O HARE	658	994.7	1019.6	62	34	48.0	- 5.1	80	17	20	10	0	15	37	67	0.16	- 2.59	0.09	3	1	T	T	8.8	18	32*	29	2	10	12	9	5.1	
CHICAGO MIDWAY	607	996.7	1019.9	63	39	51.1	- 4.0	81	17	27	10	0	6	37	62	0.20	- 2.58	0.20	2	0	0.0	0	9.3	18	29	S	7	11	10	10	4.8	68
MOLINE	582	997.7	1020.3	64	37	50.7	- 4.1	82	17	24	22+	0	12	36	60	0.01	- 2.45	0.01	1	0	0.0	0	7.9	30	31	SW	7	10	15	6	4.6	73
PEORIA	652	997.7	1020.4	64	37	50.8	- 4.5	80	17	25	10	0	10	37	62	0.03	- 2.50	0.03	1	0	0.0	0	8.2	18	28	NW	21+	11	13	7	4.1	79

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	F.	°F.	°F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	991.7	1019.3	61	35	48.1	- 4.4	80	17	24	23+	0	13	35	64	0.11	- 2.59	0.08	4	0	T	T	9.3	18	27*	18	7	11	13	7	4.4	
SPRINGFIELD	588	996.8	1020.3	68	38	53.3	- 3.4	86	17	24	20	0	8	35	54	0.16	- 2.75	0.16	1	1	0.0	0	9.1	31	28	NW	21+	19	7	5	3.3	85
INDIANA																																
EVANSVILLE	381	1004.7	1020.9	69	37	52.9	- 6.2	81	17	26	11+	0	13	40	68	0.01	- 2.56	0.01	1	0	0.0	0	6.2	32	23	SW	8	18	8	5	3.3	88
FORT WAYNE	791	988.6	1020.2	63	36	49.4	- 3.6	79	17	24	11	0	10	38	68	0.14	- 2.72	0.08	3	0	T	T	7.6	22	33	NW	21	12	12	7	4.8	66
INDIANAPOLIS	793	990.0	1020.4	65	38	51.7	- 3.7	81	17	26	20	0	8	37	62	0.64	- 1.98	0.54	2	1	0.0	0	8.0	32	27	NW	2	15	9	7	4.2	75
SOUTH BEND	773	991.2	1019.6	60	38	48.9	- 4.5	77	17	28	11+	0	7	38	68	0.89	- 2.28	0.60	6	0	T	T	8.7	23	24*	31	21	12	5	14	5.5	
IOWA																																
BURLINGTON	694	994.5	1020.5	65	40	52.2	- 3.2	81	17	26	20	0	7	37	60	0.06	- 2.64	0.05	3	0	0.0	0	9.2	31	34	SW	7	14	12	5	4.1	83
DES MOINES	938	988.8	1020.7	63	39	50.8	- 3.4	78	16+	25	20	0	7	38	68	0.29	- 1.77	0.16	3	0	T	T	10.5	14	33	SW	3	11	12	8	4.6	68
DUBUQUE	1065	993.9		60	37	48.5	- 2.2	77	17	24	20	0	12			T	- 2.74	T	0	0	0.0	0						10	12	9	4.9	
SIOUX CITY	1095	977.4	1019.4	65	38	51.9	- 2.1	81	16	26	29+	0	8	36	61	0.34	- 1.08	0.19	3	1	0.0	0	10.3	30	32	NW	3	17	7	7	3.9	83
WATERLOO	868	986.9	1019.2	62	34	47.7	- 4.0	78	16+	18	10	0	15	35	65	0.46	- 1.66	0.28	3	0	0.0	0	9.7	30	26*	34	21+	9	15	7	5.1	
KANSAS																																
CONCORDIA	1470	969.2	1019.5	70	42	55.9	- 1.8	84	7+	27	9	0	5	37	55	0.22	- 1.46	0.22	1	0	0.0	0	10.9	18	40	S	1	18	4	9	3.6	86
DODGE CITY	2582	930.7	1019.3	72	43	57.2	- 1.1	89	1	28	19	0	2	38	56	0.83	- 0.59	0.79	3	3	0.0	0	12.3	16	37	S	30	17	7	7	3.6	82
GOODLAND	3645	891.4	1019.1	71	35	53.1	0.0	91	1	20	19	1	12	28	45	0.02	- 0.74	0.02	1	1	0.0	0	11.9	17	44*	36	1	20	7	4	2.8	
TOPEKA	876	984.3	1020.3	70	39	54.6	- 3.6	83	16	25	20	0	7	40	62	0.14	- 2.20	0.09	3	0	0.0	0	7.6	36	30	NW	19	17	4	10	4.2	73
WICHITA	1321	970.5	1019.5	72	45	58.7	- 1.2	85	7	31	20+	0	2	42	60	1.64	- 0.76	1.55	4	3	0.0	0	10.7	18	36	SW	31+	17	8	6	3.7	73
KENTUCKY																																
COVINGTON	869	987.8	1019.9	67	38	52.7	- 3.4	84	17	25	11	0	7	37	62	0.59	- 1.67	0.28	4	1	0.0	0	6.8	21	23*	25	21+	13	8	10	4.7	
LEXINGTON	979	984.5	1020.5	65	40	52.7	- 5.4	79	18+	27	20	0	6	38	59	0.57	- 1.71	0.44	3	2	0.0	0	7.9	18	29*	20	21	16	9	6	3.7	
LOUISVILLE	474	1000.6	1020.2	67	40	53.4	- 4.5	80	18+	27	24+	0	4	41	67	0.62	- 1.63	0.37	3	1	0.0	0	6.1	18	27	W	8	15	9	7	4.0	74
LOUISIANA																																
ALEXANDRIA	92	1014.6	1019.3	75	46	60.9	- 6.2	83	1	33	20	0	0	51	77	1.07	- 2.46	1.05	3	0	0.0	0	4.8	6	28*	1	4	17	8	6	3.3	
BATON ROUGE	64	1015.4	1018.5	77	52	64.6	- 4.5	84	1	39	20	0	0	53	72	9.46	7.01	8.38	6	1	0.0	0	7.5	36	40*	33	4+	18	6	7	3.7	
LAKE CHARLES	14	1017.8	1019.1	78	53	65.8	- 4.7	85	1	36	20	0	0	54	71	0.30	- 2.76	0.20	2	0	0.0	0	8.7	4	29*	1	3	19	8	4	3.2	
NEW ORLEANS	3	1015.8	1018.1	76	54	64.8	- 5.6	84	1	36	21	0	0	55	74	3.50	0.66	2.24	5	2	0.0	0	7.9	4	40*	17	4	17	6	8	3.7	
NEW ORLEANS AUDUBON	6	1010.7		77	55	66.0	- 5.1	84	23	42	21+	0	0			4.64	1.49	2.23	5	2			5.4		24	W	4	17	7	7	3.9	63
SHREVEPORT	252	1011.3	1020.6	77	51	64.2	- 4.1	87	2	38	20	0	0	49	65	0.64	- 2.17	0.49	3	0	0.0	0	8.3	2	29*	36	18	22	3	6	2.6	85
MAINE																																
CARIBOU	624	992.1		49	33	41.0	- 2.0	71	16	23	8	0	15			4.19	0.83	2.00	15	1	0.9	1						5	8	18	7.2	
PORTLAND	61	1012.9	1016.9	59	35	47.1	- 1.5	75	16	18	12	0	11	37	70	3.45	0.25	1.87	11	0	0.0	0	6.8	34	26	NW	11	9	9	13	5.7	60
MARYLAND																																
BALTIMORE	148	1014.3	1019.1	65	41	53.3	- 3.7	79	26	27	24+	0	4	40	65	1.19	- 1.99	0.67	5	0	0.0	0	8.5	29	30	NW	10	16	5	10	4.4	66
BALTIMORE U	14			67	49	57.9	- 2.1	82	26+	36	11	0	0			0.92	- 2.33	0.56	5													
MASSACHUSETTS																																
BLUE HILL OBS R	629	992.5		61	43	51.6	- 1.1	79	16	29	24	0	3			2.78	- 0.97	1.42	9	0	0.0	0	15.1	NW								61
BOSTON	15	1012.7	1017.3	61	44	52.5	- 2.5	77	16	34	24	0	0	41	69	2.82	- 0.32	1.42	10	0	T		11.6	30	36*	NW	11	12	5	14	5.7	65
NANTUCKET	43	1016.6	1017.2	59	47	53.4	- 0.9	69	27	35	12	0	0	46	78	3.92	0.22	1.30	11	1	0.0	0	12.1	24	42	N	21	10	8	13	6.2	49
PITTSFIELD	1170			59	35	46.9	- 1.2	80	16	25	24+	0	13			0.94	- 2.31	0.36	10		T											
WORCESTER	986	980.4	1017.3	59	40	49.6	- 0.9	78	16	26	24	0	7	36	64	2.26	- 1.21	1.34	9	0	2.1	T	9.8	30	32*	30	3	10	9	12	5.4	
MICHIGAN																																
ALPENA	689	994.3		58	34	45.9	- 0.4	80	17	21	11	0	14			1.10	- 1.32	0.40	7	0	1.0	1	7.2	24	30	NW	4	8	11	12	5.8	66
DETROIT	619	992.3	1019.2	62	41	51.4	- 2.4	78	17	29	11	0	4	37	60	0.50	- 2.13	0.20	7	1	T	T	9.8	25	38	W	21	12	11	8	4.8	61
DETROIT M WAYNE CO	633	995.2	1019.9	60	33	46.5	- 7.5	77	17	20	11	0	11	33	62	0.35	- 2.22	0.14	5	1	T		8.9	22				10	12	9	4.9	
DETROIT WILLOW RUN	711	990.7	1019.4	60	36	48.1	- 5.8	78	17	21	11	0	9	35	65	0.39	- 2.14	0.19	3	1	T	T	9.1	21	35*	27	21	12	9	10	4.8	
FLINT	766	991.3	1019.7	58	34	46.1	- 3.9	75	17	22	11	0	14	36	71	0.61	- 1.76	0.22	7	1	T	T	8.7	22	23*	28	4	9	13	9	5.2	
GRAND RAPIDS	784	993.1	1019.2	59	35	47.2	- 4.0	76	17	25	7	0	12	39	77	0.60	- 2.01	0.30	9	0	T	T	8.4	23	33	W	4	10	10	11	5.6	57
LANSING	841	986.7	1019.2	60	33	46.4	- 4.9	78	17	22	11	0	14	38	76	0.65	- 1.85	0.33	6	0	T	T	8.4	24	29	SW	4	11	10	10	5.0	53
MARQUETTE U	677	988.8		56	39	47.4	- 0.6	79	14	28	6	0	7			1.79	- 0.54	0.45	11	0	1.7	1	9.7	SW#	34	S	1	6	6	19	7.3	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

OCTOBER 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
MUSKEGON	627	996.0	1019.5	58	38	47.7	- 4.8	71	17+	26	30+	0	8	39	74	0.77	- 1.78	0.37	7	0	T	T	10.6	34	28*	35	9	8	11	12	5.8	
SAULT STE MARIE	721	993.0	1016.5	53	35	44.0	- 2.3	71	16	24	6	0	13	36	76	2.79	- 0.03	0.95	12	1	5.2	2	10.0	31	38*	32	4	7	8	16	6.7	55
MINNESOTA																																
DULUTH	1428	974.7	1016.9	54	35	44.4	- 0.2	75	15	20	29	0	12	31	65	0.59	- 1.58	0.54	5	1	T	T	9.9	24	50	W	2	8	7	16	6.3	59
INTERNATIONAL FALLS	1179	973.4	1015.2	54	32	43.0	0.6	81	14	18	29	0	19	33	73	0.42	- 1.32	0.15	6	1	0.4	T	11.2	18	37*	27	3	6	9	16	6.6	
MINNEAPOLIS	834	983.9	1018.0	59	37	48.2	- 0.7	77	16	25	10+	0	12	38	71	0.57	- 1.02	0.21	6	0	T	T	10.0	18	35	W	3	10	9	12	5.3	56
ROCHESTER	1297	981.4	1019.2	57	36	46.5	- 3.4	78	16	23	10	0	13	35	67	0.52	- 1.18	0.41	5	0	T		12.7	18	31*	23	3	11	6	14	5.6	
ST CLOUD	1034	978.7		58	37	47.2	- 0.1	77	15	20	29	0	12			0.19	- 1.45	0.07	4	0	0.4	T						10	13	8	5.3	
MISSISSIPPI																																
JACKSON	310	1007.4	1019.6	77	48	62.5		86	1	34	20	0	0	50	71	7.83		6.97	4	0	0.0	0	7.8	2	36*	N	4	19	5	7	3.5	
MERIDIAN	290	1005.8	1019.8	74	46	59.8	- 5.8	85	1	30	20	0	2	50	77	4.18	1.96	3.46	5	1	0.0	0	6.3	36	35*	2	4	19	3	9	3.8	
VICKSBURG U	234	1010.3		73	53	62.9	- 4.6	82	17	42	11+	0	0			2.84	0.80	1.85	3	1	0.0	0	7.1		36	N	4	18	6	7	3.4	72
MISSOURI																																
COLUMBIA	778	990.9	1019.6	69	43	56.2	- 2.5	87	17	29	20	0	3	37	53	0.36	- 2.76	0.35	3	0	0.0	0	9.7	16	31	N	4	20	6	5	3.2	81
KANSAS CITY	742	984.7	1019.8	70	45	57.6	- 2.6	81	16	33	20+	0	0	38	53	0.36	- 2.50	0.22	3	1	0.0	0	7.5	19	26	NW	19+	16	5	10	4.0	71
ST JOSEPH	811	985.2		70	39	54.5	- 2.9	82	16	25	20+	0	6			0.11	- 2.07	0.11	1	0	0.0	0	6.7	18	23*	13	31+	18	5	8	3.6	
ST LOUIS	535	999.7	1020.7	68	40	54.0	- 4.4	84	17	29	20+	0	4	40	62	0.73	- 2.13	0.73	2	0	0.0	0	8.3	30	28	NW	4	22	5	4	3.0	81
ST LOUIS RFC	465			68	48	58.1	- 2.7	82	17	36	20+	0	0			0.84	- 1.93	0.84	2		0.0	0										
SPRINGFIELD	1265	972.7	1020.6	70	42	56.1	- 3.6	89	17	24	20	0	5	39	59	1.99	- 1.77	1.83	3	1	0.0	0	8.2	16	27	N	4	20	5	6	3.1	71
MONTANA																																
BILLINGS	3567	894.0	1018.7	65	38	51.5	2.0	82	14	29	18+	0	7	27	44	0.22	- 0.87	0.19	4	1	T		11.7	23	47	NW	3	13	14	4	4.2	73
GLASGOW	2277	942.3		64	35	49.3	3.9	88	13	22	19	0	12			0.20	- 0.44	0.16	3	0	1.6	1						11	10	10	5.1	
GREAT FALLS	3662	891.0	1019.0	66	40	53.0	5.5	85	13	24	27	0	7	27	41	T	- 0.73	T	0	0	T		14.1	23	38	SW	2	11	11	9	5.1	81
HAVRE	2582	928.0		64	32	48.1	2.3	85	13	19	23	0	15			0.13	- 0.66	0.11	3	1	T	T	8.7	SW#	39	NW	21	11	11	9	5.0	71
HELENA	3828	877.2	1021.2	64	31	47.4	1.8	76	14	21	18	0	17	28	52	0.04	- 0.62	0.03	2	0	0.0	0	7.3	27	38	W	1	12	12	7	4.7	75
KALISPELL	2965	916.4	1023.0	55	30	42.3	- 1.6	67	7	21	23+	0	19	35	83	0.95	- 0.29	0.36	9	0	1.6	T	5.8	18	26	25	1	11	5	15	5.9	
MILES CITY	2629		1018.5	65	35	50.3	1.3	84	13	24	19	0	11	29	49	0.25	- 0.62	0.07	5	0	0.0	0	9.6	15	29*	30	1					
MISSOULA	3190	907.0	1023.7	57	28	42.1	- 1.9	72	7	19	24	0	26	34	80	0.50	- 0.49	0.16	8	0	1.7	1	4.0	29	23	NW	2+	11	6	14	5.8	59
NEBRASKA																																
GRAND ISLAND	1841	952.5	1019.7	69	36	52.1	- 1.3	85	16+	22	9	0	11	33	56	0.13	- 0.83	0.13	1	1	0.0	0	11.1	17	30*	36	1	16	11	4	3.3	
LINCOLN U	1150			67	42	54.8	- 1.9	83	1	30	9	0	4			0.37	- 1.21	0.29	2	0	0.0	0	9.8	S#	34	SW	3	14	6	11	4.4	74
NORFOLK	1544	962.8		66	37	51.4	- 1.5	83	16	23	9	0	11			0.22	- 0.96	0.10	3	2	0.0	0						17	10	4	3.4	
NORTH PLATTE	2775	918.6	1018.7	69	31	50.3	- 0.7	89	15+	17	19	0	18	31	54	0.17	- 0.74	0.17	2	2	0.0	0	8.6	34	34	N	1	20	8	3	3.1	79
OMAHA	978	979.1	1019.7	68	39	53.7	- 2.0	84	1	27	20+	0	7	38	61	0.50	- 1.23	0.26	3	1	0.0	0	7.9	16	32	N	17	15	10	6	4.1	74
OMAHA N OMAHA AP	1323			65	40	52.7	- 1.7	80	16+	26	9	0	7			0.36	- 1.30	0.19	3	1	0.0	0						14	9	8	4.0	
SCOTTSBLUFF	3957	882.5	1019.7	69	31	50.0	- 0.4	85	1	19	19	0	17	25	43	0.08	- 0.61	0.08	1	0	0.0	0	10.5	31	36*	35	1	16	8	7	3.7	
VALENTINE	2587	926.8		67	32	49.6	0.3	88	15	21	23	0	17			0.02	- 0.86	0.02	1	0	0.0	0	10.5		40	NW	1	23	8	0	2.5	
NEVADA																																
ELKO	5050	848.6	1020.5	72	27	49.3	2.4	85	7	11	25	0	24	20	36	0.48	- 0.27	0.48	2	0	0.0	0	5.5	5	28*	21	15	18	5	8	3.9	
ELY	6253	813.0	1019.6	70	29	49.6	3.7	81	7+	15	18	0	22	22	40	0.19	- 0.54	0.19	1	0	T		6.3	19	38	SW	29	21	4	6	3.3	87
LAS VEGAS	2162	948.6	1014.4	87	57	72.0	5.4	98	8	46	25	15	0	29	23	T	- 0.20	T	0	0	0.0	0	7.1	24	30*	SW	29	26	4	1	1.7	93
RENO	4404	865.3	1019.3	77	33	55.3	6.1	87	7	23	21+	0	10	33	53	0.04	- 0.47	0.04	1	0	0.0	0	4.3	16	27	SW	7	21	3	7	3.1	96
WINNEMUCCA	4299	871.1		74	30	52.2	4.5	89	7	15	24	0	20			0.38	- 0.43	0.38	2	1	0.0	0	7.2	6	26	NE	15	18	4	9	3.5	76
NEW HAMPSHIRE																																
CONCORD	339	1006.3	1017.2	62	33	47.4	- 1.3	83	16	18	12+	0	14	36	69	2.24	- 0.42	0.95	10	0	T		6.6	32	28*	28	21	9	10	12	5.5	64
MT WASHINGTON OBS	6262			35	22	28.5	- 2.4	54	16	5	11	0	24			5.30	- 0.89	1.53	19	0	23.5	9	32.1	W#	91Y	W	3	3	8	20	7.3	41
NEW JERSEY																																
ATLANTIC CITY	58	1017.1	1019.2	65	42	53.5	- 3.7	78	26	26	24	0	5	43	72	2.67	- 0.53	1.29	7	0	0.0	0	9.4	32	23*	29	23	13	7	11	4.7	65
ATLANTIC CITY U	11			64	49	56.3	- 2.4	77	26+	34	24+	0	0			2.35	- 1.04	0.84	8				12.3		35*	NW	3					
NEWARK	11	1017.6	1018.7	65	47	55.9	- 1.7	80	18	35	24	0	0	39	57	1.55	- 1.56	0.88	5	0	0.0	0	9.9	23	28*	5	17+	13	8	10	5.0	
TRENTON U	56	1010.8		63	44	53.8	- 3.0	78	18	32	24	0	1			1.81	- 1.03	1.25	6	1	0.0	0	7.8	NW#	25	NW	3	13	9	9	4.7	66

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station ⌀	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	851.3	1017.1	74	45	59.4	1.4	85	3	34	26	0	0	30	37	0.04	- 0.71	0.04	1	1	0.0	0	5.5	12	38	E	18	23	7	1	1.9	92
CLAYTON	4969	848.8		72	41	56.3	1.0	88	3	32	26+	0	2			0.01	- 0.99	0.01	1	1	T							21	4	6	2.9	
RATON	6379	809.8		70	32	51.2	0.1	84	3	23	25	0	13			0.10	- 0.94	0.10	1	0	0.0	0						23	3	5	2.9	
ROSWELL	3617	896.2		80	42	60.9	1.9	91	10+	30	20	2	2			T	- 1.07	T	0	0	0.0	0	7.2		27	N	2	21	7	3	2.5	82
SILVER CITY	5373	839.0		75	45	60.1	0.4	82	3+	37	20	0	0			0.00	- 0.81	0.00	0	0	0.0	0						24	4	3	1.7	
NEW YORK																																
ALBANY	277	1014.7	1018.6	61	37	49.2	- 1.6	78	16+	21	8	0	10	36	64	0.54	- 2.23	0.30	5	0	T		7.2	18	29	W	3	11	5	15	5.9	52
BINGHAMTON	1590	959.1	1018.9	58	39	48.3	- 1.5	77	16	27	24+	0	8	36	64	1.06	- 2.03	0.44	10	0	T		9.6	34	26	NW	10	11	4	16	6.1	56
BUFFALO	705	989.9	1018.5	57	39	48.1	- 2.7	76	16+	28	7	0	6	38	71	1.89	- 1.11	0.56	10	2	T		10.1	18	31	SW	21	12	3	16	6.1	61
NEW YORK U	132	1007.7		64	46	55.0	- 3.3	78	26+	33	24	0	0			1.73	- 1.41	0.69	6	0	0.0	0	7.9	W#	32	W	3	14	8	9	4.3	66
NEW YORK LA GUARDIA	11	1016.2	1018.3	62	48	55.4	- 3.2	75	26	36	11	0	0	40	60	1.68	- 1.69	0.68	6	0	0.0	0	10.4	33	34	NW	3	11	10	10	5.0	
ROCHESTER	547	999.4	1018.9	60	38	48.7	- 3.1	76	2	26	7	0	9	36	66	0.76	- 1.82	0.24	10	0	T	T	8.8	25	38	W	2	13	3	15	5.6	54
SCHENECTADY	217			61	38	49.4	- 2.0	76	16	24	8	0	9			0.50	- 2.41	0.21	6	0	T		3.2		20*	W	30+	20	4	7	3.7	
SYRACUSE	417	996.0	1018.2	60	39	49.5	- 2.3	77	17	25	8	0	6	39	70	1.52	- 1.66	0.58	9	0	0.3		8.9	26	35	NW	2	8	10	13	5.8	54
NORTH CAROLINA																																
ASHEVILLE	2140	939.5	1019.2	65	39	52.0		78	18	26	24	0	9			9.15		5.18	9	0	0.0	0	7.9	34	35*	34	16	16	6	9	4.0	71
CAPE HATTERAS R	7	1016.7	1017.4	69	56	62.3	- 3.1	83	4	33	25	0	0	55	78	7.41	3.17	4.08	11	2	0.0	0	11.7	4	36	E	16	11	6	14	5.6	53
CHARLOTTE	735	990.8	1019.0	67	44	55.7	- 6.8	82	18	31	21	0	1	45	72	7.20	4.24	3.34	9	0	0.0	0	6.7	3	22	NE	16	16	5	10	4.2	66
GREENSBORO	897	987.1	1019.6	66	42	54.4	- 4.9	82	18	30	21+	0	4	44	73	8.15	5.44	4.10	6	0	0.0	0	6.5	3	32	NE	16	16	4	11	4.2	64
RALEIGH	433	1004.8	1018.7	68	43	55.2	- 5.3	81	18	29	24+	0	3	45	75	3.95	1.24	2.79	7	1	0.0	0	6.7	36	20*	18	21+	16	3	12	4.6	64
WILMINGTON	28	1015.5	1018.3	72	52	62.0	- 3.4	85	4	35	25	0	0	52	75	9.81	6.80	4.34	9	2	0.0	0	6.8	2	25	N	6	11	4	16	6.0	58
WINSTON SALEM	963	983.9	1019.3	67	46	56.1	- 4.2	82	18	33	21	0	0	44	68	8.16	5.09	3.55	6	1	0.0	0	6.5	5	23*	4	16	17	4	10	4.1	
NORTH DAKOTA																																
BISMARCK	1647	956.4	1017.5	62	33	47.2	0.5	84	14	19	9	0	16	27	51	0.10	- 0.75	0.10	1	0	1.0	1	11.1	30	42	NW	3	15	5	11	5.0	73
FARGO	896	982.0	1016.9	59	32	45.2	- 1.3	80	14	18	9	0	17	32	63	0.10	- 1.01	0.08	3	0	T	T	10.2	18	48	NW	3	8	10	13	5.8	61
WILLISTON	1899	948.7		62	31	46.4	0.8	84	13	17	22	0	17			0.27	- 0.46	0.13	4	0	1.3	T	11.2	NW#	50	NW	3	10	9	12	5.5	67
OHIO																																
AKRON	1208	981.6	1020.1	63	37	50.0	- 2.9	80	17+	25	11	0	11	35	62	1.26	- 1.22	0.40	7	3	T		7.9	24	24*	24	21	13	6	12	5.1	
CINCINNATI OBS	761			67	41	53.9	- 4.0	82	17	28	11	0	4			0.71	- 1.53	0.32	4	1	0.0	0	5.2	S#	19	NW	2					72
CINCINNATI U	553	996.8		68	44	55.9	- 3.6	82	17	32	11	0	1			0.49	- 1.66	0.27	4	1	0.0	0										
CLEVELAND	777	991.2	1019.4	60	38	49.2	- 3.6	77	1	25	11	0	8	39	72	1.78	- 0.64	0.90	11	2	T		9.1	20	31	NW	21	11	11	9	5.2	64
COLUMBUS	812	990.3	1020.5	65	37	51.1	- 3.1	82	17	24	11	0	11	35	59	0.38	- 1.73	0.15	5	2	0.0	0	7.4	36	35	N	2	12	9	10	4.7	67
COLUMBUS U	724			65	43	53.8	- 2.7	80	17	27	11	0	2			0.66	- 1.22	0.23	5	3	0.0	0										
DAYTON	1002	987.3	1020.3	66	39	52.3	- 3.3	81	17+	28	24+	0	7	35	56	0.53	- 1.70	0.32	5	1	0.0	0	8.6	20	34	W	21	14	8	9	4.6	72
MANSFIELD	1297			62	38	49.9	- 2.5	77	16	23	11	0	7			1.09	- 1.18	0.37	6	2	T							12	10	9	4.9	
TOLEDO	676	996.8	1019.8	61	34	47.5	- 4.6	78	17	18	11	0	12	33	62	0.28	- 2.11	0.11	3	0	0.0	0	7.5	23	36	W	21	11	15	5	4.6	72
YOUNGSTOWN	1178	976.7	1019.8	61	37	49.0	- 2.9	79	16	26	24	0	9	35	63	1.83	- 0.88	1.03	11	2	T		9.2	22	35*	28	21	10	5	16	5.6	
OKLAHOMA																																
OKLAHOMA CITY	1280	975.9	1019.6	73	48	60.3	- 2.6	88	17	38	20+	0	0	45	62	0.84	- 1.67	0.65	4	3	0.0	0	11.1	16	39	SW	7	19	7	5	3.0	77
TULSA	650	995.4	1020.1	75	46	60.1	- 2.7	88	21+	34	20+	0	0	44	62	1.24	- 2.07	0.74	3	1	0.0	0	9.6	18	36	SW	7	18	6	7	3.4	66
OREGON																																
ASTORIA	8	1017.3	1018.1	63	44	53.8	0.9	81	5	32	26	0	1	46	77	2.61	- 5.17	0.78	15	1	0.0	0	7.5	12	26*	6	3	7	11	13	6.2	
BURNS U	4151	876.3		68	32	49.9	1.5	85	7	22	17	0	14			0.26	- 0.60	0.13	6	2	0.0	0						18	6	7	3.8	
EUGENE	359	1004.9	1018.5	68	43	55.7	2.5	86	4	31	26	0	1	47	81	1.03	- 2.80	0.49	6	0	0.0	0	5.2	36	21*	1	3	10	6	15	6.0	
MEACHAM	4050			59	40	49.4	3.1	80	7	29	18	0	6			1.51	- 1.33	0.76	10		1.7							12	7	12	5.1	
MEDFORD	1298	970.4	1018.3	73	39	55.9	2.9	90	6+	27	17	2	9	43	72	0.90	- 1.04	0.52	6	0	0.0	0	3.5	18	18*	30	7	15	7	9	4.5	
PENDLETON	1482	966.4	1020.8	64	40	51.9	- 1.8	75	6	33	28+	0	0	37	63	0.80	- 0.38	0.38	6	1	0.0	0	8.3	14	35*	28	2	17	4	10	4.4	
PORTLAND	21	1013.0		65	42	53.2	- 1.0	80	5	32	23	0	1			0.84	- 2.77	0.29	9	1	0.0	0	7.6	12	30	NE	4	8	7	16	6.2	49
PORTLAND U	30			67	49	58.2	1.7	82	6	40	26	0	0			1.00	- 2.89	0.31	9		0.0	0										
ROSEBURG	515	999.6		70	44	56.7	2.3	88	6+	36	24+	0	0			0.92	- 2.10	0.32	8	0	0.0	0	3.1	NE#	16	N	16+	7	12	12	6.1	55
SALEM	196	1011.6	1019.1	67	40	53.2	- 0.9	85	5	26	26	0	5	44	78	0.93	- 2.98	0.25	9	0	0.0	0	5.0	18	21*	36	3	9	8	14	5.9	
SEXTON SUMMIT R	3836	886.3		65	47	56.1	5.4	83	4	32	26	0	1			0.89	- 2.52	0.39	6	0	0.0	0	9.7					16	5	10	4.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
CANTON ISLAND	8	1009.3	1009.7	86	77	81.4	-2.3	88	6	75	15+	0	0	69	69	0.62	-0.48	0.45	5	0	0.0	0	14.0	8	24*	10	20	12	13	6	4.7	
ENIWETOK	13	1008.9		87	77	82.0	-1.0	89	31+	71	26	0	0			10.64	1.55	2.36	25	2	0.0	0	11.4									
TAGUAC GUAM R	361	997.7		86	72	79.0	-0.3	90	11	70	29+	1	0			14.62	1.52	5.02	27	5	0.0	0	5.3	E#	29	SE	5					50
JOHNSTON	7	1012.4	1013.3	83	76	79.5	-1.4	85	8+	70	31	0	0	72	77	2.33	-0.94	0.61	14	0	0.0	0	13.5	9	33	SE	25	3	8	20	7.6	28
KOROR R	94	1006.1	1008.7	88	75	81.5	0.3	91	10	73	28+	8	0	76	87	10.19	-2.90	3.50	25	1	0.0	0	5.8	22	19	NE	18	0	1	30	9.7	51
KWAJALEIN	8	1008.6	1009.5	86	75	80.6	-1.3	88	17+	72	29+	0	0	75	84	20.05	9.17	3.89	26	0	0.0	0	11.0	9	39*	15	8	0	8	23	8.7	
PONAPE R	123	1004.5	1009.0	87	72	79.6	-0.1	91	30	69	18+	3	0	74	87	11.02	-4.95	2.55	24	5	0.0	0	5.1	14	18	NE	23	1	6	24	8.6	42
TRUK MOEN ISLAND	5	1008.1	1008.4	87	75	80.8	0.2	90	9	72	1	1	0	75	83	15.80	2.35	2.63	25	4	0.0	0	8.1	12	28	S	31	0	2	29	9.3	47
WAKE	11	1012.2	1012.6	85	76	80.4	-1.2	88	12	71	13	0	0	73	80	2.80	-2.47	1.02	16	1	0.0	0	10.0	6	23*	11	16	10	6	15	6.3	
YAP R	55	1006.9	1007.8	87	76	81.5	0.0	90	24+	73	19+	2	0	76	85	11.69	-1.50	2.36	23	1	0.0	0	6.4	18	24	WSW	2	1	2	28	9.2	30
PENNSYLVANIA																																
ALLENTOWN	376	1004.9	1019.2	63	38	50.8	-3.0	78	18	25	24+	0	8	38	67	1.37	-1.60	0.90	4	0	0.0	0	9.4	29	32*	31	10+	13	7	11	4.8	
ERIE	732	992.9	1019.4	58	42	50.0	-2.6	73	2+	32	11	0	1	39	69	2.96	-0.34	0.62	12	4	T	T	13.2	18	32*	29	21+	9	10	12	5.5	
HARRISBURG	335	1005.8	1019.7	64	40	52.0	-3.7	79	18	26	24	0	6	39	66	1.92	-1.05	1.06	3	0	0.0	0	7.5	26	27	NW	10	13	5	13	5.3	66
PHILADELPHIA	5	1014.5	1019.0	64	41	52.6	-3.1	78	18	28	12+	0	5	41	68	1.73	-1.05	1.01	4	0	0.0	0	8.0	24	29	NW	3	13	8	10	4.9	63
PITTSBURGH	1137	989.1	1019.8	63	38	50.4	-2.7	79	16	26	12	0	8	34	58	1.42	-1.10	0.81	4	2	T		8.1	26	28*	33	2	10	6	15	5.7	68
PITTSBURGH U	749			64	43	53.3	-2.8	78	18+	32	24	0	1			1.94	-0.56	1.03	7		T											52
READING U	266	1006.9		65	43	53.8	-3.4	78	18+	31	12	0	2			1.45	-1.39	0.82	4	0	0.0	0	8.7	NW#	37	NW	3	13	7	11	4.7	63
SCRANTON	930	984.8	1019.3	60	39	49.4	-1.6	80	16	26	24	0	9	36	65	1.13	-2.37	0.62	7	0	0.2		7.0	23	35	NW	2	11	5	15	5.7	57
WILLIAMSPORT	527	1000.7	1020.0	64	39	51.4	-1.7	82	18+	27	12	0	7	39	68	1.10	-2.22	0.40	6	0	T		5.5	27	18*	27	10	11	4	16	5.6	
RHODE ISLAND																																
BLOCK ISLAND	110	1012.8		59	47	53.2	-2.0	67	28+	36	12+	0	0			2.73	-0.29	1.23	7	0	0.0	0						10	11	10	5.3	
PROVIDENCE	51	1011.2	1017.2	63	42	52.6	-0.6	78	27	29	12	0	2	40	66	2.11	-0.99	1.00	6	0	0.0	0	9.5	34	31*	29	3	15	3	13	5.3	51
SOUTH CAROLINA																																
CHARLESTON	41	1015.7	1017.8	73	52	62.5	-3.7	86	1	35	25	0	0	52	74	7.53	4.69	3.07	8	3	0.0	0	8.8	2	39Y	N	5	11	11	9	5.3	62
CHARLESTON U	9			72	57	64.6	-3.5	83	4+	45	21	0	0			4.34	1.60	2.03	8		0.0	0	11.6		35	N	5					
COLUMBIA	217	1005.6	1018.6	72	47	59.1	-5.6	84	18	34	25+	0	0	48	75	10.34	7.96	5.46	10	0	0.0	0	6.4	36	22*	36	5	17	3	11	4.2	68
FLORENCE	146	1012.3	1018.0	71	49	59.8	-5.2	84	18+	35	25	0	0	49	74	8.16	5.98	4.05	9	1	0.0	0	7.9	2	23*	2	15+	16	3	12	4.6	
GNVLE SPARTANBURG	957	982.1	1019.4	69	46	57.8	-5.2	83	18	34	21	0	0	45	66	10.24	6.88	4.28	7	0	0.0	0	6.8	3	31	NE	16	16	6	9	4.1	71
SOUTH DAKOTA																																
HURON	1282	970.0	1017.8	66	33	49.9	1.1	83	1	16	9	0	13	29	49	0.06	-1.09	0.06	1	1	0.0	0	13.0	15	42	NW	7+	18	9	4	3.5	83
RAPID CITY	3165	904.0	1018.8	66	37	51.7	1.7	85	14	27	19	0	7	24	38	0.50	-0.29	0.50	1	0	0.0	0	11.3	31	40	NW	3+	21	5	5	3.1	84
SIOUX FALLS	1418	966.2	1018.6	63	34	48.7	-1.6	80	15	19	23	0	14	34	60	0.09	-1.16	0.06	2	1	0.0	0	10.8	18	35*	34	3	17	7	7	3.8	
TENNESSEE																																
BRISTOL	1507	965.1	1019.9	67	41	54.0	-4.0	84	2	29	24+	0	4	42	70	4.95	2.80	3.65	6	0	0.0	0	5.0	7	20*	24	21	15	7	9	4.1	
CHATTANOOGA	670	992.1	1020.1	70	45	57.2	-4.9	82	18	32	21	0	1	47	77	3.53	0.51	1.78	8	0	0.0	0	4.7	31	24	N	5	16	6	9	4.1	68
KNOXVILLE	980	984.6	1020.4	67	44	55.5	-5.4	82	1	33	24+	0	0	46	74	2.10	-0.51	0.62	8	1	0.0	0	6.1	4	29	SW	21	19	3	9	4.0	68
MEMPHIS	263	1005.5	1020.4	71	47	58.9	-4.2	82	17+	34	20	0	0	47	68	2.21	-0.51	1.66	5	2	0.0	0	6.3	4	31	N	4	20	5	6	3.0	75
MEMPHIS U	271			70	52	61.0	-3.7	82	3	40	11	0	0			1.68	-1.18	1.44	4		0.0	0										
NASHVILLE	577	999.9	1020.0	69	44	56.7	-4.8	83	1	31	20	0	2	46	71	1.83	-0.49	0.80	6	3	0.0	0	7.0	18	28	NW	18	17	8	6	3.8	69
OAK RIDGE	905	987.6		67	43	55.1	-4.8	80	18+	34	24+	0	0			2.61	-0.06	1.24	8	1	0.0	0	3.9		33Y		1	19	3	9	3.8	
TEXAS																																
ABILENE	1762	957.4	1018.6	78	54	66.0	-0.2	93	17	43	20+	1	0	46	54	0.50	-2.35	0.34	3	2	0.0	0	9.9	16	31	S	31	18	9	4	3.0	82
AMARILLO	3604	892.0	1017.5	76	46	60.6	0.1	89	16	32	19	0	1	37	49	0.08	-1.68	0.05	3	2	0.0	0	12.6	21	34	N	2	22	6	3	2.4	85
AUSTIN	597	997.9	1019.8	79	56	67.6	-3.1	88	3	44	21+	0	0	52	63	3.74	0.91	3.62	2	1	0.0	0	8.1	2	25	N	18	21	7	3	2.6	82
BROWNSVILLE	16	1015.6	1018.1	83	61	72.2	-3.7	91	3	50	21+	2	0	61	71	0.40	-3.13	0.39	2	0	0.0	0	9.8	33	27	NW	19	14	16	1	3.5	74
CORPUS CHRISTI	41	1017.7	1019.0	83	58	70.3	-4.2	92	3	40	20	3	0	58	71	0.19	-2.57	0.18	3	0	0.0	0	10.1	2	32	N	18	20	10	1	2.9	73
DALLAS	481	1001.4	1020.0	76	54	64.9	-2.9	89	17	41	20	0	0	49	62	0.77	-1.93	0.68	3	2	0.0	0	9.0	36	24	NW	18+	22	3	6	2.7	80
DEL RIO	1026	984.1	1018.6	79	56	67.5		86	17+	45	20	0	0	54	68	2.47		1.45	4	2	0.0	0	8.8	12	21	33	18	18	10	3	2.7	
EL PASO	3918	889.0	1016.3	78	49	63.4	-1.0	87	1	38	20	0	0	38	43	0.40	-0.45	0.27	2	2	0.0	0	4.9	18	29	E	18	23	6	2	1.9	92
FORT WORTH	537	999.3	1020.3	76	51	63.6	-4.3	88	17	37	20	0	0	49	65	0.62	-1.97	0.51	3	2	0.0	0	7.1	36	26*	1	4	20	5	6	2.7	
GALVESTON U	7			75	64	69.8	-3.7	85	3+	57	20+	0	0			1.00	-1.86	1.00	2	0	0.0	0	8.8		30	NE	19					82
HOUSTON U	41			80	61	70.3	-2.1	88	3	49	20	0	0			1.72	-1.88	1.08	3		0.0	0										
HOUSTON	50	1016.4	1018.9	80	56	67.8	-3.6	89	3	38	20	0	0	54	68	2.35	-1.42	1.60	3	1	0.0	0	9.1	34	26*	1	19+	20	7	4	2.9	84

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

OCTOBER 1964

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90°F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
LAREDO	500	1003.5	1018.7	84	60	71.6	- 3.9	95	18+	46	20	3	0	55	60	1.60	- 0.03	1.60	2	1	0.0	0	8.1	15	25*	6	5	21	7	3	2.7	
LUBBOCK	3243	906.9	1018.5	77	48	62.1	0.9	91	17	35	20	2	0	43	56	0.30	- 1.70	0.24	3	3	0.0	0	11.5	18	35*	6	11	20	7	4	3.0	
MIDLAND	2851	918.5	1016.7	81	52	66.4	0.5	95	17	46	28+	3	0	45	55	0.19	- 1.47	0.12	2	1	0.0	0	9.6	18	29*	3	18	22	3	6	2.6	
PORT ARTHUR	16	1017.2	1018.7	80	54	66.6	- 3.7	87	2	37	20	0	0	55	73	0.07	- 2.81	0.07	1	1	0.0	0	8.3	2	37	N	3	21	6	4	3.0	80
SAN ANGELO	1903	951.1	1018.2	79	51	64.7	- 3.6	93	17	40	20	1	0	48	61	0.63	- 1.20	0.43	2	1	0.0	0	5.4	20	20*	6	4	19	9	3	2.8	
SAN ANTONIO	788	994.6	1019.7	80	53	66.4	- 4.2	88	17+	38	20	0	0	51	63	1.64	- 0.86	1.59	3	1	0.0	0	8.2	34	29	N	18	22	8	1	2.4	87
VICTORIA	104	1014.5		81	57	68.6	- 4.0	89	3	38	20	0	0			0.34	- 3.14	0.28	2	2	0.0	0	7.9		39Y		19	18	11	2	3.3	
WACO	500	998.4	1019.5	79	53	65.8	- 3.6	88	17	36	20	0	0	52	66	0.79	- 1.76	0.64	2	1	0.0	0	8.9	36	27*	35	4	20	7	4	2.7	
WICHITA FALLS	994	982.3	1019.5	77	49	63.0	- 3.4	93	17	38	20	1	0	47	61	0.35	- 2.52	0.33	2	2	0.0	0	9.2	18	27*	36	18+	20	7	4	2.6	
UTAH																																
MILFORD	5028	847.8		74	33	53.5	2.8	88	7	16	25	0	13			0.09	- 0.68	0.09	1	1	0.0	0						22	6	3	2.3	
SALT LAKE CITY	4220	871.9	1021.0	70	36	53.0	1.3	81	7	23	18+	0	9	27	44	0.45	- 0.70	0.45	2	1	0.0	0	6.5	10	43	NW	29	17	6	8	3.7	
WENDOVER	4237	874.7		64	41	52.6	- 0.6	80	15	30	25+	0	3			0.13	- 0.33	0.13	2	0	0.0	0						20	5	6	3.0	
VERMONT																																
BURLINGTON	327	1002.2	1017.1	57	34	45.3	- 2.3	75	16	22	23+	0	14	36	71	2.20	- 0.77	0.74	12	0	0.1	T	7.8	18	27	S	2	7	12	12	6.5	61
VIRGINIA																																
LYNCHBURG	916	994.1		65	41	52.7	- 5.5	80	18	27	21+	0	6			2.06	- 0.58	0.87	6	0	0.0	0	5.7		36	NE	16	17	4	10	4.0	66
NORFOLK	26	1017.9	1019.2	66	50	57.7	- 4.3	79	2	36	12	0	0	48	72	5.55	2.63	2.80	8	1	0.0	0	11.2	3	50	NE	16	13	6	12	5.2	58
RICHMOND	162	1013.1	1019.4	66	41	53.4	- 5.3	80	18	29	25+	0	6	43	76	3.62	0.62	2.22	7	0	0.0	0	6.2	1	25	NE	16	15	3	13	4.5	68
ROANOKE	1174	977.3	1019.8	67	41	54.0	- 4.2	80	18	28	24+	0	8	40	62	2.80	- 0.41	1.13	4	1	0.0	0	5.7	34	29*	4	16	18	3	10	3.9	
WASHINGTON																																
OLYMPIA	195	1011.5	1018.8	62	38	50.3	- 1.1	75	11+	30	25+	0	5	45	88	1.79	- 3.49	0.47	13	2	0.0	0	5.8	20	23*	23	2	4	12	15	6.8	
SEATTLE TACOMA	400	1004.6	1018.9	62	46	53.5	1.1	73	11+	37	26	0	0	46	79	1.00	- 3.02	0.34	11	1	0.0	0	7.1	1	21*	36	3	9	7	15	6.5	
SEATTLE U	14			62	50	55.9	1.5	76	11	42	26	0	0			0.83	- 2.45	0.24	11		0.0	0			31	SW	14+					57
SPOKANE	2356	951.1	1020.6	59	37	47.9	- 1.2	74	7	24	27+	0	8	36	69	0.46	- 1.11	0.30	4	1	T		9.6	6	40	SW	2	13	5	13	5.1	62
STAMPEDE PASS R	3958	882.7		49	37	43.3	0.9	68	21	28	26	0	9			4.64	- 4.17	1.12	13	0	6.9	2						11	3	17	6.1	
TATOOSH ISLAND R	101	1013.6	1017.6	57	47	51.9	0.0	70	4	41	26	0	0	46	81	4.60	- 3.62	1.98	13	2	0.0	0	19.1	6	65	E	4	8	5	18	6.7	58
WALLA WALLA U	949	983.4		63	43	53.2	- 1.9	73	13	35	27	0	0			0.66	- 0.87	0.31	8	0	0.0	0	4.5		18	NW	2	14	7	10	4.5	64
YAKIMA	1052	981.2	1020.7	66	34	50.1	- 0.4	79	7	28	21+	0	15	35	63	0.15	- 0.45	0.08	5	1	0.0	0	6.3	27	29*	27	2	10	11	10	5.1	
WEST INDIES																																
SAN JUAN P.R.	15	1012.2	1014.1	87	74	80.6	0.6	90	24	71	24+	1	0	73	80	3.13	- 2.70	0.98	20	5	0.0	0	6.3	7	25	E	2	3	17	11	6.2	56
SWAN ISLAND		1009.9		84	76	80.3	- 1.4	87	24+	72	21+	0	0			17.89	8.19	5.85	23	6	0.0	0						1	11	19	7.8	
WEST VIRGINIA																																
BECKLEY	2504	930.8	1020.5	60	37	48.4		75	2	20	11	0	10	37	69	3.39		1.18	7	1	0.0	0	6.4	14	25*	24	21	12	8	11	5.0	
CHARLESTON	939	984.5	1020.2	67	39	53.2	- 4.1	82	2	25	11	0	9	38	63	0.59	- 1.99	0.27	5	0	0.0	0	4.8	22	22*	22	21	14	7	10	5.0	
ELKINS	1970	950.5	1020.7	62	32	47.0	- 5.1	80	2	19	24+	0	18	37	77	0.94	- 2.09	0.41	7	1	0.0	0	4.7	30	25*	23	21+	8	6	15	5.9	
HUNTINGTON	827	989.6	1020.1	66	39	52.2	- 5.1	80	1	24	24	0	9	41	69	0.80	- 1.05	0.65	3	0	0.0	0	4.7	13	21*	23	21	14	7	10	4.7	
PARKERSBURG U	615			66	39	52.6	- 4.4	79	18+	26	24	0	7			0.48	- 1.57	0.23	6	2	0.0	0	5.8		28	SW	21+					61
WISCONSIN																																
GREEN BAY	682	995.0	1018.0	58	37	47.6	- 1.8	75	25+	26	23	0	10	38	74	0.44	- 1.47	0.29	7	0	T	T	9.8	22	38	S	3	7	15	9	5.7	52
LA CROSSE	652	992.7	1019.2	60	39	49.6	- 1.5	78	16	23	10	0	5	37	66	0.25	- 1.94	0.10	4	0	T	T	10.4	18	39*	34	21	9	10	12	5.2	
MADISON	858	983.3	1019.2	61	33	46.9	- 3.0	79	17	17	10	0	14	34	65	0.08	- 2.13	0.03	4	0	0.5	T	7.8	18	32	SW	3	11	11	9	5.0	64
MILWAUKEE	672	993.6	1018.9	60	37	48.2	- 1.8	81	17	25	11+	0	11	36	64	0.17	- 1.93	0.14	3	0	T	T	10.0	21	31	SW	3	10	14	7	4.6	66
WYOMING																																
CASPER	5319	840.6	1019.6	63	31	47.1	- 1.2	78	13	19	19+	0	18	20	39	0.23	- 0.61	0.11	3	0	T		11.1	25	30*	24	15+	15	10	6	4.1	
CHEYENNE	6126	816.9	1019.7	64	33	48.7	1.2	77	1	20	19+	0	12	19	36	0.03	- 0.80	0.03	1	0	0.0	0	12.8	29	43	NW	10	15	10	6	3.7	76
LANDER	5563	838.7	1019.4	64	33	48.5	1.4	78	14	21	19	0	14	24	43	0.34	- 0.87	0.29	2	0	3.0	3	6.2	24	34	W	15+	17	8	6	4.0	83
SHERIDAN	3964	887.7	1019.9	65	31	48.0	0.2	82	14+	18	23	0	18	26	47	0.34	- 0.79	0.17	4	0	0.0	0	8.1	33	40	NW	3	14	8	9	4.3	71

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70°F. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)				Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	189	994.4	1020.0	22.2	8.3	15.3	-3.4	29.4	1	0.0	20	0	1	8.9	71	75	0	42	8	0	0	0	2.8	9	15.2	NE	15	17	6	8	3.9	71
HUNTSVILLE	183	996.6	1020.0	20.6	7.2	14.0	-3.3	28.3	18	- 0.6	20	0	1	7.8	70	83	13	54	4	0	0	0	2.9	36	12.5*	36	5	17	6	8	4.0	
MOBILE	64	1015.5	1017.9	24.4	11.7	17.9	-3.1	30.0	1	3.9	20	0	0	11.7	72	61	- 15	34	7	0	0	0	4.8	36	20.6*	36	4	19	3	9	3.8	
MONTGOMERY	59	1010.6	1018.9	22.8	9.4	16.3	-2.9	28.9	1	2.2	21	0	0	10.6	75	159	101	108	5	1	0	0	3.2	36	13.4	N	4	16	6	9	4.0	73
ALASKA												B																				
ANCHORAGE	44	998.7	1003.1	6.1	- 2.2	1.7		12.8	3	-12.8	30	0	21	- 1.7	79	59		19	12	0	269	152	3.0	18	11.2*	18	22	2	11	18	7.6	36
ANNETTE	34	1006.9	1011.0	11.1	5.0	8.1	-0.1	21.7	5	0.0	30+	1	2	4.4	80	473	44	98	25	0	T	0	4.6	12	19.2*	15	18	1	5	25	8.8	
BARROW	7	1010.4	1011.0	- 7.8	-13.3	-10.6	-2.1	1.7	6	-26.7	30	0	31	-12.2	84	21	8	5	18	0	338	305	6.1	8	13.9*	9	19	4	6	21	8.1	
BARTER ISLAND	12	1008.5	1010.2	- 6.1	-12.8	- 9.4	-1.2	3.9	6	-27.8	30	0	31	-11.1	84	14	- 7	6	10	0	155	178	5.4	10	17.9*	10	31	1	4	26	0.9	
BETHEL	38	1002.2	1003.3	3.3	- 3.3	- 0.1	0.3	8.9	5+	-15.0	30	0	24	- 1.7	90	29	- 10	19	12	0	208	127	5.0	17	13.9*	16	19	0	6	25	8.7	
COLD BAY	29	1002.4	1006.0	6.7	1.7	4.3	-0.2	20.6	26	- 3.3	30	0	6	1.1	83	85	- 32	17	27	0	86	25	7.5	25	23.2*	17	19	0	5	26	9.0	
CORDOVA	12	1001.4	1003.0	8.3	0.6	4.3	-0.1	13.9	2	-11.7	31	0	16	1.7	85	340	37	96	22	0	264	203	2.6	11	16.5*	12	27	2	5	24	8.6	
FAIRBANKS	133	988.1	1005.4	1.7	- 6.1	- 2.0	1.2	13.9	6	-21.7	31	0	27	- 3.9	88	13	- 8	5	9	0	119	76	2.0	36	7.6*	24	22	1	5	25	8.8	
JUNEAU	4	1007.2	1008.1	10.0	4.4	7.2	1.9	15.6	6	- 1.1	31	0	1	5.6	89	187	- 25	39	26	0	T	0	4.2	12	19.7*	13	27	0	3	28	9.5	16
KING SALMON	13	1001.3	1002.6	6.1	- 2.2	1.7	-0.4	13.3	4	-13.9	30	0	22	- 1.7	79	53	- 2	20	13	1	122	102	4.4	36	22.8*	16	26	4	9	18	7.1	
KOTZEBUE	3	1003.8	1004.3	- 0.6	- 5.6	- 3.0	1.1	7.2	6	-16.1	30+	0	27	- 5.6	81	15	0	6	12	0	224	152	5.9	11	19.7*	11	19	4	6	21	7.7	
MC GRATH	102	991.7	1004.6	1.1	- 5.6	- 2.1	0.8	9.4	6	-18.9	31	0	27	- 3.9	87	34	1	11	12	0	328	152	2.0	36	8.9*	21	22	1	3	27	9.2	
NOME	4	1002.0	1002.0	2.2	- 3.3	- 0.6	0.7	7.2	1	-10.0	29+	0	24	- 3.3	80	31	- 12	12	14	0	66	25	7.0	36	18.3*	15	19	5	7	19	7.5	28
ST. PAUL ISLAND	7	1003.4	1004.2	5.0	0.6	2.8	-0.1	8.3	5	- 3.3	16	0	18	1.1	86	116	36	28	24	0	74	25	8.2	32	26.8*	28	31	0	2	29	9.2	
SHEMYA	37	1007.5	1011.0	6.1	2.8	4.6	0.3	8.3	3	- 0.6	31	0	4	1.7	82	107	37	42	22	0	76	T	9.7	30	37.1*		29	1	8	22	8.5	
YAKUTAT	9	1005.3	1006.4	8.9	1.1	4.7	-0.8	15.6	5	-11.1	31	0	13	3.3	92	398	-100	59	26	0	25	T	3.4	9	20.1*	13	21	3	3	25	8.5	
ARIZONA																																
FLAGSTAFF	2131	793.9	1019.0	21.7	0.0	10.7	2.4	27.2	3	- 6.7	31	0	17	- 4.4	42	1	- 38	1	1	1	0	0	2.6	2	10.7*	2	18	23	4	4	2.4	
PHOENIX	340	974.2	1012.9	32.2	15.6	23.8	2.3	36.1	11+	8.9	31	15	0	6.1	35	4	- 7	4	3	1	0	0	2.9	11	12.5Y	E	19	25	3	3	1.8	92
PRESCOTT	1528	849.8	1016.5	26.1	7.8	16.7	2.4	31.7	3	1.1	31	0	0	0.0	38	5	- 13	5	2	1	0	0	3.1	18	13.0	S	29	21	7	3	2.3	90
TUCSON	788	926.2	1013.4	30.0	15.0	22.3	1.2	35.0	4	10.0	31	12	0	6.1	41	23	7	18	3	2	0	0	4.0	16	17.4	E	20	25	2	4	1.9	90
WINSLOW	1487	854.7	1018.3	25.6	5.6	15.6	1.4	30.0	9+	- 1.1	31	0	2	- 3.9	31	1	- 16	1	2	0	0	0	2.3	12	10.7*	22	16	23	7	1	1.7	
YUMA	59	1006.8	1012.1	33.9	18.9	26.2	1.6	40.0	6+	12.2	31	20	0	11.7	46	6	- 4	4	3	2	0	0	2.9	20	21.0	S	14	24	2	5	2.3	88
ARKANSAS																																
FORT SMITH	137	1003.4	1020.6	23.9	6.7	15.3	-2.4	32.8	17	- 1.1	20	1	1	6.7	65	T	- 88	T	0	1	0	0	2.8	7	11.2	N	4	20	5	6	3.0	78
LITTLE ROCK	78	1007.5	1020.8	23.3	7.8	15.6	-1.7	30.0	17+	0.6	20	0	0	8.3	66	9	- 64	9	2	1	0	0	2.9	25	11.2	NW	19	20	4	7	3.0	80
TEXARKANA	113	1006.8	1020.4	24.4	9.4	16.9	-2.1	29.4	17+	2.2	10	0	0	9.4	67	12	- 64	5	3	2	0	0	2.8	5								
CALIFORNIA																																
BAKERSFIELD	151	997.4	1015.1	29.4	13.9	21.7	2.3	36.1	3	9.4	26+	10	0	8.3	46	17	9	10	3	0	0	0	2.7	10	11.6*	2	28	24	5	2	1.7	
BISHOP	1252	876.2		27.8	5.0	16.4	2.3	35.0	1	- 0.6	27+	8	3			9	- 2	9	2	1	0	0						23	5	3	2.2	
BLUE CANYON	1609	841.2		20.0	10.6	15.3	3.2	27.8	4	2.2	29	0	0			54	- 33	51	3	0	0	0	2.5		8.5*	19	7	20	5	6	2.9	
BURBANK	221	988.7	1014.5	28.3	13.9	21.3	2.3	37.8	6+	8.9	31	11	0	11.1	61	9	- 3	6	2	0	0	0	2.7	16	10.3*	16	15	19	7	5	3.0	
EUREKA U	13	1015.4		16.1	9.4	12.7	0.3	25.0	18	5.6	17	0	0			46	- 35	39	6	1	0	0	2.2	N#	10.7	N	1	8	7	16	6.7	54
FRESNO	100	1003.0	1015.1	28.9	11.1	20.2	2.1	35.6	4+	6.7	26	10	0	10.0	58	31	20	29	3	1	0	0	2.4	12	10.7	NW	28	23	5	3	2.1	93
LONG BEACH	10	1013.3	1015.0	25.0	14.4	19.7	0.6	35.0	20+	10.0	31+	5	0	12.8	72	5		3	2	0	0	0	2.7	28	9.4*	28	27	13	13	5	4.3	
LOS ANGELES	30	1011.4	1015.3	23.3	15.6	19.4	1.2	34.4	20	11.7	31+	2	0	13.9	76	8	- 2	5	2	1	0	0	3.8	26	10.7Y	W	27+	11	13	7	4.7	
MT SHASTA R	1080	894.8		21.1	4.4	12.9	1.8	30.6	5	0.6	18+	0	0			28	- 34	19	3	0	0	0						18	6	7	3.5	
OAKLAND	2	1015.7	1016.1	21.7	12.8	17.2	1.1	29.4	20+	9.4	17	0	0	11.1	73	37	17	25	3	0	0	0	3.0	32	10.3*	27	12	17	7	7	4.0	
RED BLUFF	104	1002.6	1015.4	28.3	11.1	19.8	1.1	36.7	4	5.0	24	9	0	4.4	44	30	- 5	17	3	0	0	0	2.8	33	11.6	S	7	16	8	7	3.7	84
SACRAMENTO	5	1014.1	1015.7	27.2	11.1	19.3	1.8	35.0	4	6.7	24	7	0	9.4	60	44	24	35	3	0	0	0	2.5	22	11.2	SW	12	22	3	6	3.1	90
SACRAMENTO U	6			26.7	12.2	19.7	2.1	33.9	5+	8.3	24	4	0			39	19	30	3		0	0										
SANDBERG R	1377	864.6		23.9	13.3	18.7	3.8	31.1	6+	3.9	26	0	0			15	2	11	3	2	0	0	4.5		14.3*	6	20	21	7	3	2.5	
SAN DIEGO	4	1011.3	1014.6	25.0	16.1	20.3	1.4	36.1	19	11.1	31	2	0	14.4	76	1	- 12	1	1	1	0	0	2.9	30	8.9	NE	15	14	8	9	4.8	63
SAN FRANCISCO	2	1015.7	1016.4	21.1	11.1	16.1	0.2	29.4	19+	7.8	23+	0	0	9.4	72	32	13	22	2	0	0	0	4.2	30	14.3	W	15	16	9	6	3.9	
SAN FRANCISCO U	16			21.7	12.8	17.3	0.9	30.0	19+	10.0	12	0	0			48	26	37	3	0	0	0	3.2	W#	11.6	W	11					79
SANTA CATALINA	478	959.7		25.6	17.8	21.7	3.2	36.1	4	10.6	27+	7	0			7	- 17	6	2	1	0	0						17	6	8	3.8	
SANTA MARIA	73	1007.5		23.3	8.9	16.1	0.3	37.2	19	5.6	14+	3	0			42	26	36	4	0	0	0						18	8	5	3.5	
STOCKTON	7	1014.0	1015.7	27.8	11.1	19.3	1.6	34.4	3	7.2	25+	5	0	8.9	58	43	27	40	2	0	0	0	3.4	30	9.4*	10	28+	23	2	6	2.8	
COLORADO																																
ALAMOSA	2297	775.3		19.4	- 5.0	7.2	0.3	26.1	1	-11.7	26	0	30			T	- 15	T	0	1	0	0						25	3	3	2.3	
COLORADO SPRINGS	1873	814.8	1019.6	20.0	2.8	11.3	1.1	30.0	1	- 4.4	19	0	5	- 6.7	31	1	- 17	1	1	2	0	0	4.5	36	15.6*	35	22+	20	7	4	2.9	
DENVER	1610	841.0	1018.5	21.1	1.7	11.5	0.7	30.0	1	- 7.2	19	0	10	- 6.1	34	5	- 21	5	1	1	T	T	3.2	20	16.1	W	10	19	8	4	3.0	90
GRAND JUNCTION	1480	862.6	1018.0	23.3	5.6	14.4	1.7	30.0	1	- 1.1	24	0	1	- 7.2	25	T	- 19	T	0	0	0	0	3.1	13	11.6	NW	30	22	8	1	2.4	91

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1428	860.0	1018.9	23.9	1.7	12.7	0.0	33.3	1	- 6.1	19	2	12	- 4.4	34	1	- 25	1	2	2	0	0	3.8	24	32.2	N	1	20	6	5	2.7	89
CONNECTICUT																																
BRIDGEPORT	2	1017.7	1018.5	17.2	6.7	11.7	-1.3	23.9	16	- 0.6	24+	0	2	5.6	68	31	- 54	16	7	0	0	0	5.6	35	15.2*	25	30	13	7	11	4.9	
HARTFORD	52	1011.7	1017.6	17.8	3.9	10.7	-0.9	27.2	16+	- 4.4	12	0	6	3.3	66	50	- 30	30	10	0	T	T	3.3	36	12.1	NW	10	11	7	13	5.8	64
NEW HAVEN	2	1017.4		16.7	5.6	11.2	-1.1	23.3	16	- 2.8	12	0	3			52	- 36	22	7	0	0	0	3.4		10.7	SW	21	14	5	12	5.2	69
DELAWARE																																
WILMINGTON	24	1015.5	1018.8	17.8	5.0	11.6	-2.1	25.0	18	- 2.8	24	0	5	5.0	67	33	- 41	17	6	0	0	0	3.6	29	11.2*	32	3	15	5	11	4.5	
DIST.OF COLUMBIA																																
WASHINGTON U	22			18.3	7.2	12.8		25.6	26	1.7	24+	0	0			39		20	6													
WASH NATL AP	4	1014.7	1019.0	18.9	7.2	12.8	-2.2	26.1	18	0.0	24	0	1	5.0	63	34	- 44	18	6	0	0	0	3.7	34	11.6	NNW	23+	18	2	11	4.5	66
FLORIDA																																
APALACHICOLA U	4	1014.8		23.9	15.0	19.4	-2.4	31.1	2	7.8	21	0	0			259	197	151	6	1	0	0	4.0					19	3	9	3.5	62
DAYTONA BEACH	9	1014.5	1016.3	25.6	17.2	21.3	-1.7	31.7	4	8.9	22	0	0	17.2	81	90	- 53	47	10	1	0	0	5.3	36	13.0*	26	17+	6	9	16	6.2	
FORT MYERS	5	1014.0		28.3	18.9	23.6	-0.9	32.8	3+	11.1	21	3	0			35	- 69	14	10	1	0	0	4.8		10.7*	4	14	8	11	12	6.1	
JACKSONVILLE	7	1014.8	1016.5	25.0	15.0	19.8	-1.8	32.8	2	5.6	21	4	0	14.4	75	129	- 2	57	12	1	0	0	4.9	36	17.0	S	5	9	9	13	5.8	48
KEY WEST	1	1013.1	1014.1	28.3	23.3	25.7	-0.4	31.7	5+	17.8	21	0	0	20.6	75	132	- 16	62	15	2	0	0	6.3	3	32.6	S	14	8	11	12	6.0	55
LAKELAND U	65			26.7	17.2	21.8	-1.8	32.8	3	8.3	21	2	0			27	- 47	18	9	3	0	0	4.1					10	8	13	5.7	55
MIAMI BEACH	3			27.8	22.2	24.8	-1.0	30.6	15	15.0	21	0	0			200	30	48	17	0	0	0	6.6					7	9	15	6.4	55
MIAMI	2	1012.9	1014.1	28.3	21.7	24.9	-0.5	31.7	5	15.0	21	0	0	20.0	77	248	40	98	16	4	0	0	4.8	6	16.5*	17	14	6	9	16	6.7	
ORLANDO	33	1011.4	1016.0	27.2	17.8	22.5	-0.8	33.3	3+	10.0	21	3	0	16.7	75	42	- 59	13	10	1	0	0	5.0	36	14.3*	14	2	9	11	11	5.7	
PENSACOLA	34			23.9	12.8	18.3	-3.1	30.0	1	5.0	21	0	0			160	84	96	6	3	0	0	3.8	35	19.7	NW	4					69
TALLAHASSEE	18	1014.9	1017.6	24.4	11.7	18.1	-2.8	32.2	1	0.0	21	1	1	12.2	74	266	204	151	7	2	0	0	4.3	36	12.1*	20	4	20	2	9	3.7	
TAMPA	6	1013.8	1015.5	27.2	16.1	21.6	-2.1	31.7	3+	4.4	21	0	0	16.1	75	73	2	47	9	2	0	0	6.1	3	12.5*	31	15	10	10	11	5.6	54
WEST PALM BEACH	5	1013.4	1014.5	28.3	21.1	24.7	-0.9	33.3	5	14.4	21	3	0	19.4	76	387	185	180	11	3	0	0	5.4	7	10.7*	16	14	6	10	15	6.9	
GEORGIA																																
ATHENS	244	990.0	1019.2	21.1	8.3	14.6	-2.6	27.8	18	1.1	21	0	0	8.9	72	196	124	119	10	0	0	0	3.4	5	11.2*	6	15	17	4	10	4.0	
ATLANTA	306	977.0	1019.3	20.6	8.9	14.9	-2.2	27.8	18	1.7	21+	0	0	8.3	69	143	81	83	7	0	0	0	3.5	6	11.6	NW	17	17	4	10	4.0	72
AUGUSTA	44	1011.5	1018.4	23.3	8.3	15.9	-2.6	30.0	18+	1.7	26+	0	0	9.4	75	161	110	68	8	1	0	0	2.9	33	11.2*	2	5	18	2	11	4.2	
COLUMBUS	117	1004.2		23.3	10.0	16.4	-2.1	28.3	18+	1.7	21	0	0			205	161	143	7	1	0	0	2.7		9.8*	36	5+	17	4	10	4.1	
MACON	108	1005.1	1018.8	22.8	8.3	15.6	-3.4	30.6	1	0.0	26	0	1	10.0	76	125	74	46	8	0	0	0	3.3	3	13.0	N	5	20	1	10	3.6	65
ROME	194	996.4		21.7	6.1	13.8	-2.4	27.2	18+	- 2.2	21	0	3			159	85	102	9		0	0									3.9	
SAVANNAH	14	1015.3	1017.9	23.3	11.1	17.3	-2.3	30.6	2+	2.8	25+	0	0	11.1	73	176	111	80	8	3	0	0	3.7	4	12.5	NE	5	16	6	9	4.5	68
HAWAII																																
HILO	9	1014.4	1016.3	27.2	19.4	23.2	-0.8	30.0	18	17.8	4	0	0	18.9	80	294	19	63	27	0	0	0	3.8	25	10.7*	6	24	2	10	19	7.8	17
HONOLULU	2	1015.3		29.4	21.7	25.7	0.1	31.1	18+	18.9	13	0	0	16.7	60	9	- 38	3	13	0	0	0	4.4	6	12.1	NE	26	5	17	9	6.0	47
KAHULUI	15	1012.7	1015.8	27.8	19.4	23.6	-1.6	30.6	8	14.4	13	0	0	18.9	80	4	- 18	1	8	0	0	0	4.9	6	13.0	NE	1	5	16	10	6.0	65
LIHUE	35	1011.5	1017.3	26.7	21.1	23.9	-1.0	28.3	14	17.8	18	0	0	19.4	78	82	- 21	15	26	0	0	0	4.6	6	11.2	E	26	4	11	16	7.2	
IDAHO																																
BOISE	865	923.6	1020.4	18.9	4.4	11.6	0.7	27.8	7	- 1.1	18	0	2	0.0	52	5	- 16	2	4	0	0	0	3.0	13	12.5	E	29	18	6	7	3.7	77
IDAHO FALLS 42NW P	1460			17.8	- 5.6	6.2	-0.6	26.1	6	-12.8	17	0	27			29	19	28	3				1.9		14.8A	NNW	1					
IDAHO FALLS 46W R	1504	852.4		17.8	- 3.9	7.1	-0.1	26.1	7	-11.1	18+	0	26			19	2	18	4	0	T		2.3		13.4A	WSW	16					
LEWISTON	431	968.1		17.8	5.0	11.3	0.2	26.7	7	0.6	27+	0	0			24	- 7	12	7	1	0	0						15	5	11	4.8	
POCATELLO	1358	867.4	1021.2	19.4	- 0.6	9.6	0.1	28.3	7	- 7.2	18	0	16	- 4.4	44	13	- 10	13	2	0	0	0	3.1	25	16.1	SW	1	18	4	9	4.2	83
ILLINOIS																																
CAIRO U	96	1007.1		20.6	8.3	14.6	-2.0	28.3	17	2.8	20+	0	0			T	- 73	T	0	0	0	0	3.1	N#	11.6	N	18+	20	7	4	3.0	84
CHICAGO O HARE	201	994.7	1019.6	16.7	1.1	8.9	-2.8	26.7	17	- 6.7	10	0	15	2.8	67	4	- 66	2	3	1	T	T	3.9	18	14.3*	29	2	10	12	9	5.1	
CHICAGO MIDWAY	185	996.7	1019.9	17.2	3.9	10.6	-2.2	27.2	17	- 2.8	10	0	6	2.8	62	5	- 66	5	2	0	0	0	4.2	18	13.0	S	7	11	10	10	4.8	68
MOLINE	177	997.7	1020.3	17.8	2.8	10.4	-2.3	27.8	17	- 4.4	22+	0	12	2.2	60	T	- 62	T	1	0	0	0	3.5	30	13.9	SW	7	10	15	6	4.6	73
PEORIA	199	997.7	1020.4	17.8	2.8	10.4	-2.5	26.7	17	- 3.9	10	0	10	2.8	62	1	- 64	1	1	0	0	0	3.7	18	12.5	NW	21+	11	13	7	4.1	79
ROCKFORD	222	991.7	1019.3	16.1	1.7	8.9	-2.4	26.7	17	- 4.4	23+	0	13	1.7	64	3	- 66	2	4	0	T	T	4.2	18	12.1*	18	7	11	13	7	4.4	
SPRINGFIELD	179	996.8	1020.3	20.0	3.3	11.8	-1.9	30.0	17	- 4.4	20	0	8	1.7	54	4	- 70	4	1	1	0	0	4.1	31	12.5	NW	21+	19	7	5	3.3	85
INDIANA																																
EVANSVILLE	116	1004.7	1020.9	20.6	2.8	11.6	-3.4	27.2	17	- 3.3	11+	0	13	4.4	68	T	- 65	T	1	0	0	0	2.8	32	10.3	SW	8	18	8	5	3.3	88
FORT WAYNE	241	988.6	1020.2	17.2	2.2	9.7	-2.0	26.1	17	- 4.4	11	0	10	3.3	68	4	- 69	2	3	0	T	T	3.4	22	14.8	NW	21	12	12	7	4.8	66

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	990.0	1020.4	18.3	3.3	10.9	-2.1	27.2	17	- 3.3	20	0	8	2.8	62	16	- 50	14	2	1	0	0	3.6	32	12.1	NW	2	15	9	7	4.2	75
SOUTH BEND	236	991.2	1019.6	15.6	3.3	9.4	-2.5	25.0	17	- 2.2	11+	0	7	3.3	68	23	- 58	15	6	0	T	T	3.9	23	10.7*	31	21	12	5	14	5.5	
IOWA																																
BURLINGTON	212	994.5	1020.5	18.3	4.4	11.2	-1.8	27.2	17	- 3.3	20	0	7	2.8	60	2	- 67	1	3	0	0	0	4.1	31	15.2	SW	7	14	12	5	4.1	83
DES MOINES	286	988.8	1020.7	17.2	3.9	10.4	-1.9	25.6	16+	- 3.9	20	0	7	3.3	68	7	- 45	4	3	0	T	T	4.7	14	14.8	SW	3	11	12	8	4.6	68
DUBUQUE	325	993.9		15.6	2.8	9.2	-1.2	25.0	17	- 4.4	20	0	12			T	- 70	T	0	0	0	0						10	12	9	4.9	
SIOUX CITY	334	977.4	1019.4	18.3	3.3	11.1	-1.2	27.2	16	- 3.3	29+	0	8	2.2	61	9	- 27	5	3	1	0	0	4.6	30	14.3	NW	3	17	7	7	3.9	83
WATERLOO	265	986.9	1019.2	16.7	1.1	8.7	-2.2	25.6	16+	- 7.8	10	0	15	1.7	65	12	- 42	7	3	0	0	0	4.3	30	11.6*	34	21+	9	15	7	5.1	
KANSAS																																
CONCORDIA	448	969.2	1019.5	21.1	5.6	13.3	-1.0	28.9	7+	- 2.8	9	0	5	2.8	55	6	- 37	6	1	0	0	0	4.9	18	17.9	S	1	18	4	9	3.6	86
DODGE CITY	787	930.7	1019.3	22.2	6.1	14.0	-0.6	31.7	1	- 2.2	19	0	2	3.3	56	21	- 15	20	3	3	0	0	5.5	16	16.5	S	30	17	7	7	3.6	82
GOODLAND	1111	891.4	1019.1	21.7	1.7	11.7	0.0	32.8	1	- 6.7	19	1	12	- 2.2	45	1	- 19	1	1	1	0	0	5.3	17	19.7*	36	1	20	7	4	2.8	
TOPEKA	267	984.3	1020.3	21.1	3.9	12.6	-2.0	28.3	16	- 3.9	20	0	7	4.4	62	4	- 56	2	3	0	0	0	3.4	36	13.4	NW	19	17	4	10	4.2	73
WICHITA	403	970.5	1019.5	22.2	7.2	14.8	-0.7	29.4	7	- 0.6	20+	0	2	5.6	60	42	- 19	39	4	3	0	0	4.8	18	16.1	SW	31+	17	8	6	3.7	73
KENTUCKY																																
COVINGTON	265	987.8	1019.9	19.4	3.3	11.5	-1.9	28.9	17	- 3.9	11	0	7	2.8	62	15	- 42	7	4	1	0	0	3.0	21	10.3*	25	21+	13	8	10	4.7	
LEXINGTON	298	984.5	1020.5	18.3	4.4	11.5	-3.0	26.1	18+	- 2.8	20	0	6	3.3	59	14	- 43	11	3	2	0	0	3.5	18	13.0*	20	21	16	9	6	3.7	
LOUISVILLE	144	1000.6	1020.2	19.4	4.4	11.9	-2.5	26.7	18+	- 2.8	24+	0	4	5.0	67	16	- 41	9	3	1	0	0	2.7	18	12.1	W	8	15	9	7	4.0	74
LOUISIANA																																
ALEXANDRIA	28	1014.6	1019.3	23.9	7.8	16.1	-3.4	28.3	1	0.6	20	0	0	10.6	77	27	- 62	27	3	0	0	0	2.1	6	12.5*	1	4	17	8	6	3.3	
BATON ROUGE	20	1015.4	1018.5	25.0	11.1	18.1	-2.5	28.9	1	3.9	20	0	0	11.7	72	240	178	213	6	1	0	0	3.4	36	17.9*	33	4+	18	6	7	3.7	
LAKE CHARLES	4	1017.8	1019.1	25.6	11.7	18.8	-2.6	29.4	1	2.2	20	0	0	12.2	71	8	- 70	5	2	0	0	0	3.9	4	13.0*	1	3	19	8	4	3.2	
NEW ORLEANS	1	1015.8	1018.1	24.4	12.2	18.2	-3.1	28.9	1	2.2	21	0	0	12.8	74	89	17	57	5	2	0	0	3.5	4	17.9*	17	4	17	6	8	3.7	
NEW ORLEANS AUDUBON	2	1010.7		25.0	12.8	18.9	-2.8	28.9	23	5.6	21+	0	0			118	38	57	5	2			2.4		10.7	W	4	17	7	7	3.9	63
SHREVEPORT	77	1011.3	1020.6	25.0	10.6	17.9	-2.3	30.6	2	3.3	20	0	0	9.4	65	16	- 55	12	3	0	0	0	3.7	2	13.0*	36	18	22	3	6	2.6	85
MAINE																																
CARIBOU	190	992.1		9.4	0.6	5.0	-1.1	21.7	16	- 5.0	8	0	15			106	21	51	15	1	23	25						5	8	18	7.2	
PORTLAND	19	1012.9	1016.9	15.0	1.7	8.4	-0.8	23.9	16	- 7.8	12	0	11	2.8	70	88	6	47	11	0	0	0	3.0	34	11.6	NW	11	9	9	13	5.7	60
MARYLAND																																
BALTIMORE	45	1014.3	1019.1	18.3	5.0	11.8	-2.1	26.1	26	- 2.8	24+	0	4	4.4	65	30	- 51	17	5	0	0	0	3.8	29	13.4	NW	10	16	5	10	4.4	66
BALTIMORE U	4			19.4	9.4	14.4	-1.2	27.8	26+	2.2	11	0	0			23	- 59	14	5													
MASSACHUSETTS																																
BLUE HILL OBS R	192	992.5		16.1	6.1	10.9	-0.6	26.1	16	- 1.7	24	0	3			71	- 25	36	9	0	0	0	6.8	NW								61
BOSTON	5	1012.7	1017.3	16.1	6.7	11.4	-1.4	25.0	16	1.1	24	0	0	5.0	69	72	- 8	36	10	0	T		5.2	30	16.1*	NW	11	12	5	14	5.7	65
NANTUCKET	13	1016.6	1017.2	15.0	8.3	11.9	-0.5	20.6	27	1.7	12	0	0	7.8	78	100	6	33	11	1	0	0	5.4	24	18.8	N	21	10	8	13	6.2	49
PITTSFIELD	357			15.0	1.7	8.3	-0.7	26.7	16	- 3.9	24+	0	13			24	- 59	9	10		T											
WORCESTER	301	980.4	1017.3	15.0	4.4	9.8	-0.5	25.6	16	- 3.3	24	0	7	2.2	64	57	- 31	34	9	0	53	T	4.4	30	14.3*	30	3	10	9	12	5.4	
MICHIGAN																																
ALPENA	210	994.3		14.4	1.1	7.7	-0.2	26.7	17	- 6.1	11	0	14			28	- 34	10	7	0	25	25	3.2	24	13.4	NW	4	8	11	12	5.8	66
DETROIT	189	992.3	1019.2	16.7	5.0	10.8	-1.3	25.6	17	- 1.7	11	0	4	2.8	60	13	- 54	5	7	1	T	T	4.4	25	17.0	W	21	12	11	8	4.8	61
DETROIT M WAYNE CO	193	995.2	1019.9	15.6	0.6	8.1	-4.2	25.0	17	- 6.7	11	0	11	0.6	62	9	- 56	4	5	1	T		4.0	22				10	12	9	4.9	
DETROIT WILLOW RUN	217	990.7	1019.4	15.6	2.2	8.9	-3.2	25.6	17	- 6.1	11	0	9	1.7	65	10	- 54	5	3	1	T	T	4.1	21	15.6*	27	21	12	9	10	4.8	
FLINT	233	991.3	1019.7	14.4	1.1	7.8	-2.2	23.9	17	- 5.6	11	0	14	2.2	71	15	- 45	6	7	1	T	T	3.9	22	10.3*	28	4	9	13	9	5.2	
GRAND RAPIDS	239	993.1	1019.2	15.0	1.7	8.4	-2.2	24.4	17	- 3.9	7	0	12	3.9	77	15	- 51	8	9	0	T	T	3.8	23	14.8	W	4	10	10	11	5.6	57
LANSING	256	986.7	1019.2	15.6	0.6	8.0	-2.7	25.6	17	- 5.6	11	0	14	3.3	76	17	- 47	8	6	0	T	T	3.8	24	13.0	SW	4	11	10	10	5.0	53
MARQUETTE U	206	988.8		13.3	3.9	8.6	-0.3	26.1	14	- 2.2	6	0	7			45	- 14	11	11	0	43	25	4.3	SW#	15.2	S	1	6	6	19	7.3	57
MUSKEGON	191	996.0	1019.5	14.4	3.3	8.7	-2.7	21.7	17+	- 3.3	30+	0	8	3.9	74	20	- 45	9	7	0	T	T	4.7	34	12.5*	35	9	8	11	12	5.8	
SAULT STE MARIE	220	993.0	1016.5	11.7	1.7	6.7	-1.3	21.7	16	- 4.4	6	0	13	2.2	76	71	- 1	24	12	1	132	51	4.5	31	17.0*	32	4	7	8	16	6.7	55
MINNESOTA																																
DULUTH	435	974.7	1016.9	12.2	1.7	6.9	-0.1	23.9	15	- 6.7	29	0	12	- 0.6	65	15	- 40	14	5	1	T	T	4.4	24	22.4	W	2	8	7	16	6.3	59
INTERNATIONAL FALLS	359	973.4	1015.2	12.2	0.0	6.1	0.3	27.2	14	- 7.8	29	-0	19	0.6	73	11	- 34	4	6	1	10	T	5.0	18	16.5*	27	3	6	9	16	6.6	
MINNEAPOLIS	254	983.9	1018.0	15.0	2.8	9.0	-0.4	25.0	16	- 3.9	10+	0	12	3.3	71	14	- 26	5	6	0	T	T	4.5	18	15.6	W	3	10	9	12	5.3	56
ROCHESTER	395	981.4	1019.2	13.9	2.2	8.1	-1.9	25.6	16	- 5.0	10	0	13	1.7	67	13	- 30	10	5	0	T		5.7	18	13.9*	23	3	11	6	14	5.6	
ST CLOUD	315	978.7		14.4	2.8	8.4	-0.1	25.0	15	- 6.7	29	0	12			5	- 37	2	4	0	10	T						10	13	8	5.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
JACKSON	94	1007.4	1019.6	25.0	8.9	16.9		30.0	1	1.1	20	0	0	10.0	71	199		177	4	0	0	0	3.5	2	16.1*	N	4	19	5	7	3.5	
MERIDIAN	88	1005.8	1019.8	23.3	7.8	15.4	-3.2	29.4	1	-1.1	20	0	2	10.0	77	106	50	88	5	1	0	0	2.8	36	15.6*	2	4	19	3	9	3.8	
VICKSBURG U	71	1010.3		22.8	11.7	17.2	-2.6	27.8	17	5.6	11+	0	0			72	20	47	3	1	0	0	3.2		16.1	N	4	18	6	7	3.4	72
MISSOURI																																
COLUMBIA	237	990.9	1019.6	20.6	6.1	13.4	-1.4	30.6	17	-1.7	20	0	3	2.8	53	9	-70	9	3	0	0	0	4.3	16	13.9	N	4	20	6	5	3.2	81
KANSAS CITY	226	984.7	1019.8	21.1	7.2	14.2	-1.4	27.2	16	0.6	20+	0	0	3.3	53	9	-64	6	3	1	0	0	3.4	19	11.6	NW	19+	16	5	10	4.0	71
ST JOSEPH	247	985.2		21.1	3.9	12.5	-1.6	27.8	16	-3.9	20+	0	6			3	-53	3	1	0	0	0	3.0	18	10.3*	13	31+	18	5	8	3.6	
ST LOUIS	163	999.7	1020.7	20.0	4.4	12.2	-2.4	28.9	17	-1.7	20+	0	4	4.4	62	19	-54	19	2	0	0	0	3.7	30	12.5	NW	4	22	5	4	3.0	81
ST LOUIS RFC	142			20.0	8.9	14.5	-1.5	27.8	17	2.2	20+	0	0			21	-49	21	2		0	0										
SPRINGFIELD	386	972.7	1020.6	21.1	5.6	13.4	-2.0	31.7	17	-4.4	20	0	5	3.9	59	51	-45	46	3	1	0	0	3.7	16	12.1	N	4	20	5	6	3.1	71
MONTANA																																
BILLINGS	1087	894.0	1018.7	18.3	3.3	10.8	1.1	27.8	14	-1.7	18+	0	7	-2.8	44	6	-22	5	4	1	T		5.2	23	21.0	NW	3	13	14	4	4.2	73
GLASGOW	694	942.3		17.8	1.7	9.6	2.2	31.1	13	-5.6	19	0	12			5	-11	4	3	0	41	25						11	10	10	5.1	
GREAT FALLS	1116	891.0	1019.0	18.9	4.4	11.7	3.1	29.4	13	-4.4	27	0	7	-2.8	41	T	-19	T	0	0	T		6.3	23	17.0	SW	2	11	11	9	5.1	81
HAVRE	787	928.0		17.8	0.0	8.9	1.3	29.4	13	-7.2	23	0	15			3	-17	3	3	1	T	T	3.9	SW#	17.4	NW	21	11	11	9	5.0	71
HELENA	1167	877.2	1021.2	17.8	-0.6	8.6	1.0	24.4	14	-6.1	18	0	17	-2.2	52	1	-16	1	2	0	0	0	3.3	27	17.0	W	1	12	12	7	4.7	75
KALISPELL	904	916.4	1023.0	12.8	-1.1	5.7	-0.9	19.4	7	-6.1	23+	0	19	1.7	83	24	-7	9	9	0	41	T	2.6	18	11.6	25	1	11	5	15	5.9	
MILES CITY	801		1018.5	18.3	1.7	10.2	0.7	28.9	13	-4.4	19	0	11	-1.7	49	6	-16	2	5	0	0	0	4.3	15	13.0*	30	1					
MISSOULA	972	907.0	1023.7	13.9	-2.2	5.6	-1.1	22.2	7	-7.2	24	0	26	1.1	80	13	-12	4	8	0	43	25	1.8	29	10.3	NW	2+	11	6	14	5.8	59
NEBRASKA																																
GRAND ISLAND	561	952.5	1019.7	20.6	2.2	11.2	-0.7	29.4	16+	-5.6	9	0	11	0.6	56	3	-21	3	1	1	0	0	5.0	17	13.4*	36	1	16	11	4	3.3	
LINCOLN U	351			19.4	5.6	12.7	-1.1	28.3	1	-1.1	9	0	4			9	-31	7	2	0	0	0	4.4	S#	15.2	SW	3	14	6	11	4.4	74
NORFOLK	471	962.8		18.9	2.8	10.8	-0.8	28.3	16	-5.0	9	0	11			6	-24	3	3	2	0	0						17	10	4	3.4	
NORTH PLATTE	846	918.6	1018.7	20.6	-0.6	10.2	-0.4	31.7	15+	-8.3	19	0	18	-0.6	54	4	-19	4	2	2	0	0	3.8	34	15.2	N	1	20	8	3	3.1	79
OMAHA	298	979.1	1019.7	20.0	3.9	12.1	-1.1	28.9	1	-2.8	20+	0	7	3.3	61	13	-31	7	3	1	0	0	3.5	16	14.3	N	17	15	10	6	4.1	74
OMAHA N OMAHA AP	403			18.3	4.4	11.5	-0.9	26.7	16+	-3.3	9	0	7			9	-33	5	3	1	0	0						14	9	8	4.0	
SCOTTSBLUFF	1206	882.5	1019.7	20.6	-0.6	10.0	-0.2	29.4	1	-7.2	19	0	17	-3.9	43	2	-15	2	1	0	0	0	4.7	31	16.1*	35	1	16	8	7	3.7	
VALENTINE	789	926.8		19.4	0.0	9.8	0.2	31.1	15	-6.1	23	0	17			1	-22	1	1	0	0	0	4.7		17.9	NW	1	23	8	0	2.5	
NEVADA																																
ELKO	1539	848.6	1020.5	22.2	-2.8	9.6	1.3	29.4	7	-11.7	25	0	24	-6.7	36	12	-7	12	2	0	0	0	2.5	5	12.5*	21	15	18	5	8	3.9	
ELY	1906	813.0	1019.6	21.1	-1.7	9.8	2.1	27.2	7+	-9.4	18	0	22	-5.6	40	5	-14	5	1	0	T		2.8	19	17.0	SW	29	21	4	6	3.3	87
LAS VEGAS	659	948.6	1014.4	30.6	13.9	22.2	3.0	36.7	8	7.8	25	15	0	-1.7	23	T	-5	T	0	0	0	0	3.2	24	13.4*	SW	29	26	4	1	1.7	93
RENO	1342	865.3	1019.3	25.0	0.6	12.9	3.4	30.6	7	-5.0	21+	0	10	0.6	53	1	-12	1	1	0	0	0	1.9	16	12.1	SW	7	21	3	7	3.1	96
WINNEMUCCA	1310	871.1		23.3	-1.1	11.2	2.5	31.7	7	-9.4	24	0	20			10	-11	10	2	1	0	0	3.2	6	11.6	NE	15	18	4	9	3.5	76
NEW HAMPSHIRE																																
CONCORD	103	1006.3	1017.2	16.7	0.6	8.6	-0.7	28.3	16	-7.8	12+	0	14	2.2	69	57	-11	24	10	0	T		3.0	32	12.5*	28	21	9	10	12	5.5	64
MT WASHINGTON OBS	1909			1.7	-5.6	-1.9	-1.3	12.2	16	-15.0	11	0	24			135	-23	39	19	0	597	229	14.3	W#	40.7Y	W	3	3	8	20	7.3	41
NEW JERSEY																																
ATLANTIC CITY	18	1017.1	1019.2	18.3	5.6	11.9	-2.1	25.6	26	-3.3	24	0	5	6.1	72	68	-13	33	7	0	0	0	4.2	32	10.3*	29	23	13	7	11	4.7	65
ATLANTIC CITY U	3			17.8	9.4	13.5	-1.3	25.0	26+	1.1	24+	0	0			60	-26	21	8				5.5		15.6*	NW	3					
NEWARK	3	1017.6	1018.7	18.3	8.3	13.3	-0.9	26.7	18	1.7	24	0	0	3.9	57	39	-40	22	5	0	0	0	4.4	23	12.5*	5	17+	13	8	10	5.0	
TRENTON U	17	1010.8		17.2	6.7	12.1	-1.7	25.6	18	0.0	24	0	1			46	-26	32	6	1	0	0	3.5	NW#	11.2	NW	3	13	9	9	4.7	66
NEW MEXICO																																
ALBUQUERQUE	1618	851.3	1017.1	23.3	7.2	15.2	0.8	29.4	3	1.1	26	0	0	-1.1	37	1	-18	1	1	1	0	0	2.5	12	17.0	E	18	23	7	1	1.9	92
CLAYTON	1515	848.8		22.2	5.0	13.5	0.6	31.1	3	0.0	26+	0	2			T	-25	T	1	1	T							21	4	6	2.9	
RATON	1944	809.8		21.1	0.0	10.7	0.1	28.9	3	-5.0	25	0	13			3	-24	3	1	0	0	0						23	3	5	2.9	
ROSWELL	1102	896.2		26.7	5.6	16.1	1.1	32.8	10+	-1.1	20	2	2			T	-27	T	0	0	0	0	3.2		12.1	N	2	21	7	3	2.5	82
SILVER CITY	1638	839.0		23.9	7.2	15.6	0.2	27.8	3+	2.8	20	0	0			0	-21	0	0	0	0	0						24	4	3	1.7	
NEW YORK																																
ALBANY	84	1014.7	1018.6	16.1	2.8	9.6	-0.9	25.6	16+	-6.1	8	0	10	2.2	64	14	-57	8	5	0	T		3.2	18	13.0	W	3	11	5	15	5.9	52
BINGHAMTON	485	959.1	1018.9	14.4	3.9	9.1	-0.8	25.0	16	-2.8	24+	0	8	2.2	64	27	-52	11	10	0	T		4.3	34	11.6	NW	10	11	4	16	6.1	56
BUFFALO	215	989.9	1018.5	13.9	3.9	8.9	-1.5	24.4	16+	-2.2	7	0	6	3.3	71	48	-28	14	10	2	T		4.5	18	13.9	SW	21	12	3	16	6.1	61
NEW YORK U	40	1007.7		17.8	7.8	12.8	-1.8	25.6	26+	0.6	24	0	0			44	-36	18	6	0	0	0	3.5	W#	14.3	W	3	14	8	9	4.3	66
NEW YORK LA GUARDIA	3	1016.2	1018.3	16.7	8.9	13.0	-1.8	23.9	26	2.2	11	0	0	4.4	60	43	-43	17	6	0	0	0	4.6	33	15.2	NW	3	11	10	10	5.0	
ROCHESTER	167	999.4	1018.9	15.6	3.3	9.3	-1.7	24.4	2	-3.3	7	0	9	2.2	66	19	-46	6	10	0	T	T	3.9	25	17.0	W	2	13	3	15	5.6	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1 6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	°C.	°C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
SCHENECTADY	66			16.1	3.3	9.7	-1.1	24.4	16	- 4.4	8	0	9			13	- 61	5	6	0	T		1.4		8.9*	W	30+	20	4	7	3.7	
SYRACUSE	127	996.0	1018.2	15.6	3.9	9.7	-1.3	25.0	17	- 3.9	8	0	6	3.9	70	39	- 42	15	9	0	8		4.0	26	15.6	NW	2	8	10	13	5.8	54
NORTH CAROLINA																																
ASHEVILLE	652	939.5	1019.2	18.3	3.9	11.1		25.6	18	- 3.3	24	0	9			232		132	9	0	0	0	3.5	34	15.6*	34	16	16	6	9	4.0	71
CAPE HATTERAS R	2	1016.7	1017.4	20.6	13.3	16.8	-1.7	28.3	4	0.6	25	0	0	12.8	78	188	81	104	11	2	0	0	5.2	4	16.1	E	16	11	6	14	5.6	53
CHARLOTTE	224	990.8	1019.0	19.4	6.7	13.2	-3.8	27.8	18	- 0.6	21	0	1	7.2	72	183	108	85	9	0	0	0	3.0	3	9.8	NE	16	16	5	10	4.2	66
GREENSBORO	273	987.1	1019.6	18.9	5.6	12.4	-2.7	27.8	18	- 1.1	21+	0	4	6.7	73	207	138	104	6	0	0	0	2.9	3	14.3	NE	16	16	4	11	4.2	64
RALEIGH	132	1004.8	1018.7	20.0	6.1	12.9	-2.9	27.2	18	- 1.7	24+	0	3	7.2	75	100	31	71	7	1	0	0	3.0	36	8.9*	18	21+	16	3	12	4.6	64
WILMINGTON	9	1015.5	1018.3	22.2	11.1	16.7	-1.9	29.4	4	1.7	25	0	0	11.1	75	249	173	110	9	2	0	0	3.0	2	11.2	N	6	11	4	16	6.0	58
WINSTON SALEM	294	983.9	1019.3	19.4	7.8	13.4	-2.3	27.8	18	0.6	21	0	0	6.7	68	207	129	90	6	1	0	0	2.9	5	10.3*	4	16	17	4	10	4.1	
NORTH DAKOTA																																
BISMARCK	502	956.4	1017.5	16.7	0.6	8.4	0.3	28.9	14	- 7.2	9	0	16	- 2.8	51	3	- 19	3	1	0	25	25	5.0	30	18.8	NW	3	15	5	11	5.0	73
FARGO	273	982.0	1016.9	15.0	0.0	7.3	-0.7	26.7	14	- 7.8	9	0	17	0.0	63	3	- 26	2	3	0	T	T	4.6	18	21.5	NW	3	8	10	13	5.8	61
WILLISTON	579	948.7		16.7	- 0.6	8.0	0.4	28.9	13	- 8.3	22	0	17			7	- 12	3	4	0	33	T	5.0	NW#	22.4	NW	3	10	9	12	5.5	67
OHIO																																
AKRON	368	981.6	1020.1	17.2	2.8	10.0	-1.6	26.7	17+	- 3.9	11	0	11	1.7	62	32	- 31	10	7	3	T		3.5	24	10.7*	24	21	13	6	12	5.1	
CINCINNATI OBS	232			19.4	5.0	12.2	-2.2	27.8	17	- 2.2	11	0	4			18	- 39	8	4	1	0	0	2.3	S#	8.5	NW	2					72
CINCINNATI U	169	996.8		20.0	6.7	13.3	-2.0	27.8	17	0.0	11	0	1			12	- 42	7	4	1	0	0										
CLEVELAND	237	991.2	1019.4	15.6	3.3	9.6	-2.0	25.0	1	- 3.9	11	0	8	3.9	72	45	- 16	23	11	2	T		4.1	20	13.9	NW	21	11	11	9	5.2	64
COLUMBUS	247	990.3	1020.5	18.3	2.8	10.6	-1.7	27.8	17	- 4.4	11	0	11	1.7	59	10	- 44	4	5	2	0	0	3.3	36	15.6	N	2	12	9	10	4.7	67
COLUMBUS U	221			18.3	6.1	12.1	-1.5	26.7	17	- 2.8	11	0	2			17	- 31	6	5	3	0	0										
DAYTON	305	987.3	1020.3	18.9	3.9	11.3	-1.8	27.2	17+	- 2.2	24+	0	7	1.7	56	13	- 43	8	5	1	0	0	3.8	20	15.2	W	21	14	8	9	4.6	72
MANSFIELD	395			16.7	3.3	9.9	-1.4	25.0	16	- 5.0	11	0	7			28	- 30	9	6	2	T							12	10	9	4.9	
TOLEDO	206	996.8	1019.8	16.1	1.1	8.6	-2.6	25.6	17	- 7.8	11	0	12	0.6	62	7	- 54	3	3	0	0	0	3.4	23	16.1	W	21	11	15	5	4.6	72
YOUNGSTOWN	359	976.7	1019.8	16.1	2.8	9.4	-1.6	26.1	16	- 3.3	24	0	9	1.7	63	46	- 22	26	11	2	T		4.1	22	15.6*	28	21	10	5	16	5.6	
OKLAHOMA																																
OKLAHOMA CITY	390	975.9	1019.6	22.8	8.9	15.7	-1.4	31.1	17	3.3	20+	0	0	7.2	62	21	- 42	17	4	3	0	0	5.0	16	17.4	SW	7	19	7	5	3.0	77
TULSA	198	995.4	1020.1	23.9	7.8	15.6	-1.5	31.1	21+	1.1	20+	0	0	6.7	62	31	- 53	19	3	1	0	0	4.3	18	16.1	SW	7	18	6	7	3.4	66
OREGON																																
ASTORIA	2	1017.3	1018.1	17.2	6.7	12.1	0.5	27.2	5	0.0	26	0	1	7.8	77	66	-131	20	15	1	0	0	3.4	12	11.6*	6	3	7	11	13	6.2	
BURNS U	1265	876.3		20.0	0.0	9.9	0.8	29.4	7	- 5.6	17	0	14			7	- 15	3	6	2	0	0						18	6	7	3.8	
EUGENE	109	1004.9	1018.5	20.0	6.1	13.2	1.4	30.0	4	- 0.6	26	0	1	8.3	81	26	- 71	12	6	0	0	0	2.3	36	9.4*	1	3	10	6	15	6.0	
MEACHAM	1234			15.0	4.4	9.7	1.7	26.7	7	- 1.7	18	0	6			38	- 34	19	10		43							12	7	12	5.1	
MEDFORD	396	970.4	1018.3	22.8	3.9	13.3	1.6	32.2	6+	- 2.8	17	2	9	6.1	72	23	- 26	13	6	0	0	0	1.6	18	8.0*	30	7	15	7	9	4.5	
PENDLETON	452	966.4	1020.8	17.8	4.4	11.1	-1.0	23.9	6	0.6	28+	0	0	2.8	63	20	- 10	10	6	1	0	0	3.7	14	15.6*	28	2	17	4	10	4.4	
PORTLAND	6	1013.0		18.3	5.6	11.8	-0.6	26.7	5	0.0	23	0	1			21	- 70	7	9	1	0	0	3.4	12	13.4	NE	4	8	7	16	6.2	49
PORTLAND U	9			19.4	9.4	14.6	0.9	27.8	6	4.4	26	0	0			25	- 73	8	9		0	0										
ROSEBURG	157	999.6		21.1	6.7	13.7	1.3	31.1	6+	2.2	24+	0	0			23	- 53	8	8	0	0	0	1.4	NE#	7.2	N	16+	7	12	12	6.1	55
SALEM	60	1011.6	1019.1	19.4	4.4	11.8	-0.5	29.4	5	- 3.3	26	0	5	6.7	78	24	- 76	6	9	0	0	0	2.2	18	9.4*	36	3	9	8	14	5.9	
SEXTON SUMMIT R	1169	886.3		18.3	8.3	13.4	3.0	28.3	4	0.0	26	0	1			23	- 64	10	6	0	0	0	4.3					16	5	10	4.2	
PACIFIC AREA																																
CANTON ISLAND	2	1009.3	1009.7	30.0	25.0	27.4	-1.3	31.1	6	23.9	15+	0	0	20.6	69	16	- 12	11	5	0	0	0	6.3	8	10.7*	10	20	12	13	6	4.7	
ENIWETOK	4	1008.9		30.6	25.0	27.8	-0.6	31.7	31+	21.7	26	0	0			270	39	60	25	2	0	0	5.1									
TAGUAC GUAM R	110	997.7		30.0	22.2	26.1	-0.2	32.2	11	21.1	29+	1	0			59	- 24	15	14	0	0	0	6.0	9	14.8	SE	25	3	8	20	7.6	28
JOHNSTON	2	1012.4	1013.3	28.3	24.4	26.4	-0.8	29.4	8+	21.1	31	0	0	22.2	77	371	39	128	27	5	0	0	2.4	E#	13.0	SE	5					50
KOROR R	29	1006.1	1008.7	31.1	23.9	27.5	0.2	32.8	10	22.8	28+	8	0	24.4	87	259	- 74	89	25	1	0	0	2.6	22	8.5	NE	18	0	1	30	9.7	51
KWAJALEIN	2	1008.6	1009.5	30.0	23.9	27.0	-0.7	31.1	17+	22.2	29+	0	0	23.9	84	509	233	99	26	0	0	0	4.9	9	17.4*	15	8	0	8	23	8.7	
PONAPE R	37	1004.5	1009.0	30.6	22.2	26.4	-0.1	32.8	30	20.6	18+	3	0	23.3	87	280	-126	65	24	5	0	0	2.3	14	8.0	NE	23	1	6	24	8.6	42
TRUK MOEN ISLAND	2	1008.1	1008.4	30.6	23.9	27.1	0.1	32.2	9	22.2	1	1	0	23.9	83	401	60	67	25	4	0	0	3.6	12	12.5	S	31	0	2	29	9.3	47
WAKE	3	1012.2	1012.6	29.4	24.4	26.9	-0.7	31.1	12	21.7	13	0	0	22.8	80	71	- 63	26	16	1	0	0	4.5	6	10.3*	11	16	10	6	15	6.3	
YAP R	17	1006.9	1007.8	30.6	24.4	27.5	0.0	32.2	24+	22.8	19+	2	0	24.4	85	297	- 38	60	23	1	0	0	2.9	18	10.7	WSW	2	1	2	28	9.2	30
PENNSYLVANIA																																
ALLENTOWN	115	1004.9	1019.2	17.2	3.3	10.4	-1.7	25.6	18	- 3.9	24+	0	8	3.3	67	35	- 41	23	4	0	0	0	4.2	29	14.3*	31	10+	13	7	11	4.8	
ERIE	223	992.9	1019.4	14.4	5.6	10.0	-1.4	22.8	2+	0.0	11	0	1	3.9	69	75	- 9	16	12	4	T	T	5.9	18	14.3*	29	21+	9	10	12	5.5	
HARRISBURG	102	1005.8	1019.7	17.8	4.4	11.1	-2.1	26.1	18	- 3.3	24	0	6	3.9	66	49	- 27	27	3	0	0	0	3.4	26	12.1	NW	10	13	5	13	5.3	66
PHILADELPHIA	2	1014.5	1019.0	17.8	5.0	11.4	-1.7	25.6	18	- 2.2	12+	0	5	5.0	68	44	- 27	26	4	0	0	0	3.6	24	13.0	NW	3	13	8	10	4.9	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	°C.	°C.	C.	C.		C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
PITTSBURGH	347	989.1	1019.8	17.2	3.3	10.2	-1.5	26.1	16	- 3.3	12	0	8	1.1	58	36	- 28	21	4	2	T		3.6	26	12.5*	33	2	10	6	15	5.7	68
PITTSBURGH U	228			17.8	6.1	11.8	-1.6	25.6	18+	0.0	24	0	1			49	- 14	26	7		T											52
READING U	81	1006.9		18.3	6.1	12.1	-1.9	25.6	18+	- 0.6	12	0	2			37	- 35	21	4	0	0	0	3.9	NW#	16.5	NW	3	13	7	11	4.7	63
SCRANTON	283	984.8	1019.3	15.6	3.9	9.7	-0.9	26.7	16	- 3.3	24	0	9	2.2	65	29	- 60	16	7	0	5		3.1	23	15.6	NW	2	11	5	15	5.7	57
WILLIAMSPORT	161	1000.7	1020.0	17.8	3.9	10.8	-0.9	27.8	18+	- 2.8	12	0	7	3.9	68	28	- 56	10	6	0	T		2.5	27	8.0*	27	10	11	4	16	5.6	
RHODE ISLAND																																
BLOCK ISLAND	34	1012.8		15.0	8.3	11.8	-1.1	19.4	28+	2.2	12+	0	0			69	- 7	31	7	0	0	0						10	11	10	5.3	
PROVIDENCE	16	1011.2	1017.2	17.2	5.6	11.4	-0.3	25.6	27	- 1.7	12	0	2	4.4	66	54	- 25	25	6	0	0	0	4.2	34	13.9*	29	3	15	3	13	5.3	51
SOUTH CAROLINA																																
CHARLESTON	12	1015.7	1017.8	22.8	11.1	16.9	-2.1	30.0	1	1.7	25	0	0	11.1	74	191	119	78	8	3	0	0	3.9	2	17.4Y	N	5	11	11	9	5.3	62
CHARLESTON U	3			22.2	13.9	18.1	-1.9	28.3	4+	7.2	21	0	0			110	41	52	8		0	0	5.2		15.6	N	5					
COLUMBIA	66	1005.6	1018.6	22.2	8.3	15.1	-3.1	28.9	18	1.1	25+	0	0	8.9	75	263	202	139	10	0	0	0	2.9	36	9.8*	36	5	17	3	11	4.2	68
FLORENCE	45	1012.3	1018.0	21.7	9.4	15.4	-2.9	28.9	18+	1.7	25	0	0	9.4	74	207	152	103	9	1	0	0	3.5	2	10.3*	2	15+	16	3	12	4.6	
GNVLE SPARTANBURG	292	982.1	1019.4	20.6	7.8	14.3	-2.9	28.3	18	1.1	21	0	0	7.2	66	260	175	109	7	0	0	0	3.0	3	13.9	NE	16	16	6	9	4.1	71
SOUTH DAKOTA																																
HURON	391	970.0	1017.8	18.9	0.6	9.9	0.6	28.3	1	- 8.9	9	0	13	- 1.7	49	2	- 28	2	1	1	0	0	5.8	15	18.8	NW	7+	18	9	4	3.5	83
RAPID CITY	965	904.0	1018.8	18.9	2.8	10.9	0.9	29.4	14	- 2.8	19	0	7	- 4.4	38	13	- 7	13	1	0	0	0	5.1	31	17.9	NW	3+	21	5	5	3.1	84
SIOUX FALLS	432	966.2	1018.6	17.2	1.1	9.3	-0.9	26.7	15	- 7.2	23	0	14	1.1	60	2	- 29	2	2	1	0	0	4.8	18	15.6*	34	3	17	7	7	3.8	
TENNESSEE																																
BRISTOL	459	965.1	1019.9	19.4	5.0	12.2	-2.2	28.9	2	- 1.7	24+	0	4	5.6	70	126	71	93	6	0	0	0	2.2	7	8.9*	24	21	15	7	9	4.1	
CHATTANOOGA	204	992.1	1020.1	21.1	7.2	14.0	-2.7	27.8	18	0.0	21	0	1	8.3	77	90	13	45	8	0	0	0	2.1	31	10.7	N	5	16	6	9	4.1	68
KNOXVILLE	299	984.6	1020.4	19.4	6.7	13.1	-3.0	27.8	1	0.6	24+	0	0	7.8	74	53	- 13	16	8	1	0	0	2.7	4	13.0	SW	21	19	3	9	4.0	68
MEMPHIS	80	1005.5	1020.4	21.7	8.3	14.9	-2.3	27.8	17+	1.1	20	0	0	8.3	68	56	- 13	42	5	2	0	0	2.8	4	13.9	N	4	20	5	6	3.0	75
MEMPHIS U	83			21.1	11.1	16.1	-2.1	27.8	3	4.4	11	0	0			43	- 30	37	4		0	0										
NASHVILLE	176	999.9	1020.0	20.6	6.7	13.7	-2.7	28.3	1	- 0.6	20	0	2	7.8	71	46	- 12	20	6	3	0	0	3.1	18	12.5	NW	18	17	8	6	3.8	69
OAK RIDGE	276	987.6		19.4	6.1	12.8	-2.7	26.7	18+	1.1	24+	0	0			66	- 2	31	8	1	0	0	1.7		14.8Y		1	19	3	9	3.8	
TEXAS																																
ABILENE	537	957.4	1018.6	25.6	12.2	18.9	-0.1	33.9	17	6.1	20+	1	0	7.8	54	13	- 60	9	3	2	0	0	4.4	16	13.9	S	31	18	9	4	3.0	82
AMARILLO	1098	892.0	1017.5	24.4	7.8	15.9	0.1	31.7	16	0.0	19	0	1	2.8	49	2	- 43	1	3	2	0	0	5.6	21	15.2	N	2	22	6	3	2.4	85
AUSTIN	182	997.9	1019.8	26.1	13.3	19.8	-1.7	31.1	3	6.7	21+	0	0	11.1	63	95	23	92	2	1	0	0	3.6	2	11.2	N	18	21	7	3	2.6	82
BROWNSVILLE	5	1015.6	1018.1	28.3	16.1	22.3	-2.1	32.8	3	10.0	21+	2	0	16.1	71	10	- 80	10	2	0	0	0	4.4	33	12.1	NW	19	14	16	1	3.5	74
CORPUS CHRISTI	12	1017.7	1019.0	28.3	14.4	21.3	-2.3	33.3	3	4.4	20	3	0	14.4	71	5	- 65	5	3	0	0	0	4.5	2	14.3	N	18	20	10	1	2.9	73
DALLAS	147	1001.4	1020.0	24.4	12.2	18.3	1.6	31.7	17	5.0	20	0	0	9.4	62	20	- 49	17	3	2	0	0	4.0	36	10.7	NW	18+	22	3	6	2.7	80
DEL RIO	313	984.1	1018.6	26.1	13.3	19.7		30.0	17+	7.2	20	0	0	12.2	68	63		37	4	2	0	0	3.9	12	9.4	33	18	18	10	3	2.7	
EL PASO	1194	889.0	1016.3	25.6	9.4	17.4	-0.6	30.6	1	3.3	20	0	0	3.3	43	10	- 11	7	2	2	0	0	2.2	18	13.0	E	18	23	6	2	1.9	92
FORT WORTH	164	999.3	1020.3	24.4	10.6	17.6	-2.4	31.1	17	2.8	20	0	0	9.4	65	16	- 50	13	3	2	0	0	3.2	36	11.6*	1	4	20	5	6	2.7	
GALVESTON U	2			23.9	17.8	21.0	-2.1	29.4	3+	13.9	20+	0	0			25	- 47	25	2	0	0	0	3.9		13.4	NE	19					82
HOUSTON U	12			26.7	16.1	21.3	-1.2	31.1	3	9.4	20	0	0			44	- 48	27	3		0	0										
HOUSTON	15	1016.4	1018.9	26.7	13.3	19.9	-2.0	31.7	3	3.3	20	0	0	12.2	68	60	- 36	41	3	1	0	0	4.1	34	11.6*	1	19+	20	7	4	2.9	84
LAREDO	152	1003.5	1018.7	28.9	15.6	22.0	-2.2	35.0	18+	7.8	20	3	0	12.8	60	41	- 1	41	2	1	0	0	3.6	15	11.2*	6	5	21	7	3	2.7	
LUBBOCK	988	906.9	1018.5	25.0	8.9	16.7	0.5	32.8	17	1.7	20	2	0	6.1	56	8	- 43	6	3	3	0	0	5.1	18	15.6*	6	11	20	7	4	3.0	
MIDLAND	869	918.5	1016.7	27.2	11.1	19.1	0.3	35.0	17	7.8	28+	3	0	7.2	55	5	- 37	3	2	1	0	0	4.3	18	13.0*	3	18	22	3	6	2.6	
PORT ARTHUR	5	1017.2	1018.7	26.7	12.2	19.2	-2.1	30.6	2	2.8	20	0	0	12.8	73	2	- 71	2	1	1	0	0	3.7	2	16.5	N	3	21	6	4	3.0	80
SAN ANGELO	580	951.1	1018.2	26.1	10.6	18.2	-2.0	33.9	17	4.4	20	1	0	8.9	61	16	- 30	11	2	1	0	0	2.4	20	8.9*	6	4	19	9	3	2.8	
SAN ANTONIO	240	994.6	1019.7	26.7	11.7	19.1	-2.3	31.1	17+	3.3	20	0	0	10.6	63	42	- 22	40	3	1	0	0	3.7	34	13.0	N	18	22	8	1	2.4	87
VICTORIA	32	1014.5		27.2	13.9	20.3	-2.2	31.7	3	3.3	20	0	0			9	- 80	7	2	2	0	0	3.5		17.4Y		19	18	11	2	3.3	
WACO	152	998.4	1019.5	26.1	11.7	18.8	-2.0	31.1	17	2.2	20	0	0	11.1	66	20	- 45	16	2	1	0	0	4.0	36	12.1*	35	4	20	7	4	2.7	
WICHITA FALLS	303	982.3	1019.5	25.0	9.4	17.2	-1.9	33.9	17	3.3	20	1	0	8.3	61	9	- 64	8	2	2	0	0	4.1	18	12.1*	36	18+	20	7	4	2.6	
UTAH																																
MILFORD	1533	847.8		23.3	0.6	11.9	1.6	31.1	7	- 8.9	25	0	13			2	- 17	2	1	1	0	0						22	6	3	2.3	
SALT LAKE CITY	1286	871.9	1021.0	21.1	2.2	11.7	0.7	27.2	7	- 5.0	18+	0	9	- 2.8	44	11	- 18	11	2	1	0	0	2.9	10	19.2	NW	29	17	6	8	3.7	
WENDOVER	1291	874.7		17.8	5.0	11.4	-0.3	26.7	15	- 1.1	25+	0	3			3	- 8	3	2	0	0	0						20	5	6	3.0	
VERMONT																																
BURLINGTON	100	1002.2	1017.1	13.9	1.1	7.4	-1.3	23.9	16	- 5.6	23+	0	14	2.2	71	56	- 20	19	12	0	3	T	3.5	18	12.1	S	2	7	12	12	6.5	61

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days		Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days		Snow, Sleet		Average speed	Prevailing direction	Fastest mile (1.6 kilometers)			Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
												Max 32.2 °C or above	Min. 0 °C or lower						.25 mm. or more	With thunderstorms	Total	Maximum depth on ground			Speed	Direction	Date					
	M.	Mb.	Mb.	°C.	C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VIRGINIA																																
LYNCHBURG	279	994.1		18.3	5.0	11.5	-3.1	26.7	18	- 2.8	21+	0	6			52	- 15	22	6	0	0	0	2.5		16.1	NE	16	17	4	10	4.0	66
NORFOLK	8	1017.9	1019.2	18.9	10.0	14.3	-2.4	26.1	2	2.2	12	0	0	8.9	72	141	67	71	8	1	0	0	5.0	3	22.4	NE	16	13	6	12	5.2	58
RICHMOND	49	1013.1	1019.4	18.9	5.0	11.9	-2.9	26.7	18	- 1.7	25+	0	6	6.1	76	92	16	56	7	0	0	0	2.8	1	11.2	NE	16	15	3	13	4.5	68
ROANOKE	358	977.3	1019.8	19.4	5.0	12.2	-2.3	26.7	18	- 2.2	24+	0	8	4.4	62	71	- 10	29	4	1	0	0	2.5	34	13.0*	4	16	18	3	10	3.9	
WASHINGTON																																
OLYMPIA	59	1011.5	1018.8	16.7	3.3	10.2	-0.6	23.9	11+	- 1.1	25+	0	5	7.2	88	45	- 89	12	13	2	0	0	2.6	20	10.3*	23	2	4	12	15	6.8	
SEATTLE TACOMA	122	1004.6	1018.9	16.7	7.8	11.9	0.6	22.8	11+	2.8	26	0	0	7.8	79	25	- 77	9	11	1	0	0	3.2	1	9.4*	36	3	9	7	15	6.5	
SEATTLE U	4			16.7	10.0	13.3	0.8	24.4	11	5.6	26	0	0			21	- 62	6	11		0	0			13.9	SW	14+					57
SPOKANE	718	951.1	1020.6	15.0	2.8	8.8	-0.7	23.3	7	- 4.4	27+	0	8	2.2	69	12	- 28	8	4	1	T		4.3	6	17.9	SW	2	13	5	13	5.1	62
STAMPEDE PASS R	1206	882.7		9.4	2.8	6.3	0.5	20.0	21	- 2.2	26	0	9			118	-106	28	13	0	175	51						11	3	17	6.1	
TATOOSH ISLAND R	31	1013.6	1017.6	13.9	8.3	11.1	0.0	21.1	4	5.0	26	0	0	7.8	81	117	- 92	50	13	2	0	0	8.5	6	29.1	E	4	8	5	18	6.7	58
WALLA WALLA U	289	983.4		17.2	6.1	11.8	-1.1	22.8	13	1.7	27	0	0			17	- 22	8	8	0	0	0	2.0		8.0	NW	2	14	7	10	4.5	64
YAKIMA	321	981.2	1020.7	18.9	1.1	10.1	-0.2	26.1	7	- 2.2	21+	0	15	1.7	63	4	- 11	2	5	1	0	0	2.8	27	13.0*	27	2	10	11	10	5.1	
WEST INDIES																																
SAN JUAN P.R.	5	1012.2	1014.1	30.6	23.3	27.0	0.3	32.2	24	21.7	24+	1	0	22.8	80	80	- 69	25	20	5	0	0	2.8	7	11.2	E	2	3	17	11	6.2	56
SWAN ISLAND		1009.9		28.9	24.4	26.8	-0.8	30.6	24+	22.2	21+	0	0			454	208	149	23	6	0	0						1	11	19	7.8	
WEST VIRGINIA																																
BECKLEY	763	930.8	1020.5	15.6	2.8	9.1		23.9	2	- 6.7	11	0	10	2.8	69	86		30	7	1	0	0	2.9	14	11.2*	24	21	12	8	11	5.0	
CHARLESTON	286	984.5	1020.2	19.4	3.9	11.8	-2.3	27.8	2	- 3.9	11	0	9	3.3	63	15	- 51	7	5	0	0	0	2.1	22	9.8*	22	21	14	7	10	5.0	
ELKINS	600	950.5	1020.7	16.7	0.0	8.3	-2.8	26.7	2	- 7.2	24+	0	18	2.8	77	24	- 53	10	7	1	0	0	2.1	30	11.2*	23	21+	8	8	15	5.9	
HUNTINGTON	252	989.6	1020.1	18.9	3.9	11.2	-2.8	26.7	1	- 4.4	24	0	9	5.0	69	20	- 27	17	3	0	0	0	2.1	13	9.4*	23	21	14	7	10	4.7	
PARKERSBURG U	187			18.9	3.9	11.4	-2.4	26.1	18+	- 3.3	24	0	7			12	- 40	6	6	2	0	0	2.6		12.5	SW	21+					61
WISCONSIN																																
GREEN BAY	208	995.0	1018.0	14.4	2.8	8.7	-1.0	23.9	25+	- 3.3	23	0	10	3.3	74	11	- 37	7	7	0	T	T	4.4	22	17.0	S	3	7	15	9	5.7	52
LA CROSSE	199	992.7	1019.2	15.6	3.9	9.8	-0.8	25.6	16	- 5.0	10	0	5	2.8	66	6	- 49	3	4	0	T	T	4.6	18	17.4*	34	21	9	10	12	5.2	
MADISON	262	983.3	1019.2	16.1	0.6	8.3	-1.7	26.1	17	- 8.3	10	0	14	1.1	65	2	- 54	1	4	0	13	T	3.5	18	14.3	SW	3	11	11	9	5.0	64
MILWAUKEE	205	993.6	1018.9	15.6	2.8	9.0	-1.0	27.2	17	- 3.9	11+	0	11	2.2	64	4	- 49	4	3	0	T	T	4.5	21	13.9	SW	3	10	14	7	4.6	66
WYOMING																																
CASPER	1621	840.6	1019.6	17.2	- 0.6	8.4	-0.7	25.6	13	- 7.2	19+	0	18	- 6.7	39	6	- 15	3	3	0	T		5.0	25	13.4*	24	15+	15	10	6	4.1	
CHEYENNE	1867	816.9	1019.7	17.8	0.6	9.3	0.7	25.0	1	- 6.7	19+	0	12	- 7.2	36	1	- 20	1	1	0	0	0	5.7	29	19.2	NW	10	15	10	6	3.7	76
LANDER	1696	838.7	1019.4	17.8	0.6	9.2	0.8	25.6	14	- 6.1	19	0	14	- 4.4	43	9	- 22	7	2	0	76	76	2.8	24	15.2	W	15+	17	8	6	4.0	83
SHERIDAN	1208	887.7	1019.9	18.3	- 0.6	8.9	0.1	27.8	14+	- 7.8	23	0	18	- 3.3	47	9	- 20	4	4	0	0	0	3.6	33	17.9	NW	3	14	8	9	4.3	71

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

- * Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
- A Maximum hourly average.
- B Number of days maximum 21.1°C. or above for Alaskan Stations.
- Y Peak Gust.
- # Wind direction to 8 compass points only.
- + And also on an earlier date or dates.
- Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
Birmingham	196	196	99
Huntsville	257	259	139
Mobile	78	78	22
Montgomery	151	151	68
ALASKA			
Anchorage	922	1963	1982
Annette	565	1501	1344
Barrow	1607	4498	4178
Barter Island	1541	4227	3979
Bethel	1020	2193	2367
Cold Bay	778	2330	2196
Cordova	777	1972	2060
Fairbanks	1133	2149	2348
Juneau	614	1738	1847
King Salmon	924	2120	2056
Kotzebue	1184	2695	2799
McGrath	1132	2184	2363
Nome	1046	2471	2764
St. Paul Is.	857	2684	2618
Shemya	760	2542	2337
Yakutat	754	2000	1875
ARIZONA			
Flagstaff	417	743	873
Phoenix (U)	0	0	
Phoenix	0	0	22
Prescott	119	149	272
Tucson	5	5	25
Winslow	164	185	251
Yuma	0	0	0
ARKANSAS			
Ft. Smith	182	196	139
Little Rock	175	189	136
Texarkana	123	133	78
CALIFORNIA			
Bakersfield	17	18	37
Bishop	133	160	290
Blue Canyon	197	443	551
Burbank	18	19	49
Eureka (U)	306	1093	1114
Fresno	41	47	78
Long Beach	23	32	52
Los Angeles (U)	5	5	37
Los Angeles	21	38	133
Mt. Shasta (R)	302	585	588
Oakland	75	288	275
Red Bluff	56	64	53
Sacramento (U)	43	58	93
Sacramento	49	63	90
Sandberg (R)	111	169	232
San Diego	8	8	58
San Francisco (U)	100	577	586
San Francisco	135	351	362
San Jose (U)	62	114	
Santa Catalina	52	66	75
Santa Maria	142	508	434
Stockton	50	64	
COLORADO			
Alamosa	621	1025	1082
Colorado Springs	385	558	647
Denver	375	514	517
Grand Junction	219	260	343
Pueblo	317	378	380
CONNECTICUT			
Bridgeport	364	462	373
Hartford	419	565	477
Middletown	463	698	
New Haven	391	503	446
DELAWARE			
Wilmington	372	430	321
DIST. OF COLUMBIA			
Washington (U)	305	344	
Washington	300	329	250
FLORIDA			
Apalachicola (U)	43	43	16
Daytona Beach	18	18	0
Fort Myers	0	0	0
Jacksonville	39	39	12
Key West	0	0	0
Lakeland (U)	15	15	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	7	7	0
Pensacola	72	72	19
Tallahassee	88	88	28
Tampa	22	22	0
West Palm Beach	0	0	0
GEORGIA			
Athens	214	215	127
Atlanta	201	203	142
Augusta	170	171	78
Columbus	143	143	87
Macon	177	177	71
Rome	266	272	185
Savannah	116	116	47
IDAHO			
Boise	370	598	547
Idaho Falls 46W (R)	622	1069	943
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	668	1093	986
Lewiston	386	548	526
Pocatello	478	769	665
ILLINOIS			
Cairo (U)	208	229	200
Chicago (Midway)	423	542	407
Chicago (O'Hare)	521	731	510
Moline	437	564	443
Peoria	435	553	419
Rockford	519	724	529
Springfield	356	432	363
INDIANA			
Evansville	367	427	286
Ft. Wayne	478	621	492
Indianapolis	405	496	406
South Bend	493	693	489
IOWA			
Burlington	390	490	415
Des Moines	433	585	465
Dubuque	505	724	649
Sioux City	406	581	486
Waterloo	526	760	597
KANSAS			
Concordia	283	364	333
Dodge City	254	338	284
Goodland	369	519	468
Topeka	316	392	327
Wichita	200	235	262
KENTUCKY			
Lexington	375	447	293
Louisville	349	398	302
LOUISIANA			
Alexandria	156	159	56
Baton Rouge	75	75	31
Lake Charles	60	60	19
New Orleans (Audubon Park)	51	51	12
New Orleans	73	73	19
Shreveport	93	99	47
MAINE			
Caribou	737	1401	1211
Greenville (U)	686	1409	
Portland	549	1004	768
MARYLAND			
Baltimore (U)	227	251	216
Baltimore	358	399	312
MASSACHUSETTS			
Blue Hill Obs. (R)	409	649	511
Boston	380	560	385
Nantucket	352	540	496
Pittsfield	554	950	827
Worcester	472	777	637
MICHIGAN			
Alpena	584	1072	1026
Detroit (City AP)	411	546	447
Detroit (M. Wayne Co.)	566	827	449
Detroit (Willow Run)	516	750	447
Escanaba (U)	594	1038	928
Flint	581	882	680
Grand Rapids	545	790	606
Lansing	569	836	597
Marquette (U)	540	988	907
Muskegon	528	754	560
S. Ste. Marie	643	1203	1060
MINNESOTA			
Duluth	631	1273	1142
Internat. Falls	675	1316	1247
Minneapolis	515	802	747
Rochester	565	915	719
St. Cloud	547	895	849
MISSISSIPPI			
Jackson	124	124	65
Meridian	185	185	81
Vicksburg (U)	108	111	53
MISSOURI			
Columbia	270	320	305
Kansas City	235	286	259
St. Joseph	322	401	351
St. Louis (RFC)	216	243	238
St. Louis	333	390	311
Springfield	276	336	268
MONTANA			
Billings	415	735	694
Butte	681	1400	
Glasgow	482	832	956
Great Falls	375	805	882
Havre	518	977	982
Helena	542	976	985
Kalispell	700	1407	1124
Miles City	448	767	688
Missoula	698	1290	1062
NEBRASKA			
Grand Island	399	602	495
Lincoln (U)	319	427	382
Norfolk	416	610	517
North Platte	450	636	569
Omaha	353	470	422
Omaha N. Omaha AP	379	542	474
Scottsbluff	458	695	597
Valentine	469	731	679
NEVADA			
Elko	481	890	829
Ely	470	875	897
Las Vegas	12	12	78
Reno	296	533	824
Tonopah	236	343	
Winnemucca	389	727	780
NEW HAMPSHIRE			
Concord	539	899	738
Mt. Washington Obs. (R)	1125	3067	2806
NEW JERSEY			
Atlantic City	351	394	290
Atlantic City (U)	272	289	
Newark	278	319	278
Trenton (U)	341	405	321
NEW MEXICO			
Albuquerque	173	195	241
Clayton	270	378	382
Raton	421	574	594
Roswell	145	166	220
Silver City	149	189	189
NEW YORK			
Albany	484	702	597
Binghamton	510	745	759
Buffalo	518	767	637
New York (U)	308	374	263
New York (LaGuardia)	290	344	250
Rochester	500	720	581
Schenectady	479	698	567
Syracuse	475	661	581
NORTH CAROLINA			
Asheville	400	467	
Cape Hatteras (R)	136	139	78
Charlotte	287	306	130
Greensboro	329	359	225
Raleigh	305	330	185
Wilmington	145	145	74
Winston-Salem	276	292	192
NORTH DAKOTA			
Bismarck	542	997	861
Devils Lake (U)	587	1110	1008
Fargo	604	1007	858
Grand Forks FAA	621	981	
Pembina	596	1043	
Williston	567	1002	936
OHIO			
Akron	458	627	486
Cincinnati (U)	282	332	247
Cincinnati	376	458	366
Cincinnati Obs.	339	411	302
Cleveland	483	649	523
Columbus	424	542	437
Columbus (U)	340	422	342
Dayton	386	485	394
Mansfield	462	628	542
Toledo	536	741	539
Youngstown	490	695	557
OKLAHOMA			
Oklahoma City	150	174	179
Tulsa	162	180	176
OREGON			
Astoria	345	920	861
Burns (U)	465	904	774
Eugene	282	487	563
Meacham	478	1224	1076
Medford	284	435	450
Pendleton	397	525	461
Portland (U)	217	379	370
Portland	358	697	502
Roseburg	257	422	472
Salem	357	658	517
Sexton Summit (R)	303	871	776
PENNSYLVANIA			
Allentown	436	530	443
Erie	461	657	518
Harrisburg	399	474	361
Philadelphia (U)	251	296	235
Philadelphia	377	430	351
Pittsburgh (U)	361	443	351
Pittsburgh	447	598	489
Reading (U)	342	399	311
Scranton	475	616	585
Williamsport	417	526	495
RHODE ISLAND			
Block Island	359	481	401
Providence	377	535	484
SOUTH CAROLINA			
Charleston (U)	82	82	59
Charleston	135	135	59
Columbia	204	207	84
Florence	197	201	78
Greenville-Spartanburg	237	239	127
SOUTH DAKOTA			
Huron	463	698	694
Pierre	396	593	
Rapid City	410	672	680
Sioux Falls	499	764	674
TENNESSEE			
Bristol	349	387	287
Chattanooga	255	261	161
Knoxville	308	325	201
Memphis (U)	147	166	114
Memphis	202	215	148
Nashville	265	286	188
Oak Ridge	310	345	231
TEXAS			
Abilene	44	46	99
Amarillo	149	197	223
Austin	17	17	31
Brownsville	5	5	0
Corpus Christi	18	18	0
Dallas	57	63	62
Del Rio	21	21	
El Paso	76	76	84
Fort Worth	81	87	65
Galveston (U)	5	5	0
Houston (U)	11	11	0
Houston	31	31	6
Laredo	12	12	0
Lubbock	111	146	192
Midland	34	40	87
Port Arthur	52	52	22
San Angelo	65	67	68
San Antonio	41	41	31
Victoria	22	22	6
Waco	45	45	43
Wichita Falls	86	98	99
UTAH			
Milford	355	531	542
Salt Lake City	365	543	500
Wendover	378	485	420
VERMONT			
Burlington	601	995	738
VIRGINIA			
Lynchburg	374	427	274
Norfolk	232	236	136
Richmond	352	384	250
Roanoke	338	388	280
WASHINGTON			
Olympia	450	996	759
Seattle (U)	276	495	555
Seattle	305	531	605
Seattle-Tacoma	349	705	671
Spokane	524	963	695
Stampede Pass (R)	665	1943	1658
Tatoosh Island (R)	398	1300	1286
Walla Walla	436	582	
Walla Walla (U)	356	462	397
Yakima	456	811	606
WEST VIRGINIA			
Beckley	509	658	
Charleston	364	417	317
Elkins	553	755	569
Huntington	396	482	320
Parkersburg (U)	381	459	324
WISCONSIN			
Green Bay	531	849	736
La Crosse	469	685	621
Madison	556	853	713
Milwaukee	515	746	735
WYOMING			
Casper	545	918	738
Cheyenne	500	836	803
Lander	505	819	784
Sheridan	520	913	814

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

HURRICANE HILDA

SEPTEMBER 28-OCTOBER 5, 1964

A weak circulation formed in an easterly wave just off the south-central coast of Cuba on the morning of September 28. It moved slowly west-northwestward, crossed the western tip of Cuba near Cabo San Antonio the next morning, and soon reached tropical storm force. Increasing rapidly in intensity, Hilda became a hurricane during the early hours of the 30th, and reached its maximum development 27.79 in. central pressure and 150 m.p.h. surface winds on October 1. Hilda continued its relatively slow forward progress on the 1st and 2d, while gradually turning to a more northerly course with some apparent decrease of intensity. The central eye, about 30 to 35 miles in diameter, crossed the coast over Vermilion Bay, St. Mary Parish about 1800 c.s.t. on the 3d. At landfall, maximum winds were 100 to 120 m.p.h. along the immediate coast in the Franklin-New Iberia-Morgan City area. The lowest reported pressure 28.40 in. and highest wind estimated at 135 m.p.h., were at Franklin.

After moving inland Hilda gradually diminished in force as it moved north-northeastward to East Baton Rouge Parish by the morning of the 4th. Hurricane force winds were reported near the path of the center for a considerable distance inland during the night of the 3d. The storm turned east-northeastward as its maximum winds dropped below hurricane force. This turn was due to the intrusion into the circulation of cold air from the northwest. Hilda continued to weaken as it acquired extratropical features, and moved eastward through southern Mississippi and Alabama on the 4th and northern Florida and southern Georgia on the 5th. The strongest winds occurred at most places from northeastern Louisiana eastward following the passage of the cold front.

Tides along much of the Gulf coast were well above normal as a result of Hilda. Levels were 2 to 5 ft. above normal from the mouth of the Mississippi to Apalachicola, Fla., and 2 to 4 ft. above normal along the western Louisiana and upper Texas coasts. Highest water levels at Point au Fer, where the center crossed the coast, were estimated at 10 ft.

Rainfall was heavy over much of southeastern Louisiana and southern Mississippi. Amounts well in excess of 10 inches occurred over much of the area and considerable flooding resulted. Highest measured rainfall during Hilda's passage in Louisiana was 17.71 inches at Jeanerette Exp. Farm from noon on the 2d to 0900 on the 4th. In Mississippi, 12.57 inches fell at McComb FAA, most of it (10.98 in.) on the 4th. Storm totals of 4 to 7 inches or more were reported in sections of Alabama, Georgia, and northwestern Florida. Moisture brought into the region by Hilda's circulation also contributed to extremely heavy rains in portions of the Carolinas and northern Georgia.

The combination of wind and rain produced considerable damage to crops in Louisiana and Mississipi. About 98 percent of sugarcane acreage in Louisiana suffered some damage. Winds blew stalks over and rains loosened roots so they could not recover adequately to allow for mechanical harvest in some places. Open cotton was blown from the plants throughout the area, and most fields in southern Louisiana were flattened, but a substantial fraction of the crop there had already been harvested. Pecans and tung nuts were prematurely blown from the trees, with substantial losses.

Extensive property damage occurred in Louisiana. American Red Cross reported about 2,600 dwellings demolished or severely damaged, and minor damage to over 16,000 additional units. Over 100,000 telephones were out of service and many other utility lines damaged.

Offshore oil facilities in the large Eugene Island-Marsh Island field, directly in the path of Hilda's most intense winds and heaviest seas, suffered heavy losses. A number of drilling rigs and platforms were destroyed; many wells and additional rigs were severely damaged.

Evacuation of the oil platforms and low-lying coastal areas reduced the death toll. Loss of life totaled 37, but more than two-thirds of the fatalities resulted from the effects of tornadoes embedded in pre-hurricane squall lines which moved through southern Louisiana on the morning of the 3d. Places affected included Galliano, Golden Meadow, Kenner, Metarie, New Orleans, and Larose. The Larose tornado caused 22 deaths and about 175 injuries. The 125-ft. water tower at Erath toppled under high winds, crushing the City Hall. Eight persons perished. Tornadoes also occurred at Poplarville, Miss., on the 3d, and Evergreen, Eufaula, and Crawford, Ala., on the 4th.

Total damages, including property, crops, and indirect losses, have been estimated at $100 million in Louisiana and Mississippi. Damage was relatively moderate farther east, and much of it resulted from events not wholly attributable to the hurricane.

HURRICANE HILDA

SEPTEMBER 28-OCTOBER 5, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #		Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+		Time+		
LOUISIANA	Oct.										
Baldwin	3	28.53	1848	NE 120†	1730	130†	1730	4.5	0115-4	9.63	
Baton Rouge WBAS	4	28.97	0200	NE 46	2358-3	69	0624			8.88	
Bogalosa	4	29.25	1030	NW 60†	1330					3.67	
Buras	3	29.60	0745	S 75	1040	80	1040	4.5	1110	2.11	
Clinton	4	29.18	0425	62†						10.65	Anemometer blown down.
Franklin	3	28.40	1810	NNE 135†	1800			4.0		9.53	
Jeanerette	3			N 75+†	1900					17.71	
Jennings	3	29.34	2135	NE 67	2130					2.78	
Lafayette FAA	3	29.10	1958	N 69	1858	92				8.04	
Melville	4	28.98	1530	NE 95†	1600					7.82	
Morgan City	3			E 100†	1900			5.8	2300	8.53	
New Orleans WBAS	4	29.29	0330	S 40	0156	54	1331			3.26	
Oaknolia	4			N 60†	0900	80	0900			8.98	
Plaquemine	4	28.96	0215	75-80†	0300						
Reserve	4	29.12	0330	E 58	0200	70	0315			4.42	
Thibodaux	3	29.18		NE 100	2200					7.50	
TEXAS											
Port Arthur C.of E.	3	29.57	1500	N 29	1400			2.2	0600		
Port Arthur WBAS	3	29.64	1525	N 37	1203					T	
Sabine C.G.	3	29.54	1500	N 35				2.6	0900		
MISSISSIPPI											
Bay St. Louis	4	29.46	1200	S 40	0900	S 60	0900	6.0	1030		
Centerville										10.06	
Gulfport	4	29.35	1500	S 46	0700	75	0700			3.05	
Jackson WBAS	4	29.63	0630	NNE 41	1058	45	0940				
Keesler AFB	4	29.31	1550	N 58	1657	58	1657	5.0	0820	1.65	
McComb	4	29.34	0600	N 63	1300	63	1300			12.57	
Meridian WBAS	4	29.66		N 35						3.46	
Pascagoula	4	29.38	1600	SSW 30	1300	SSW 40	1300	4.2	1200	1.30	
Vicksburg WBO	4	29.66	0956	N 29	0927	40				1.85	
Woodville										11.50	
ALABAMA											
Mobile WBAS	4	29.41	1630	S 30	0809	S 46	0809	4.4	1500	1.65	Tides above normal. $50,000 damage in Mobile and Baldwin Counties
Montgomery WBAS	4	29.61		N 30						4.02	
FLORIDA											
Apalachicola WBO	5	29.54	0345	NE 36	0720	NE 50	0843			7.90	
Pensacola WBAS	4	29.50	2050	NW 43	2146	54	2146	3.1	1200	5.03	
Tallahassee WBAS	5	29.55	0500	SSW 27	0858-4					3.87	

+ Times are Central Standard, except for Apalachicola and Tallahassee, Eastern Standard

# Above Mean Sea Level

† Estimated

HURRICANE ISBELL

OCTOBER 8-16, 1964

Showers and squalls indicative of a tropical disturbance appeared over the western Caribbean on October 7 and 8. The disturbed area remained poorly-organized and quite weak for some time, while drifting northwestward to a position off the coast of Yucatan on the 11th. The circulation became better-organized on the 12th, and reached tropical storm intensity during that night. Isbell attained hurricane force as it neared the western tip of Cuba on the 13th.

Over Cuba wind gusts reached 70 m.p.h. as far east as Boyeros Airport near Havana. Lowest sea level pressure recorded was 28.91 in. around Pinar del Rio. Three fatalities and damage to communications and the tobacco crop was reported.

The lowest pressure in Isbell, 28.47 in. extrapolated from reconnaissance aircraft data on the morning of the 14th when the center was west-southwest of Key West. Isbell's center, about 10 miles in diameter and moving rapidly on a northeasterly course, passed inland over Florida near Everglades about 1610 e.s.t. on the 14th, and offshore again some 20 miles north of Palm Beach about 2130 e.s.t.

The center passed about 47 miles northwest of Miami, where sustained winds were 46 m.p.h., peak gusts 63 m.p.h., and minimum pressure 29.54 in. Highest winds reported were about 90 m.p.h. along small sections of both Florida coasts near the center; lowest reported pressures were at Juno Beach, 28.88 in. and Juniper, 28.95 in.

Rainfall in Florida was light, ranging up to 5 or 6 inches very near the track, therefore only localized flooding resulted. At least 13 tornadoes occurred in southeast Florida coastal sections from Coral Gables northward to Eau Gallie, with reported injuries totaling about 50, apparently none serious.

Two persons drowned off the Lower Florida Keys when a small shrimp boat was destroyed, and one person succumbed to a heart attack in the Palm Beach area while putting up storm shutters.

Damages in Florida were light because winds were not of hurricane force over a very large area, rainfall was not unusually heavy, and the duration of severe conditions was short at any one place. The tornadoes accounted for a substantial portion of the property damage. American Red Cross reported only 34 dwellings and 134 house trailers suffered major damage or were destroyed. First estimates of total property damage were about $5 million. Vegetable crops in the Everglades and Pompano areas near the hurricane track sustained considerable damage.

Isbell moved rapidly northeastward, then northward on the 15th while decreasing in intensity. Maximum winds were barely hurricane force by the early morning of the 16th as the storm approached North Carolina. The center moved inland near Morehead City around 0800 e.s.t. as colder air, located just to the northwest of the circulation from the Gulf of Mexico northward, finally penetrated into Isbell and completed its transformation into an extratropical storm.

Highest winds reported in North Carolina were 45 m.p.h. sustained, 75 m.p.h. gusts at Elizabeth City. At Norfolk, Va., the fastest mile was at a rate of 50 m.p.h. with gusts to 62 m.p.h.

The circulation was absorbed into an extensive and developing storm that continued northeastward off the Middle Atlantic and New England regions on the 17th and 18th.

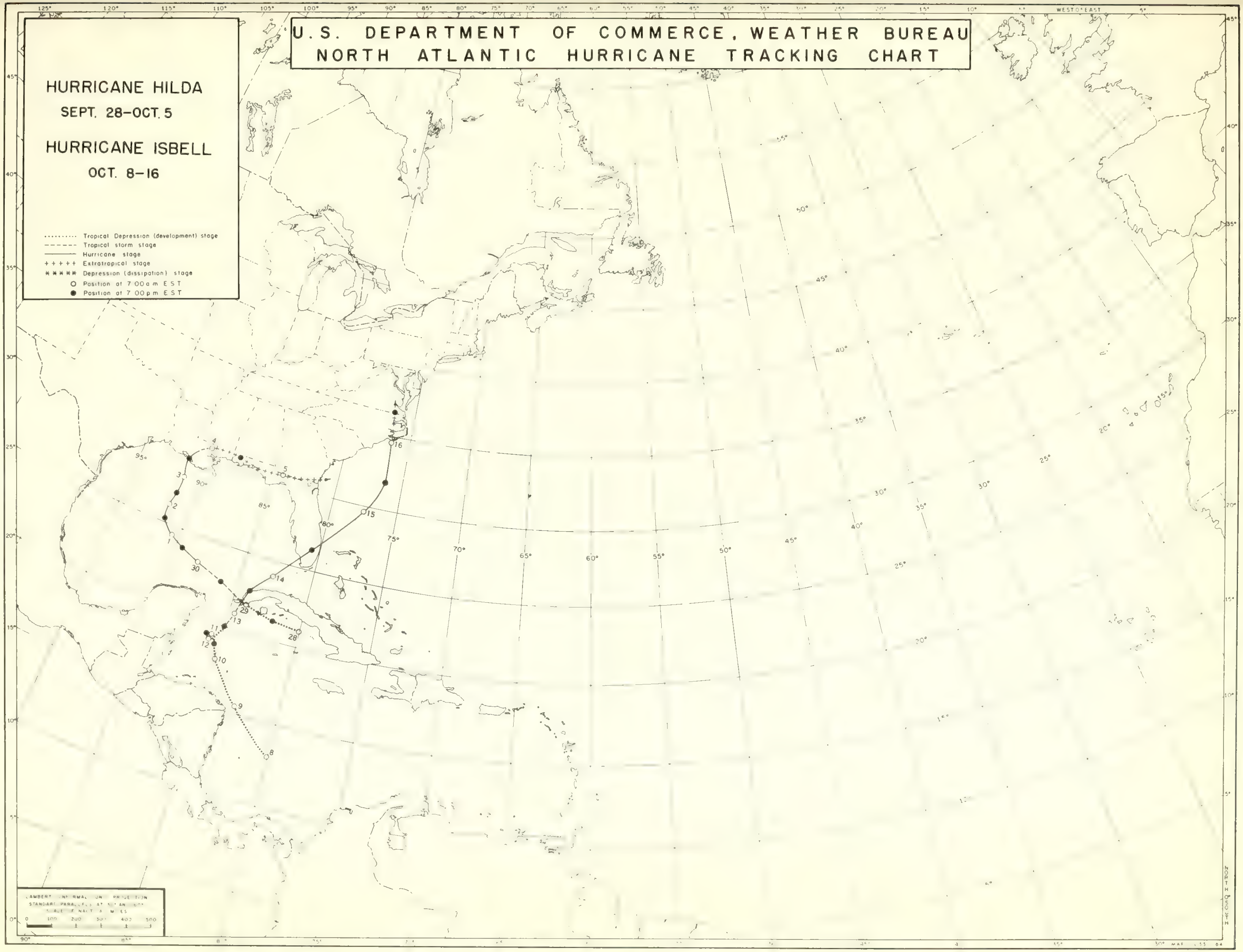
Only minor property damage resulted from Isbell in the Carolinas and tidewater Virginia. Heavy rains, locally from 3 to over 5 inches, caused some lowland and stream flooding, and damaged crops.

HURRICANE ISBELL

OCTOBER 8-16, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet)		Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+		Time+		
FLORIDA	Oct.										
Belle Glade Exp. Sta.	14	28.98		67						5.09	
Ft. Lauderdale FAA	14	29.45	1928	52	2001	81					Small tornado crossed airport and damaged several airplanes.
Key West WBAS	14	29.49		73						1.19	
Miami WBAS	14	29.54	1820	37	1713	59				1.69	
Pompano Beach	14	29.41	1955	45		80†				1.55	
W. Palm Beach WBAS	14	29.05	2051	74	2020	87				2.38	Several tornadoes caused considerable damage in area and injured at least 37 persons in Palm Beach County.
NORTH CAROLINA											
Elizabeth City	16	29.44	1400	NE 45	1000	NE 75	1000			2.16	
Cape Hatteras	16	29.43	0755	E 36	0558	E 51	0554			1.53	Tide: less than 1 ft. above normal.
Wilmington	16	29.42	1238	SW 24	1307	SW 29	1256				Tide: 2.5, Ocean, 3.0 Pamlico Sound, above normal.
VIRGINIA											
Norfolk WBAS	16	29.45	1430	NE 52	0739	E 62	1130				Highest tide Hampton Roads Harbor 2.5 ft. above normal.

+ Eastern Standard Time
† Estimated

U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
NORTH ATLANTIC HURRICANE TRACKING CHART
HURRICANE HILDA
SEPT. 28–OCT. 5
HURRICANE ISBELL
OCT. 8–16
·········· Tropical Depression (development) stage
– – – – – Tropical storm stage
———— Hurricane stage
+ + + + + Extratropical stage
✱✱✱✱✱ Depression (dissipation) stage
○ Position at 7:00 a.m. EST
● Position at 7:00 p.m. EST
28
29
30
1
2
3
4
5
8
9
10
11
12
13
14
15
16
LAMBERT CONFORMAL CONIC PROJECTION
STANDARD PARALLELS AT 30° AND 60°
SCALE OF NAUTICAL MILES
0 100 200 300 400 500
WEST ○ EAST
NORTH ○ SOUTH

STORM SUMMARY

OCTOBER 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	3	1	0	3	5					0	0	5	5																
Alaska										1	0	5	0																
Arizona																										0	0	4	0
Arkansas *																													
California *																													
Colorado														1	0	0	0												
Connecticut *																													
Delaware *																													
Florida	I 9	1	0	50+	6					3	0	H°7	C																
Georgia																										0	0	5	5
Hawaii *																													
Idaho *																													
Illinois *																													
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky *																													
Louisiana	6	2	22	170	6					15	5000	8	7																
Maine *																													
Maryland *																													
Massachusetts										0	0	3	0													0	0	3	0
Michigan *																													
Minnesota *																													
Mississippi	1	1	0	0	4					0	17	5	5																
Missouri *																													
Montana										0	0	0	4																
Nebraska *																													
Nevada *																													
New Hampshire *																													
New Jersey *																													
New Mexico *																													
New York *																													
North Carolina	2	1	0	2	5					0	0	5	5													2	10	7	7
North Dakota *																													
Ohio *																													
Oklahoma						0	0	4	3																	0	0	0	4
Oregon *																													
Pacific Area *																													
Pennsylvania *																													
Puerto Rico N																													
Rhode Island *																													
South Carolina																										0	1	6	6
South Dakota *																													
Tennessee																										0	0	?	?
Texas	1	1	0	0	4																								
Utah						0	0	4	3																				
Vermont *																													
U. S. Virgin Is. N																													
Virginia *																													
Washington N																													
West Virginia														0	0	3	0												
Wisconsin *																													
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
° Includes crop damage
C Crop damage
N No report received by printing deadline
I In connection with Hurricane Isbell
H In connection with Hurricanes Isbell and Hilda

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

OCTOBER 1964

Some of the most severe and damaging floods in history occurred on some streams in North Carolina during October. In the eastern portion, record to near record high floods occurred on the Neuse River. In the western portion, the floods in the French Broad Basin were the most devastating since 1916. One of the biggest floods of record occurred on the Rocky River. The second highest crest of record was reported on the Yadkin River at Yadkin College, N. C. Some severe flooding was reported in South Carolina on the Broad and upper Santee Rivers. Elsewhere, flooding reported was mostly minor.

ST. LAWRENCE DRAINAGE

Lake Erie Drainage.--The month of October was the driest month of record at Ft. Wayne, Ind., since records began in May 1911. The total rainfall for the month was 0.14 inch. The previous driest month was 0.20 inch in February 1920. The previous driest October occurred in 1924 with 0.34 inch rainfall.

ATLANTIC SLOPE DRAINAGE

Precipitation continued below normal in the Susquehanna Basin in New York for the fifth consecutive month. The period May through October was the driest 6-month period on record with near record low river flows. The total rainfall at Binghamton, N. Y., for the 6-month period was 8.42 inches or 11.94 inches below normal. The previous 6-month low record was 9.18 inches in 1900. The Chenango River at Chenango Forks, N. Y., with a low stage of 2.31 feet on the 28th and 29th was near the record low of 2.24 feet established on September 19 and 25. The Susquehanna River at Conklin, N. Y., with a low stage of 1.30 feet on the 7th equalled the previous record low of 1.30 feet established on September 16, 1913. At Vestal, N. Y., the Susquehanna with a low stage of 1.03 feet on the 31st was near the record low of 0.98 foot established on October 20, 1939.

The flooding on streams in eastern North Carolina in the beginning of the month was due to heavy rainfall accompanying hurricane Hilda. The rainfall began around midday on the 4th and continued through most of the 5th. The heaviest amounts, from 5 to 7 inches, fell over the central portions of the Cape Fear, Neuse, Tar, and over the lower reaches of the Roanoke River basins. Elsewhere on the Cape Fear, Neuse, and Tar Basins, precipitation totals were mostly 3 to 4 inches. An average of about 1 1/2 inches occurred over the Dan and 1 inch over the remainder of the Roanoke Basin. Some of the most severe and damaging flooding in history occurred on the Neuse River at Goldsboro and Kinston, N. C. Quite extensive flooding resulted on the Tar River at Rocky Mount and Tarboro, N. C., and on the lower Cape Fear River. At Goldsboro, the crest of 26.1 feet at the Arrington Bridge Road gage site set a new high-water record. At Kinston, the crest of 22.9 feet is the highest since September 1928 when a peak stage of 23.8 feet occurred. Crests on the Tar River ranged from around 3 feet above flood stage in the upper portions to 6 to 7 feet above bankfull stage. Some major flooding resulted in the Rocky Mount and Tarboro areas. Additional flooding occurred on the lower Cape Fear and on the Dan River at Danville, Va., beginning on the 18th due to rains associated with hurricane Isbell. The heavier rains which began around midday of the 15th and ended during the afternoon of the 16th, were concentrated over the upper portions of the Dan, Roanoke, and Cape Fear River basins. The precipitation averaged about 2 1/2 inches over the Dan Basin and about 2 inches over the upper Cape Fear Basin.

Heavy rains the last of September reinforced by runoff the first week of October caused flooding in most basins in South Carolina during the month. The rainfall ranged from 2 to 7 inches during the first 5 days and accompanied hurricane Hilda. Additional heavy rain of 3 to 6 inches occurred at midmonth in connection with hurricane Isbell. The Black River had its heaviest flooding since September 1945. The Yadkin River at Yadkin College, N. C., crested 6 feet above flood stage on the 18th for the second highest crest of record. The previous record crest of 26.5 feet occurred on March 14, 1963. The Rocky River at Norwood, N. C., crested near 17 feet above flood stage on the 17th. It was one of the big floods of record. The upper Pee Dee River at Cheraw, S. C., reached its highest stage in 12 years on the 18th. Considerable damage resulted to highways and bridges in the Yadkin Basin. Considerable damage occurred along the main Edisto. Camp sites and approach roads were inundated. Several buildings were flooded for prolonged periods.

The Broad River at Blair, S. C., exceeded flood stage by 14 feet on the 7th and 17 feet on the 18th. This was the most severe flooding since 1940 in the Blair area. Major flooding occurred in the lowlands of the Congaree River below Columbia, S. C. At Columbia, S. C., flood stage was exceeded by 4.6 feet on the 7th and 7.2 feet on the 18th. Major lowland flooding occurred on the Wateree River at Camden, S. C. The crest of 29.0 feet at Camden on the 18th (flood stage 23 feet) was substantially higher than the flooding of last spring, which was the highest flood since 1954. The flooding on the upper Santee River at Rimini, S. C., was the highest since 1948, equalling the 1952 flood. Flash flooding in the upper reaches of the South Saluda and the Middle Saluda Rivers in the River Falls to Cleveland, S. C., area destroyed several residences and caused severe damage to roads and bridges. Extensive damage occurred to crops and pastures along the Congaree, the Wateree, and the upper and lower Santee Rivers.

Flooding on the Savannah and Ogeechee Rivers in Georgia during October was minor and confined to lowlands along the lower reaches. Crests along the Ocmulgee and Oconee Rivers were not high enough to cause any important damage. On the Satilla River at Atkinson, Ga., there was considerable flooding of fishing camps and low-lying farm- and pasturelands.

EAST GULF OF MEXICO DRAINAGE

Two periods of heavy rainfall occurred over the Apalachicola River System in Florida and Georgia during October. The first occurred in connection with hurricane Hilda on the 3d-5th. About 9.5 inches occurred during the 3-day period at Blountstown, Fla. Less than 3 inches occurred from La Grange to Gainesville, Ga., but elsewhere in the basin the totals ranged from about 5 inches to 9 inches at Clayton, Ga. The second period of heavy rains was due to hurricane Isbell on the 14-15th. The heaviest falls of 4 to 6 inches occurred over the Apalachicola Basin. The flooding on the Flint River was of brief duration and little or no damage resulted. The flooding on the Apalachicola at Blountstown, Fla., lasted 20 days. Little or inconsequential damages occurred as only wooded and unpopulated areas were affected. The high water enforced temporary evacuation of employees from the main lumber plant.

The heavy rains during the first 5 days of October resulted in minor flooding on the Choctawhatchee at Caryville, Fla. No flood damages of consequence were reported.

The Pearl River at and below Jackson, Miss., rose sharply to slightly above flood stage from the heavy rains on the 3d and 4th. Little or no damage resulted from flooding of major streams. There was some damage from local flash flooding of small streams.

MISSISSIPPI SYSTEM

Ohio Basin.--Milford, Ohio, on the Little Miami and Miamitown, Ohio, on the Great Miami had below zero river readings during most of October. Milford had a record-breaking low for each of the years of 1962, 1963, and 1964. The average rainfall in the Whitewater, Little Miami, and the Great Miami River basins during October was 0.54 inch.

October 1964, with a monthly total precipitation of 0.62 inch at Louisville, Ky., was the driest October at this location since 1944. The Ohio River remained in pool stages throughout the month.

One of the most devastating floods since 1916 occurred over the French Broad Basin from the 4th to the 7th. The French Broad crested at a record stage of 14.95 feet at Rosman, N. C., exceeding the previous record stage of 13.9 feet established in 1916. Flood stage at this point is 8 feet. This severe flooding was due to heavy rains which began during the evening of the 3d and continued until the 5th. The total rainfall at Rosman during this period was 17.18 inches. Rainfall at the other stations ranged from 5.5 to 8.5 inches. Runoff was heavy, as heavy rainfall occurred over the basin during the previous week. The total rainfall reported at Rosman, N. C., from September 28 through October 7 was 34.99 inches. The average annual rainfall at this point is 80 inches. Flood losses were very heavy. Heavy rainfall on the 15th and 16th caused additional flooding on the French Broad on the 16th and 17th. The rainfall during this period ranged from 3 to 5 inches in the French Broad Basin below Asheville, N. C., and 2 to 3 inches above. Little, if any, additional damage was reported.

White Basin.--The Cache River at Patterson, Ark., went above flood stage on September 28 and continued above flood stage until October 17. This overflow was due to rainfall averaging 2 inches on September 27-28.

Arkansas Basin.--The only flooding in the Arkansas Basin during October occurred on the Chikaskia at Blackwell, Okla., on the 26th and 27th, and on the Salt Fork at Tonkawa, Okla., on the 26th. The Chikaskia crested at a stage of 29.3 feet at Blackwell on the 26th. Flood stage at this point is 26 feet. This was the highest stage reached at this point since November 1961. Highways north and east of Blackwell were temporarily closed due to high water. This flooding was due to rainfall that averaged 3.19 inches in the Chikaskia and 2.78 inches over the Salt Fork Basin. Most of the damage along the Chikaskia was to farmlands and roads. No damages were reported along the Salt Fork.

Atchafalaya Basin.--Flooding of the lower Atchafalaya River at Morgan City, La., on the 3d and 4th was due to high tides associated with hurricane Hilda.

WEST GULF OF MEXICO DRAINAGE

The Trinity River at Trinidad, Tex., continued in flood from September 28 to October 2. This flooding was due to general rain which began on the 20th and continued through the 23d.

Considerable flooding was occurring the first of the month on the middle and lower Nueces in Texas from above Cotulla to Lake Corpus Christi. Lake Corpus Christi filled during the night of the 5th with resulting considerable flooding occurring downstream below Wesley Seale Dam to Nueces Bay for the next 2 weeks. Several thousand acres of farm- and ranchland as well as several homes along the Nueces were flooded. Heavy showers of 2 to 3 inches fell on the middle Nueces on the 19th resulting in flash flooding on the tributary creeks on the 19th. Minor flooding occurred on the middle Nueces below Cotulla to near Tilden, Tex., on the 19th and 20th.

FLOOD STAGE DATA

(All dates in October unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Dan: Danville, Va.	11	18	18	11.9	18
Tar: Rocky Mount, N. C.	9	5	9	11.8	6
Tarboro, N. C.	19	6	12	25.7	9
Greenville, N. C.	13	6	14	#18.5	10
Neuse: Neuse, N. C.	14	5	8	17.1	6
Smithfield, N. C.	13	(2 (4	2 10	13.8 #22.1	2 8
Goldsboro, N. C.	14	4	16	Ø26.1	9
Kinston, N. C.	14	7	10	22.9	12
Cape Fear: Moncure, N. C.	20	5	8	21.2	8
Fayetteville, N. C.	35	5	9	49.4	7
Lock No. 3, Tarheel, N. C.	42	5 18	11 21	#61.4 #47.4	7 9
Lock No. 2, Elizabethtown, N. C.	20	5 18	12 21	#33.2 #25.0	8 20
Yadkin: Yadkin College, N. C.	18	17	18	24.0	18
Rocky: Norwood, N. C.	16	4 16	7 19	28.5 E33.0	5 17
Lynches: Effingham, S. C.	14	6 11 21	9 13 24	15.0 14.65 15.6	7 12 23
Waccamaw: Conway, S. C.	7	16	25	# 7.5	18-21
Pee Dee: Cheraw, S. C.	30	5 17	8 21	#38.1 #40.2	7 18
Peedee, S. C.	19	6	30	#23.6 #26.2	11 23
Black: Kingstree, S. C.	12	4 16	13 25	15.0 13.8	7 18-19
Saluda: Pelzer, S. C.	9	5	7	11.0	6
Chappells, S. C.	13	5 16	8 17	19.6 14.7	7 16
Broad: Gaffney, S. C.	10	(5 (16	6 17	15.5 14.7	5 16
Blair, S. C.	14	5 18	8 19	28.0 31.0	7 18
Congaree: Columbia, S. C.	19	5 16	8 19	23.6 26.2	7 18
Wateree: Camden, S. C.	23	7 17	7 19	23.2 29.0	7 18
Santee: Rimini, S. C.	20	21	22	20.5	21
Jamestown, S. C.	10	13	Nov. 2	20.5	24
Savannah: Millhaven, Ga.	15	10	31	16.5	21
Clyo, Ga.	11	5	31	14.9	24
Ogeechee: Dover, Ga.	7	16	23	7.7	19
Eden, Ga.	9	8 16	13 29	9.3 11.1	10 19
ATLANTIC SLOPE DRAINAGE (Cont'd.)	Ft.			Ft.	
Ocmulgee: Macon, Ga.	18	5	6	#20.1	5
Abbeville, Ga.	12	12	14	#12.45	13
Oconee: Milledgeville, Ga.	20	6	7	#22.1	7
Satilla: Atkinson, Ga.	13	18	31	#14.9	28
EAST GULF OF MEXICO DRAINAGE					
Flint: Albany, Ga.	20	10	11	22.5	11
Apalachicola: Blountstown, Fla.	15	5	25	20.4	8
Choctawhatchee: Caryville, Fla.	12	7	9	12.2	8
Bogue Chitto: Franklinton, La.	11	7	8	15.7	7
Pearl: Jackson, Miss.	18	5	13	20.0	12
Monticello, Miss.	19	5	9	23.6	7
Columbia, Miss.	17	7	9	17.75	8
Bogalusa, La.	15	6	15	18.9	11
MISSISSIPPI SYSTEM					
Ohio Basin					
French Broad: Asheville, N. C.	8	4	7	12.7	6
Rosman, N. C.	8	4	5	14.95	4
Blantyre, N. C.	19	4	7	25.5	5
Marshall, N. C.	10	(4 (16	6 16	14.45 12.75	6 16
Hot Springs, N. C.	13	(4 (16	6 17	16.5 17.5	6 16
White Basin					
Cache: Patterson, Ark.	7	Sep. 28	17	8.2	7,8
Arkansas Basin					
Chikaskia: Blackwell, Okla.	26	26	27	29.3	28
Salt Fork: Tonkawa, Okla.	17	26	26	17.4	26
Atchafalaya Basin					
Atchafalaya: Morgan City, La.	7	3	4	8.8	4
WEST GULF OF MEXICO DRAINAGE					
Trinity: Trinidad, Tex.	28	Sep. 28	2	31.0	Sep. 29
Nueces: Tilden, Tex.	14	Sep. 17	14	23.3	Sep. 21
Calallen, Tex.	7	7	17	8.8	14

* Provisional
E Estimated
# Highest Stage Observed
Ø High Water Mark

RAWINSONDE DATA

Average monthly values

OCTOBER 1964

ALBANY, N. Y.
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	86	3.5	85	272	1.6
1000	31	153	4.8	77	276	3.5
950	31	576	6.6	65	293	11.5
900	31	1,017	4.6	61	301	15.9
850	31	1,481	2.4	54	297	18.5
800	31	1,970	.7	46	293	19.0
750	31	2,485	- 1.2	43	283	20.6
700	31	3,035	- 3.1	38	278	23.7
650	31	3,614	- 6.2	34	277	26.2
600	31	4,242	- 9.6	31	269	28.0
550	31	4,906	-13.3		267	30.9
500	31	5,630	-17.4		265	36.5
450	31	6,405	-22.4		264	40.2
400	31	7,268	-28.5		262	42.5
350	31	8,213	-34.9		254	47.4
300	31	9,272	-42.0		259	47.0
250	31	10,486	-49.8		264	43.3
200	31	11,925	-54.6		257	48.0
175	31	12,776	-56.4		261	47.2
150	30	13,747	-58.4		263	46.8
125	30	14,887	-60.4		265	39.0
100	30	16,274	-61.1		263	35.4
80	30	17,666	-59.5		264	27.0
70	29	18,501	-58.5		265	22.0
60	29	19,474	-57.5		263	17.7
50	28	20,627	-56.5		260	16.5
40	28	22,047	-55.2		266	14.6
30	26	23,884	-53.6		266	17.1
25	25	25,066	-52.3		265	20.8
20	17	26,464	-51.8		261	26.0
15	5	28,351	-49.9			
10						

ALBUQUERQUE, N. MEX.
842 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,619	9.3	49	100	3.9
1000	31	159				
950	31	598				
900	31	1,055				
850	31	1,536				
800	31	2,043	12.0	35	177	2.9
750	31	2,581	9.5	38	263	5.4
700	31	3,150	6.1	38	288	10.1
650	31	3,751	2.2	36	289	11.5
600	31	4,395	- 2.3	34	287	12.6
550	31	5,074	- 6.9		291	14.6
500	31	5,818	-11.6		291	16.7
450	31	6,610	-17.5		291	18.1
400	31	7,489	-24.2		295	21.4
350	31	8,449	-31.8		299	22.7
300	31	9,519	-40.5		298	26.0
250	31	10,737	-49.6		295	31.5
200	31	12,174	-57.0		291	29.1
175	31	13,012	-60.8		285	30.5
150	31	13,962	-64.5		289	29.9
125	31	15,070	-66.8		287	25.4
100	31	16,410	-68.6		291	20.8
80	31	17,751	-67.5		298	12.6
70	30	18,558	-65.7		302	10.3
60	30	19,502	-63.3		297	7.4
50	30	20,631	-60.1		271	5.4
40	29	22,029	-57.8		264	8.0
30	29	23,857	-54.8		259	11.3
25	29	25,026	-53.5		265	12.6
20	26	26,467	-51.6		270	16.3
15	19	28,331	-50.1		264	25.3
10						

AMARILLO, TEXAS
895 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,095	9.2	65	232	2.5
1000	31	166				
950	31	599				
900	31	1,058				
850	31	1,530	13.1	44	237	8.0
800	31	2,038	11.5	39	266	7.6
750	31	2,572	8.5	36	286	8.9
700	31	3,142	4.9	35	305	7.8
650	31	3,736	.9	32	318	8.0
600	31	4,380	- 3.4	36	309	11.8
550	31	5,054	- 8.0	34	307	14.4
500	31	5,795	-12.9		307	18.8
450	31	6,584	-18.6		306	23.7
400	31	7,458	-25.1		304	25.3
350	31	8,414	-32.3		303	25.4
300	31	9,483	-40.4		307	29.3
250	31	10,701	-49.4		303	34.6
200	31	12,136	-57.0		298	39.0
175	31	12,974	-60.4		296	40.6
150	31	13,927	-63.3		297	35.9
125	31	15,039	-66.4		295	31.1
100	31	16,382	-68.2		297	26.2
80	30	17,727	-66.8		293	19.0
70	30	18,535	-65.3		296	14.6
60	30	19,477	-63.1		295	9.3
50	30	20,607	-60.2		278	7.0
40	30	22,009	-57.3		260	8.9
30	30	23,837	-54.6		269	10.5
25	30	25,008	-53.2		270	10.9
20	27	26,458	-51.4		275	12.6
15	20	28,349	-49.3		277	14.0
10	11	31,019	-45.8			

ANCHORAGE, ALASKA
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	29	1.0	83	120	1.0
1000	31	29			60	2.5
950	31	442	1.7	66	60	2.1
900	31	878	- .4	65	114	3.5
850	31	1,333	- 3.3	68	130	7.8
800	31	1,810	- 6.4	71	144	9.3
750	31	2,313	- 9.4	70	160	10.3
700	31	2,842	-12.5	67	167	11.7
650	31	3,403	-15.8	59	174	14.2
600	31	4,003	-19.7	59	175	16.9
550	31	4,636	-24.0	56	176	16.9
500	31	5,333	-28.5	52	177	15.2
450	31	6,073	-33.3	48	176	15.0
400	31	6,898	-38.9		180	15.9
350	31	7,802	-44.9		183	15.5
300	31	8,819	-50.2		192	13.6
250	30	10,006	-52.7		212	15.5
200	30	11,448	-51.7		226	17.5
175	30	12,315	-51.1		229	17.7
150	30	13,318	-51.1		231	19.0
125	30	14,502	-51.4		228	19.0
100	30	15,950	-51.5		238	20.0
80	30	17,400	-51.4		241	17.7
70	29	18,267	-51.6		241	17.1
60	29	19,267	-51.7		246	16.1
50	29	20,449	-52.0		253	15.9
40	28	21,890	-52.2		251	16.3
30	27	23,754	-51.9		264	14.4
25	27	24,936	-51.7		275	14.6
20	23	26,380	-51.8		286	14.8
15	20	28,249	-51.6		299	17.5
10	6	30,911	-48.3			

* ANNETTE, ALASKA
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	37	7.0	84	153	6.2
1000	31	95			160	5.2
950	30	517	5.9	84	172	16.3
900	30	958	3.5	84	182	18.1
850	30	1,421	.9	82	191	18.6
800	29	1,905	- 1.6	81	201	21.8
750	29	2,413	- 4.4	77	206	24.5
700	29	2,958	- 7.9	70	209	24.3
650	29	3,526	-11.7	60	212	24.9
600	28	4,135	-15.7	61	214	28.0
550	28	4,782	-19.9	57	217	29.5
500	28	5,487	-24.5	50	220	34.8
450	28	6,241	-29.4	49	223	35.9
400	28	7,079	-35.3	46	224	41.0
350	28	7,998	-41.0	43	229	42.3
300	28	9,033	-47.0		234	41.0
250	27	10,221	-51.9		240	41.2
200	26	11,661	-54.4		244	35.7
175	26	12,517	-54.5		242	29.7
150	25	13,503	-54.8		241	28.7
125	25	14,671	-54.6		248	24.9
100	25	16,098	-55.1		251	20.2
80	25	17,523	-55.1		251	18.1
70	25	18,374	-55.3		253	17.1
60	25	19,358	-55.4		261	13.8
50	24	20,518	-55.6		261	9.7
40	23	21,943	-55.4		271	8.9
30	22	23,780	-54.5		290	8.0
25	21	24,942	-54.7		298	9.5
20	17	26,391	-54.4		310	7.8
15	14	28,227	-53.7		317	9.7
10	10	30,843	-52.7			

ATHENS, GA.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	10.1	87	5	3.9
1000	30	164				
950	30	592	12.6	64	50	7.2
900	30	1,047	10.6	62	44	4.9
850	30	1,523	8.7	60	354	5.1
800	30	2,024	7.0	53	316	6.4
750	30	2,552	5.1	44	298	7.0
700	30	3,115	2.7	43	280	8.0
650	30	3,707	- .3		261	10.7
600	30	4,348	- 3.9		269	11.5
550	30	5,022	- 8.0		270	13.4
500	30	5,765	-12.7		268	16.9
450	30	6,555	-18.2		263	22.1
400	30	7,431	-24.4		260	25.8
350	30	8,389	-31.5		255	28.4
300	29	9,466	-38.9		256	35.2
250	29	10,694	-47.4		251	42.0
200	28	12,138	-55.0		251	53.8
175	28	12,983	-59.2		254	54.4
150	28	13,941	-63.0		256	51.9
125	28	15,055	-66.0		257	40.2
100	28	16,402	-66.9		264	30.9
80	28	17,755	-65.0		261	17.3
70	28	18,572	-63.2		253	12.8
60	27	19,525	-60.8		255	10.7
50	26	20,665	-58.0		278	6.2
40	26	22,076	-56.2		311	2.9
30	25	23,911	-53.6		279	1.7
25	25	25,088	-51.8		268	3.3
20	23	26,540	-50.2		274	5.8
15	23	28,430	-47.6		274	8.0
10	16	31,131	-44.6			
7						

* BARROW, ALASKA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	8	-10.4	84	93	9.3
1000	31	83			88	10.5
950	31	481	- 9.1	85	100	13.4
900	31	898	- 9.0	79	107	11.8
850	31	1,339	-10.6	75	110	10.1
800	31	1,804	-12.4	73	111	8.5
750	31	2,296	-14.5	68	125	6.2
700	31	2,815	-17.1	66	156	5.8
650	31	3,365	-20.0	65	176	6.8
600	31	3,957	-23.7	64	199	8.5
550	31	4,582	-27.6	65	208	12.0
500	31	5,267	-32.2	59	219	16.3
450	31	5,998	-37.3	60	215	18.1
400	31	6,807	-42.8		218	21.0
350	31	7,696	-49.1		220	22.7
300	31	8,694	-54.9		223	24.1
250	31	9,850	-57.1		228	23.7
200	31	11,275	-53.1		228	20.8
175	31	12,137	-52.4		231	20.6
150	31	13,135	-52.1		235	21.8
125	31	14,316	-52.0		235	21.6
100	31	15,763	-51.6		242	23.3
80	31	17,209	-52.0		245	24.5
70	31	18,072	-52.3		251	25.8
60	31	19,067	-52.7		251	26.8
50	30	20,247	-53.1		258	28.4
40	29	21,688	-53.5		264	29.3
30	29	23,536	-53.9		266	34.4
25	29	24,706	-54.0		268	34.6
20	26	26,138	-53.8		275	40.4
15	24	27,995	-53.6		277	43.1
10	19	30,596	-53.0		283	51.1
7	7	32,933	-51.8			

BARTER IS., ALASKA
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	15	- 9.4	84	97	6.8
1000	31	80			98	8.5
950	31	483	- 6.7	64	107	11.5
900	31	902	- 6.2	59	110	9.1
850	31	1,348	- 7.5	58	120	5.8
800	31	1,819	- 9.7	60	139	3.9
750	31	2,310	-12.0	60	178	3.3
700	31	2,841	-14.6	56	213	4.5
650	31	3,394	-17.3	52	230	6.4
600	31	3,994	-20.9	48	243	8.7
550	31	4,628	-24.9	48	248	10.7
500	31	5,318	-29.6	46	248	13.8
450	31	6,054	-35.0	48	254	16.3
400	31	6,873	-40.8		251	20.6
350	31	7,770	-46.9		253	24.5
300	31	8,776	-53.8		252	29.1
250	31	9,934	-57.1		250	33.6
200	29	11,364	-53.1		247	32.4
175	28	12,228	-52.0		249	31.3
150	28	13,227	-51.6		247	30.3
125	27	14,410	-51.8		249	27.0
100	27	15,856	-51.9		249	26.6
80	25	17,301	-52.1		253	27.2
70	24	18,166	-52.3		256	26.4
60	24	19,161	-52.7		261	26.0
50	22	20,327	-53.1		263	27.2
40	20	21,758	-54.0		269	28.7
30	18	23,599	-54.0		278	31.9
25	17	24,766	-53.8		277	32.2
20	15	26,207	-53.8		278	40.0
15	9	28,020	-54.4			
10						
7						

BETHEL, ALASKA
999 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	39	- .5	92	278	.6
1000	30	29			334	3.5
950	30	443	- .8	80	192	2.5
900	30	870	- 3.2	78	198	3.3
850	30	1,321	- 5.7	74	213	4.5
800	30	1,794	- 8.2	70	212	5.1
750	30	2,295	-10.8	60	231	5.6
700	30	2,819	-14.0	56	233	6.6
650	30	3,382	-17.1	50	246	6.8
600	30	3,975	-20.6	46	253	7.0
550	30	4,613	-24.5	45	254	8.0
500	30	5,301	-29.0	48	260	10.1
450	30	6,047	-33.9	48	256	11.7
400	30	6,862	-39.4		266	13.6
350	30	7,765	-45.2		260	15.9
300	30	8,782	-50.1		246	18.6
250	30	9,965	-52.5		245	17.3
200	30	11,412	-50.8		254	24.1
175	30	12,283	-50.4		256	22.5
150	29	13,283	-50.2		253	21.2
125	29	14,472	-50.4		249	21.2
100	29	15,928	-50.2		249	20.0
80	29	17,384	-50.7		246	19.4
70	28	18,254	-50.9		248	18.8
60	28	19,259	-50.7		250	18.3
50	28	20,447	-50.8		253	16.1
40	28	21,900	-50.7		250	15.5
30	28	23,774	-50.6		259	14.6
25	28	24,963	-50.5		264	14.2
20	28	26,419	-50.1		273	15.3
15	24	28,294	-49.6		275	15.7
10	12	30,977	-47.9			
7						

BISMARCK, N. DAK.
957 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	505	2.9	67	317	3.7
1000	31	144				
950	31	567			297	3.3
900	31	1,008	8.2	49	316	12.6
850	31	1,478	6.1	47	313	15.5
800	31	1,972	4.0	43	307	16.9
750	31	2,489	1.6	39	308	19.2
700	31	3,048	- 1.4	40	306	22.0
650	31	3,630	- 4.8	36	306	26.0
600	31	4,261	- 8.4	33	304	27.8
550	31	4,925	-12.3		303	29.9
500	31	5,654	-17.4		294	28.4
450	31	6,423	-23.0		302	29.9
400	31	7,289	-29.2	34	300	33.0
350	31	8,229	-36.0		303	38.1
300	31	9,281	-44.0		298	38.1
250	31	10,482	-51.9		294	39.6
200	31	11,905	-58.2		299	41.4
175	31	12,742	-59.4		299	40.2
150	31	13,707	-59.6		296	36.5
125	31	14,846	-60.2		298	33.6
100	31	16,235	-60.5		301	26.4
80	30	17,626	-60.3		302	20.8
70	30	18,458	-59.7		304	17.9
60	30	19,425	-59.0		306	14.8
50	29	20,570	-58.8		310	12.8
40	29	21,974	-57.5		317	8.4
30	28	23,802	-55.5		304	9.1
25	28	24,965	-55.2		297	10.1
20	27	26,399	-54.6		293	13.6
15	19	28,258	-52.4		291	17.9
10	9	30,867	-50.6			
7						

BOISE, IDAHO
920 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	868	6.1	66	138	3.5
1000	31	179				
950	31	602				
900	31	1,052	11.8	44	131	2.5
850	31	1,531	11.6	37	137	1.0
800	31	2,035	9.1	36	256	2.5
750	31	2,564	6.4	38	276	6.6
700	31	3,130	3.2	36	271	10.3
650	31	3,721	- .5	36	267	14.8
600	31	4,363	- 4.5	36	270	18.1
550	31	5,033	- 8.9	35	273	19.8
500	31	5,774	-13.6	35	273	23.1
450	31	6,558	-19.1	33	275	28.0
400	31	7,434	-25.7		272	25.8
350	31	8,387	-33.2		274	29.1
300	31	9,452	-41.7		276	31.9
250	31	10,663	-51.3		278	35.2
200	31	12,085	-58.8		278	35.7
175	30	12,913	-60.8		278	35.5
150	30	13,869	-61.7		276	33.4
125	30	14,991	-63.6		276	31.1
100	29	16,357	-64.6		284	24.5
80	28	17,720	-63.5		285	17.9
70	28	18,542	-62.2		286	15.2
60	26	19,491	-61.2		296	11.1
50	26	20,625	-60.2		312	8.2
40	25	22,020	-59.0		327	6.0
30	24	23,830	-56.4		329	5.8
25	23	24,994	-54.8		345	4.7
20	19	26,446	-53.4		299	7.8
15	9	28,321	-51.6			
10						
7						

* BROWNSVILLE, TEXAS
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	7	17.2	87	333	3.9
1000	31	157	21.0	73	3	4.3
950	31	598	18.2	71	62	5.8
900	31	1,061	15.6	62	46	5.1
850	31	1,544	12.9	56	15	6.0
800	31	2,053	10.9	46	5	7.8
750	31	2,590	8.9	42	352	8.9
700	31	3,158	6.4	34	353	7.2
650	31	3,757	3.1	33	346	8.2
600	31	4,407	- .6	36	340	8.5
550	31	5,094	- 4.5	32	328	8.2
500	31	5,842	- 9.2	30	308	10.7
450	31	6,645	-14.2	29	298	14.6
400	31	7,534	-20.4	31	293	20.0
350	31	8,509	-27.5	32	290	25.4
300	31	9,600	-35.5	31	285	34.6
250	31	10,844	-44.9		285	41.2
200	31	12,300	-56.1		282	41.6
175	31	13,138	-61.5		275	38.9
150	31	14,080	-67.4		271	33.8
125	31	15,163	-72.7		270	25.8
100	31	16,462	-75.3		287	12.6
80	31	17,764	-71.4		344	4.7
70	31	18,562	-66.7		69	6.4
60	31	19,500	-64.2		107	8.0
50	31	20,623	-61.3		106	8.9
40	31	22,019	-58.0		89	10.7
30	31	23,850	-53.6		80	13.4
25	30	25,025	-51.6		82	13.2
20	30	26,482	-48.6		75	10.7
15	30	28,388	-45.7		79	6.6
10	23	31,086	-42.8		47	7.2
7	7	33,485	-39.5			

BUFFALO, N. Y.
993 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	218	5.7	80	219	4.7
1000	31	158				
950	31	578	7.5	65	252	11.3
900	31	1,024	5.2	60	273	14.6
850	31	1,488	2.7	54	279	16.5
800	31	1,977	.4	53	280	18.1
750	31	2,492	- 1.9	50	281	18.6
700	31	3,039	- 4.4	47	279	22.0
650	31	3,618	- 7.0	44	279	23.7
600	31	4,241	-10.6	38	273	26.0
550	31	4,902	-14.5	36	270	27.6
500	31	5,622	-18.7	32	271	30.3
450	31	6,394	-23.8		268	33.0
400	31	7,250	-29.6		263	36.5
350	31	8,189	-36.1		263	43.1
300	31	9,242	-43.4		264	45.5
250	31	10,449	-50.4		261	49.9
200	31	11,886	-55.1		261	44.1
175	31	12,736	-56.3		262	42.3
150	31	13,711	-57.9		259	39.4
125	31	14,855	-59.5		264	36.7
100	31	16,248	-60.1		263	31.9
80	31	17,644	-59.0		263	25.4
70	31	18,482	-58.5		260	22.0
60	30	19,454	-57.5		263	18.5
50	30	20,609	-56.6		258	16.1
40	30	22,029	-55.3		260	15.9
30	30	23,872	-53.7		263	20.8
25	29	25,053	-52.5		258	19.2
20	24	26,490	-51.8		262	23.7
15	17	28,383	-50.1			
10	5	30,980	-47.4			
7						

* BURRWOOD, LA.
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	3	19.7	79	18	6.0
1000	27	156	19.4	72	28	7.8
950	27	596	16.4	68	49	9.3
900	27	1,055	13.4	64	61	7.2
850	27	1,535	11.7	48	45	4.3
800	27	2,041	9.7	41	19	4.7
750	27	2,576	7.3	38	6	4.9
700	27	3,140	5.0	33	349	4.9
650	27	3,743	2.8	28	315	5.2
600	27	4,386	- .9	28	293	9.1
550	27	5,070	- 5.2	28	287	12.4
500	27	5,818	-10.2	29	281	15.2
450	27	6,618	-15.9	28	279	19.4
400	27	7,500	-22.2	29	274	23.9
350	27	8,467	-29.4	33	268	28.6
300	26	9,542	-37.5	26	266	38.5
250	26	10,778	-45.8		267	47.2
200	26	12,235	-54.6		261	51.1
175	26	13,079	-59.5		258	51.5
150	26	14,032	-64.5		261	48.4
125	26	15,133	-68.8		263	41.0
100	26	16,459	-70.7		268	28.7
80	26	17,792	-66.8		280	12.4
70	26	18,604	-64.1		273	6.0
60	26	19,550	-62.5		206	2.3
50	26	20,684	-59.2		108	3.3
40	26	22,092	-56.2		90	7.0
30	26	23,932	-53.2		68	4.7
25	26	25,111	-51.2		72	3.3
20	26	26,570	-48.6		25	1.9
15	25	28,468	-46.2		315	2.7
10	22	31,187	-43.2		294	7.6
7						

*CANTON IS., PACIFIC AREA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	25.8	74	81	12.0
1000	31	92	25.1	75	83	13.8
950	31	540	21.2	83	[illegible]	16.1
900	31	1,007	17.8	81	90	16.5
850	31	1,495	16.0	62	90	16.5
800	31	2,009	14.9	38	89	15.0
750	31	2,551	12.7	32	89	11.8
700	31	3,130	10.0	29	97	8.9
650	31	3,738	6.5	29	95	7.8
600	31	4,394	2.6	29	112	7.6
550	31	5,084	- 1.7	30	98	6.8
500	31	5,844	- 6.1	28	83	6.8
450	31	6,657	-10.8	27	94	6.2
400	31	7,559	-16.4	27	164	4.3
350	31	8,548	-23.9	29	201	6.8
300	31	9,654	-32.5	29	255	9.3
250	31	10,912	-42.5		273	13.4
200	31	12,379	-54.8		274	15.3
175	29	13,217	-61.7		274	18.1
150	28	14,157	-68.8		272	22.0
125	28	15,227	-76.3		267	19.0
100	28	16,495	-80.2		240	4.5
80	28	17,783	-72.0		263	8.2
70	28	18,575	-68.9		268	16.3
60	28	19,503	-65.8		266	25.4
50	28	20,618	-63.4		270	31.3
40	28	21,996	-61.0		272	29.9
30	28	23,798	-57.7		300	2.5
25	28	24,952	-55.8		86	32.8
20	28	26,386	-52.0		90	54.6
15	26	28,269	-48.4		90	63.5
10	20	30,966	-42.8		89	64.5
7	14	33,411	-37.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

CAPE HATTERAS, N. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	15.1	85	31	6.2
1000	31	141	16.2	75	23	8.2
950	31	574	14.0	74	27	7.6
900	31	1,031	11.9	65	47	3.5
850	31	1,508	10.2	59	236	4.7
800	31	2,011	8.3	52	245	9.1
750	31	2,541	6.0	48	243	12.8
700	31	3,105	3.5	45	246	15.7
650	31	3,699	.7		247	15.9
600	31	4,343	-3.0		254	20.4
550	31	5,019	-7.1		250	22.3
500	31	5,763	-11.7		247	27.6
450	31	6,555	-16.8		247	32.6
400	31	7,437	-23.2		246	36.9
350	31	8,401	-30.0		246	40.8
300	31	9,482	-37.7		247	49.1
250	31	10,717	-45.9		246	57.3
200	31	12,173	-54.4		249	69.5
175	31	13,020	-58.8		252	65.3
150	31	13,977	-63.3		255	59.8
125	31	15,087	-66.8		255	48.2
100	31	16,433	-67.1		254	31.3
80	31	17,788	-63.9		254	18.6
70	31	18,609	-61.8		259	14.0
60	31	19,569	-59.3		271	8.9
50	31	20,716	-57.2		279	4.7
40	30	22,137	-54.7		326	5.1
30	30	23,986	-52.2		325	3.5
25	30	25,170	-50.5		330	3.3
20	27	26,634	-48.8		308	3.5
15	26	28,537	-45.6		274	6.8
10	13	31,256	-41.9			

CARIBOU, ME.
992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	2.1	90	292	3.1
1000	31	128				
950	31	544	2.9	77	287	6.6
900	31	980	1.5	70	288	10.3
850	31	1,440	-.1	65	282	11.5
800	31	1,925	-1.4	62	267	14.0
750	31	2,436	-3.6	57	264	16.5
700	31	2,981	-6.0	53	265	20.4
650	31	3,557	-8.6	47	257	24.5
600	31	4,176	-11.9	45	252	30.1
550	31	4,834	-15.7	39	251	34.6
500	31	5,551	-19.8		254	38.3
450	30	6,318	-24.9		250	41.8
400	30	7,172	-30.4		248	48.2
350	30	8,109	-36.4		247	51.1
300	30	9,163	-43.3		250	51.1
250	30	10,371	-50.0		262	47.0
200	30	11,813	-54.1		259	48.4
175	30	12,667	-55.2		261	47.4
150	30	13,648	-56.5		260	43.3
125	30	14,803	-57.5		259	39.6
100	30	16,211	-57.8		262	30.3
80	30	17,620	-57.2		265	26.6
70	30	18,466	-56.4		261	23.5
60	30	19,447	-56.0		256	20.2
50	30	20,606	-55.8		262	17.1
40	30	22,029	-55.1		253	16.9
30	28	23,869	-54.0		253	22.1
25	27	25,037	-53.2		255	22.3
20	25	26,482	-52.5		258	24.7
15	23	28,338	-52.0		259	27.2
10	12	31,013	-47.0			

CHARLESTON, S. C.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	13	12.7	85	357	4.3
1000	31	148	15.4	74	25	7.2
950	31	579	14.7	66	42	7.4
900	31	1,039	12.7	59	36	4.5
850	31	1,518	10.7	51	273	2.3
800	31	2,022	8.9	48	253	6.4
750	31	2,550	6.8	42	253	7.8
700	31	3,119	4.4		249	8.9
650	31	3,717	1.8		252	10.5
600	31	4,361	-2.0		246	13.6
550	31	5,039	-6.3		241	18.1
500	31	5,786	-11.2		242	21.2
450	31	6,580	-16.7		248	26.0
400	31	7,463	-22.9		245	33.6
350	31	8,429	-29.5		245	39.2
300	31	9,510	-37.6		244	46.4
250	31	10,745	-46.0		248	53.8
200	31	12,200	-55.0		247	60.6
175	31	13,044	-59.6		250	60.0
150	31	13,998	-64.2		252	54.8
125	31	15,102	-68.2		252	49.1
100	31	16,438	-68.7		254	31.1
80	31	17,784	-65.6		255	20.6
70	30	18,600	-63.4		250	15.5
60	30	19,553	-60.4		261	9.5
50	29	20,696	-57.9		245	1.6
40	29	22,111	-55.2		65	4.5
30	29	23,958	-52.6		62	3.3
25	29	25,141	-50.7		61	2.9
20	26	26,603	-48.6		15	2.7
15	14	28,485	-47.0		287	9.9
10						

CHIHUAHUA, MEXICO
860 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,428	11.2	63	275	.6
1000	31	146				
950	31	583				
900	31	1,043				
850	31	1,525	12.9	57	254	1.2
800	31	2,037	13.3	49	204	2.9
750	31	2,576	10.0	51	172	2.9
700	31	3,149	6.8	48	98	.4
650	31	3,746	3.0	38	69	.8
600	31	4,397	-1.0		256	1.7
550	31	5,078	-5.3		237	2.7
500	31	5,828	-9.9		253	5.8
450	31	6,627	-15.4		263	8.7
400	31	7,511	-22.1		262	12.6
350	31	8,478	-29.2		266	20.4
300	31	9,562	-37.0		265	29.1
250	31	10,799	-45.9		262	37.1
200	31	12,252	-55.8		264	47.2
175	31	13,091	-61.1		269	47.4
150	30	14,038	-66.6		270	41.8
125	30	15,129	-70.6		273	33.0
100	30	16,446	-72.0		284	16.1
80	29	17,767	-70.4		319	3.7
70	27	18,574	-67.8		325	2.1
60	27	19,506	-63.6		81	1.4
50	25	20,628	-60.4		115	4.9
40	23	22,026	-58.0		96	5.8
30	23	23,855	-54.3		90	7.0
25	22	25,029	-52.2		95	6.0
20	20	26,484	-50.0		65	1.9
15	10	28,365	-47.4			
10						

* COLD BAY, ALASKA
1003 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	3.3	83	271	6.0
1000	30	57			293	8.9
950	30	475	1.6	79	288	12.4
900	30	905	-1.4	85	288	12.8
850	30	1,359	-4.3	83	289	13.4
800	30	1,835	-7.0	74	293	13.6
750	30	2,336	-9.3	64	291	13.6
700	30	2,867	-12.1	60	292	16.5
650	30	3,431	-15.2	56	291	17.5
600	30	4,033	-18.8	52	[illegible]	18.8
550	30	4,672	-23.0	53	289	18.6
500	30	5,368	-27.8	47	284	19.8
450	30	6,115	-32.8	46	285	19.6
400	30	6,940	-38.4	41	282	[illegible]
350	30	7,946	-44.3		278	21.2
300	30	8,968	-49.1		280	24.7
250	30	[illegible]	-49.6		277	32.4
200	30	11,523	-49.5		275	[illegible]
175	30	12,396	-50.3		271	29.1
150	30	13,400	-51.1		268	26.6
125	30	14,585	-51.7		264	25.6
100	30	[illegible]	-51.8		265	22.7
80	28	17,469	[illegible]		[illegible]	18.6
70	28	18,332	-51.9		260	16.7
60	28	19,330	-52.2		256	14.8
50	27	[illegible]	-52.0		257	[illegible]
40	27	21,358	-51.8		262	10.7
30	25	23,824	-51.1		263	6.6
25	23	[illegible]	-50.4		278	6.0
20	23	26,469	-49.5		281	6.6
15	20	28,355	-49.1		294	5.8
10	13	[illegible]	-48.0			

COLUMBIA, MO.
992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	238	8.1	72	179	1.2
1000	31	167				
950	31	594	11.3	54	271	5.8
900	31	1,044	9.1	51	293	9.1
850	31	1,516	7.2	49	299	13.0
800	31	2,013	5.2	45	294	14.0
750	31	2,534	2.5	44	296	15.7
700	31	3,094	-.1	33	297	17.1
650	31	3,682	-3.1	32	297	16.9
600	31	4,314	-6.8	37	296	20.6
550	31	4,983	-10.5	32	292	21.6
500	31	5,715	-15.5		293	24.5
450	31	6,494	-21.0		294	24.3
400	31	7,362	-27.4		295	26.4
350	31	8,309	-34.4		296	26.8
300	31	9,369	-42.5		299	27.0
250	31	10,576	-51.2		294	28.2
200	31	12,002	-57.4		292	34.0
175	31	12,843	-58.9		289	34.8
150	31	13,806	-60.5		282	34.4
125	31	14,934	-63.2		281	31.5
100	31	16,302	-64.1		281	25.1
80	31	17,671	-62.9		281	21.0
70	31	18,495	-61.8		280	16.1
60	31	19,452	-59.8		275	13.0
50	31	20,596	-58.5		270	12.6
40	31	22,007	-56.0		268	13.6
3	29	23,842	-54.2		268	15.2
25	29	25,014	-53.0		265	15.3
20	29	26,457	-51.8		268	16.9
15	25	28,321	-50.4		271	24.5
10	16	30,961	-47.6			

CORPUS CHRISTI, TEXAS
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	6	18.4	82	3	3.1
1000	28	146	20.0	76	32	5.2
950	28	586	17.6	71	61	5.4
900	28	1,048	15.3	62	39	3.3
850	28	1,531	13.0	55	27	3.5
800	28	2,038	10.2	53	360	6.0
750	28	2,574	8.3	48	2	6.8
700	28	3,141	6.1	41	357	6.4
650	28	3,739	3.0	40	346	8.0
600	28	4,389	-.4	33	333	9.1
550	28	5,073	-4.6	32	326	10.9
500	28	5,824	-9.4	32	317	13.6
450	28	6,623	-14.9	32	315	14.8
400	28	7,511	-21.2	33	297	18.3
350	28	8,482	-28.3	35	292	22.3
300	28	9,569	-36.5	37	287	29.7
250	28	10,809	-44.9		288	38.9
200	28	12,267	-54.9		286	42.3
175	27	13,111	-60.2		279	43.1
150	24	14,056	-65.3		278	39.8
125	21	15,145	-69.5		282	35.2
100	14	16,455	-70.9		302	26.2
80	13	17,772	-70.9		316	19.0
70	11	18,566	-67.6		344	13.6
60	10	19,509	-64.6			
50	9	20,629	-61.3			
40	7	22,015	-58.2			
30	7	23,841	-55.1			
25	6	24,995	-53.4			
20						
15						
10						

DAYTON, OHIO
985 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	5.8	79	159	.8
1000	31	169				
950	31	595	9.3	56	244	4.9
900	31	1,040	7.3	52	274	8.5
850	31	1,508	4.6	51	283	10.9
800	31	2,001	2.9	45	280	12.6
750	31	2,520	.7	38	281	14.6
700	31	3,074	-1.7	34	278	17.5
650	31	3,656	-4.8	29	278	18.3
600	31	4,286	-8.3	29	278	21.2
550	31	4,953	-12.1		275	22.3
500	31	5,680	-16.9		275	26.0
450	31	6,456	-22.1		274	30.3
400	31	7,320	-28.4		275	34.0
350	31	8,264	-35.3		274	36.1
300	31	9,320	-43.2		269	38.3
250	31	10,527	-50.9		264	39.2
200	31	11,961	-56.1		259	44.1
175	31	12,806	-57.8		266	41.6
150	31	13,774	-59.9		267	37.3
125	31	14,908	-61.7		265	31.7
100	31	16,286	-62.2		268	29.1
80	31	17,668	-61.2		268	23.1
70	31	18,498	-59.9		266	20.2
60	31	19,462	-58.9		265	17.7
50	30	20,615	-57.0		260	15.7
40	30	[illegible]	-55.2		264	16.5
30	30	23,976	-53.5		263	18.6
25	30	[illegible]	-52.8		265	19.8
20	29	26,494	-51.3		265	[illegible]
15	27	28,363	-49.2		260	23.5
10	13	31,013	-48.0			

DEL RIO, TEXAS
982 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	314	14.7	83	96	5.6
1000	31	161				
950	31	603	16.7	69	144	11.5
900	31	[illegible]	15.3	61	168	13.0
850	31	1,541	13.5	50	172	7.6
800	31	2,050	11.3	40	141	2.9
750	31	2,586	8.6	34	17	3.9
700	31	3,154	5.6	30	350	5.6
650	31	3,754	2.4		351	7.6
600	31	4,400	-1.6		337	7.4
550	31	5,080	-5.7		317	9.7
500	31	5,828	-10.5		306	12.6
450	31	6,625	-15.9		296	15.2
400	31	7,511	-22.3		293	20.4
350	31	8,478	-29.8		288	25.3
300	31	9,559	-37.8		283	34.0
250	31	10,793	-46.4		279	45.6
200	31	12,244	-55.7		278	55.8
175	31	[illegible]	-60.7		278	53.4
150	30	14,025	-65.8		277	44.9
125	30	15,123	-69.4		278	32.6
100	30	16,444	-72.0		285	20.6
80	30	17,761	-70.4		291	10.7
70	30	18,559	-67.2		312	5.4
60	30	19,497	-63.3		96	1.4
50	30	20,624	-60.6		133	3.3
40	29	[illegible]	-57.5		91	6.8
30	28	23,356	-54.0		97	5.2
25	27	25,029	-51.9		74	3.9
20	27	26,483	-49.4		23	3.7
15	22	28,373	-47.0		286	4.1
10	11	31,109	-42.2			

DENVER, COLO.
841 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,511	4.4	47	204	4.7
1000	31	181				
950	31	609				
900	31	[illegible]				
850	31	1,527				
800	31	2,028	9.7	[illegible]	299	[illegible]
750	31	2,560	[illegible]	[illegible]	311	6.2
700	31	[illegible]	3.2	35	304	10.1
650	31	3,718	-.5	34	306	[illegible]
600	31	4,356	-4.7	36	[illegible]	15.2
550	31	[illegible]	[illegible]	34	308	17.9
500	31	5,767	-13.5		[illegible]	19.4
450	31	6,552	-19.3		[illegible]	21.0
400	31	7,424	[illegible]		298	21.4
350	31	8,376	-33.6		[illegible]	20.6
300	31	9,440	-41.3		299	24.7
250	31	10,654	-50.3		297	28.4
200	31	12,084	-57.6		295	32.4
175	31	12,920	-60.8		[illegible]	35.0
150	31	13,873	-63.4		292	34.6
125	31	[illegible]	-65.2		293	30.7
100	31	16,343	-65.8		298	[illegible]
80	31	17,700	-65.4		298	18.6
70	31	18,514	-64.2		299	[illegible]
60	[illegible]	19,468	-62.1		[illegible]	10.3
50	[illegible]	[illegible]	[illegible]		294	7.8
40	[illegible]	[illegible]	-58.3		287	8.4
30	30	[illegible]	-55.7		277	11.7
25	28	[illegible]	-54.1		269	14.2
20	27	26,434	-52.8		274	16.3
15	23	28,297	-50.8		276	[illegible]
10	5	30,957	-49.2			

DODGE CITY, KANS.
928 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	7.1	75	214	3.5
1000	31	172				
950	31	600				
900	31	1,049	11.9	54	201	8.4
850	31	1,528	11.8	42	239	9.7
800	31	2,033	9.4	38	277	8.4
750	31	2,565	6.4	37	299	9.3
700	31	3,129	3.0	38	302	10.9
650	31	3,721	-.8	37	308	14.4
600	31	4,360	-4.9	36	307	17.5
550	31	5,033	-9.4	35	302	18.5
500	31	5,770	-14.0		305	19.4
450	31	6,556	-19.6		304	21.4
400	31	7,426	-26.2		303	22.9
350	31	8,378	-33.5		303	26.6
300	31	9,442	-41.4		304	30.9
250	31	10,656	-50.0		302	33.2
200	31	12,088	-57.4		299	38.3
175	31	12,926	-60.1		296	39.2
150	31	13,882	-62.6		296	35.4
125	31	14,999	-64.8		297	32.4
100	31	16,355	-65.9		293	24.5
80	31	17,712	-65.0		294	17.7
70	31	18,527	-63.9		293	13.8
60	31	19,475	-61.8		283	10.5
50	31	20,608	-59.9		277	9.3
40	31	22,011	-57.3		272	10.7
30	30	23,836	-55.1		264	13.6
25	30	25,004	-53.7		268	15.2
20	29	26,435	-52.1		262	18.1
15	25	28,306	-50.3		269	25.4
10	7	31,038	-45.6			

EL PASO, TEXAS
885 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	1,193	10.7	62	92	.8
1000	29	157				
950	29	597				
900	29	1,056				
850	29	1,534	16.4	33	168	2.9
800	29	2,048	14.0	32	197	3.7
750	29	2,587	10.5	34	237	1.9
700	29	3,159	6.6	35	312	1.4
650	29	3,758	2.3	32	281	3.1
600	29	4,404	-2.3	33	298	4.9
550	29	5,081	-6.4		281	6.4
500	29	5,829	-11.3		280	10.3
450	29	6,623	-17.0		283	12.4
400	29	7,503	-23.6		285	15.9
350	29	8,465	-31.2		281	19.4
300	29	9,538	-39.7		277	25.6
250	29	10,763	-47.9		279	35.9
200	29	12,707	-56.4		276	41.4
175	29	13,046	-60.7		276	40.8
150	29	13,995	-65.0		276	38.1
125	29	15,096	-68.4		279	29.5
100	29	16,425	-70.8		285	18.3
80	29	17,749	-69.2		293	10.5
70	29	18,549	-67.3		294	7.2
60	29	19,484	-63.8		297	3.7
50	29	20,610	-60.5		261	4.1
40	29	22,009	-57.6		279	1.4
30	29	23,838	-54.4		215	.8
25	27	25,019	-52.8		240	2.9
20	27	26,467	-50.6		264	6.6
15	23	28,336	-47.7		274	16.7
10	11	31,058	-44.2			

ELY, NEV.
813 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	.9	55	192	6.0
1000	31	206				
950	31	632				
900	31	1,080				
850	31	1,549				
800	31	2,043	8.5	37	183	4.9
750	31	2,581	9.1	32	214	3.7
700	31	3,146	5.7	32	255	8.5
650	31	3,746	1.7	33	255	11.1
600	31	4,388	-2.7	35	267	11.1
550	31	5,068	-7.2	32	276	11.7
500	31	5,809	-11.8		282	14.2
450	31	6,602	-17.4		277	14.2
400	31	7,479	-24.4		285	18.3
350	31	8,437	-32.0		286	18.1
300	31	9,506	-40.8		285	20.4
250	31	10,722	-49.9		283	26.6
200	31	12,151	-58.6		290	24.9
175	31	12,984	-61.5		285	23.1
150	31	13,935	-63.7		280	24.5
125	31	15,046	-66.0		281	23.1
100	31	16,396	-67.3		288	17.9
80	31	17,744	-65.9		300	11.3
70	31	18,558	-64.4		311	8.5
60	31	19,503	-63.1		319	6.8
50	31	20,629	-61.2		318	6.8
40	31	22,021	-58.7		303	5.8
30	29	23,831	-55.9		283	6.8
25	28	24,998	-54.2		275	11.3
20	26	26,437	-52.5		273	13.2
15	18	28,307	-49.9		273	17.7
10	8	30,955	-48.6			

* FAIRBANKS, ALASKA
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	135	-3.2	88	5	1.7
1000	31	45				
950	31	451	-1.5	78	81	4.3
900	31	881	-3.1	77	146	5.8
850	31	1,333	-4.9	78	179	6.4
800	31	1,808	-7.2	75	182	8.4
750	31	2,308	-9.9	72	195	10.5
700	31	2,839	-12.9	68	204	12.4
650	31	3,397	-15.9	60	211	13.2
600	31	4,000	-19.7	59	212	14.0
550	31	4,634	-23.9	57	203	13.8
500	31	5,330	-28.6	54	207	14.6
450	31	6,073	-34.0	53	204	[illegible]
400	31	6,893	-39.7	53	203	16.9
350	31	7,793	-46.1		197	17.5
300	31	8,804	[illegible]		200	14.2
250	31	9,975	-55.2		[illegible]	14.0
200	31	11,402	-53.2		231	15.0
175	31	12,265	-51.8		232	17.5
150	31	13,263	-52.3		235	17.5
125	31	14,444	-51.7		237	19.6
100	31	15,890	-52.1		247	[illegible]
80	30	17,335	-51.6		246	[illegible]
70	30	18,200	-51.6		251	21.0
60	30	19,200	-52.2		256	19.0
50	30	[illegible]	-52.4		261	19.8
40	29	21,821	-52.8		267	21.2
30	29	23,678	-52.6		272	22.9
25	26	24,861	-52.7		278	23.4
20	26	[illegible]	-52.7		281	25.6
15	24	28,164	-52.8		286	29.7
10	13	30,785	-52.4			

FLINT, MICH.
992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	[illegible]	84	230	4.1
1000	31	166				
950	31	586	6.7	66	266	9.7
900	31	[illegible]	4.5	59	274	13.8
850	31	1,492	[illegible]	55	278	15.9
800	31	1,981	.7	51	279	17.7
750	31	2,495	-1.9	49	276	19.6
700	31	[illegible]	-4.4	42	274	22.0
650	31	3,621	-7.2	[illegible]	273	24.3
600	31	4,244	-10.6	38	274	27.2
550	31	4,907	-14.4	47	277	27.4
500	31	5,626	[illegible]		280	28.7
450	31	6,396	-24.5		281	31.1
400	31	7,250	-30.4		282	33.0
350	31	8,186	-37.1		280	36.3
300	31	9,236	-44.2		281	36.5
250	31	10,438	-51.1		279	37.1
200	31	11,972	-55.5		270	38.3
175	31	12,720	-56.7		271	40.2
150	30	13,695	-57.8		270	39.0
125	30	14,941	-59.1		268	32.6
100	30	16,235	-60.0		268	28.0
80	30	17,631	-59.0		270	23.1
70	30	18,469	-58.2		270	19.2
60	[illegible]	19,441	-57.8		267	16.5
50	[illegible]	20,594	-56.6		[illegible]	[illegible]
40	30	[illegible]	-55.3		265	17.3
30	29	23,857	-53.6		264	19.2
25	29	[illegible]	-52.5		264	21.6
20	29	26,478	-51.5		265	23.9
15	21	28,311	-50.8		266	28.7
10	11	[illegible]	-50.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1964

Standard pressure surface (mb.)	FORT WORTH, TEXAS 999 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	180	12.7	81	229	1.0
1000	31	173			357	.8
950	31	612	15.9	60	186	4.9
900	31	1,067	14.2	55	227	3.5
850	31	1,548	12.0	47	285	2.3
800	31	2,053	9.2	45	320	3.7
750	31	2,589	6.8	37	330	7.4
700	31	3,150	3.9	34	333	9.3
650	31	3,750	.4	30	330	11.8
600	31	4,387	- 3.4	31	321	13.4
550	31	5,068	- 7.6		315	14.6
500	31	5,806	-12.4		313	17.5
450	31	6,601	-18.1		303	20.2
400	31	7,474	-24.4		297	23.7
350	31	8,431	-31.6		297	28.0
300	31	9,503	-39.7		290	33.0
250	31	10,725	-48.5		290	41.6
200	31	12,167	-56.5		286	47.2
175	31	13,008	-59.8		285	44.3
150	31	13,962	-63.8		284	40.8
125	30	15,074	-67.4		284	33.4
100	30	16,412	-69.1		286	25.8
80	30	17,748	-67.2		291	17.3
70	30	18,555	-65.3		296	10.5
60	27	19,503	-62.2		266	5.1
50	27	20,637	-59.3		267	4.1
40	26	22,037	-56.8		262	1.7
30	26	23,872	-53.6		297	1.7
25	26	25,047	-52.2		287	3.5
20	24	26,505	-50.0		285	7.8
15	20	28,404	-47.9		275	15.3
10	10	31,121	-44.3			
7	5	33,584	-41.8			

Standard pressure surface (mb.)	GLASGOW, MONT. 936 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	696	3.6	62	30	.8
1000	31	152				
950	31	571				
900	31	1,017	8.6	49	286	9.9
850	31	1,489	7.4	44	297	14.8
800	31	1,985	4.4	45	296	17.9
750	31	2,504	1.4	44	298	21.4
700	31	3,061	- 1.7	43	297	23.7
650	31	3,640	- 5.0	39	298	24.9
600	31	4,272	- 9.0	41	300	27.0
550	31	4,932	-13.2	39	298	29.7
500	31	5,660	-18.1	41	297	31.1
450	31	6,430	-23.5		297	33.0
400	31	7,291	-29.2	38	296	37.7
350	31	8,232	-36.2		298	40.6
300	31	9,284	-44.0		300	44.1
250	31	10,485	-52.3		306	42.2
200	31	11,905	-58.7		301	38.3
175	31	12,742	-59.4		305	38.7
150	31	13,705	-59.6		303	37.1
125	31	14,843	-60.7		301	31.9
100	31	16,231	-60.9		300	26.8
80	31	17,620	-60.4		303	19.6
70	31	18,452	-59.9		305	16.7
60	31	19,414	-59.9		309	12.4
50	31	20,554	-59.3		318	9.5
40	31	21,955	-58.3		327	9.3
30	31	23,773	-56.6		329	8.0
25	31	24,932	-55.9		329	8.2
20	31	26,353	-55.3		316	10.1
15	21	28,211	-53.9		304	10.9
10	6	30,775	-52.5			
7						

Standard pressure surface (mb.)	GRAND JUNCTION, COLO. 856 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,474	8.4	33	132	4.1
1000	31	165				
950	31	597				
900	31	1,054				
850	31	1,532	10.4	29	129	4.1
800	31	2,039	11.4	25	133	4.7
750	31	2,574	8.6	27	260	1.9
700	31	3,142	4.7	32	286	6.2
650	31	3,736	.4	35	294	10.5
600	31	4,379	- 3.8	35	302	13.4
550	31	5,053	- 8.2	30	301	18.1
500	31	5,794	-12.9		299	20.4
450	31	6,582	-18.6		299	22.7
400	31	7,457	-25.3		300	24.7
350	31	8,412	-32.5		302	27.2
300	31	9,480	-40.8		301	30.3
250	31	10,696	-49.6		307	31.7
200	31	12,128	-57.6		300	34.8
175	31	12,965	-61.2		297	31.7
150	31	13,915	-63.9		295	32.8
125	31	15,026	-66.1		296	29.3
100	31	16,375	-66.9		300	22.3
80	31	17,725	-65.7		303	16.3
70	31	18,537	-64.7		309	12.6
60	31	19,483	-63.1		308	8.2
50	31	20,610	-60.8		299	6.8
40	30	22,001	-58.6		285	8.0
30	30	23,822	-55.9		275	10.9
25	30	24,985	-54.5		277	13.8
20	29	26,425	-52.7		272	15.9
15	28	28,285	-51.2		277	20.0
10	22	30,942	-48.1		273	26.0
7	9	33,256	-46.2			

Standard pressure surface (mb.)	GREAT FALLS, MONT. 890 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,123	6.7	51	229	11.5
1000	31	151			299	7.8
950	31	581				
900	31	1,033				
850	31	1,504	9.3	39	245	17.5
800	31	2,004	6.2	42	266	15.2
750	31	2,529	3.1	44	278	16.1
700	31	3,086	- .5	45	284	18.6
650	31	3,675	- 3.8	38	285	20.0
600	31	4,303	- 7.9	36	289	22.3
550	31	4,971	-12.2	33	290	25.1
500	31	5,698	-16.7	33	288	29.5
450	31	6,476	-22.0		288	34.8
400	31	7,339	-28.0		288	35.7
350	31	8,284	-35.1		286	37.9
300	31	9,341	-43.2		284	37.3
250	31	10,547	-51.5		288	35.7
200	31	11,970	-58.2		284	34.6
175	31	12,807	-59.9		281	37.1
150	31	13,768	-60.9		286	36.3
125	29	14,901	-60.9		290	30.9
100	28	16,283	-61.6		294	26.0
80	27	17,667	-60.5		295	19.0
70	26	18,497	-60.2		297	16.1
60	25	19,458	-59.8		298	12.6
50	25	20,599	-59.3		312	9.7
40	22	21,997	-57.9		328	9.1
30	21	23,824	-56.2		346	6.4
25	19	24,992	-55.5		330	6.8
20	16	26,428	-53.9		340	7.6
15	13	28,267	-52.5		349	7.8
10	11	30,876	-49.9			
7						

Standard pressure surface (mb.)	GREEN BAY, WIS. 993 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	210	4.3	86	259	4.3
1000	31	147				
950	31	565	6.4	65	275	14.2
900	31	1,009	4.0	60	283	15.5
850	31	1,472	1.6	59	283	15.7
800	31	1,960		56	283	17.5
750	31	2,473	- 2.2	51	283	20.8
700	31	3,021	- 4.8	43	283	22.5
650	31	3,598	- 7.7	45	284	23.7
600	31	4,220	-11.1	46	284	26.0
550	31	4,880	-15.0	42	285	28.7
500	31	5,599	-19.3	36	287	31.9
450	31	6,368	-24.6		287	34.4
400	31	7,222	-30.8		291	37.7
350	31	8,157	-37.5		291	41.4
300	31	9,204	-44.9		293	43.5
250	31	10,405	-51.7		298	43.3
200	31	11,834	-56.0		296	40.0
175	31	12,682	-56.8		293	39.0
150	31	13,656	-58.0		287	39.2
125	31	14,801	-59.1		284	33.2
100	31	16,198	-59.3		283	26.0
80	31	17,598	-58.6		283	19.4
70	31	18,436	-58.3		285	15.7
60	30	19,411	-57.8		285	12.8
50	30	20,563	-57.1		283	11.1
40	30	21,977	-56.0		270	11.3
30	30	23,814	-54.3		270	12.6
25	30	24,986	-53.2		265	15.2
20	26	26,421	-51.8		268	17.3
15	17	28,273	-51.2		267	23.7
10						
7						

Standard pressure surface (mb.)	GREENSBORO, N. C. 988 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	273	6.8	87	1	2.7
1000	31	169				
950	31	598	11.1	60	13	7.4
900	31	1,045	9.5	56	5	8.2
850	31	1,518	7.5	54	345	4.3
800	31	2,017	6.1	46	286	5.4
750	31	2,545	4.0	43	271	8.0
700	31	3,104	1.9	38	264	10.7
650	31	3,696	- .9		260	13.8
600	31	4,335	- 4.3		261	17.1
550	31	5,012	- 8.3		259	20.4
500	31	5,751	-12.9		257	22.7
450	31	6,542	-18.4		256	26.6
400	31	7,416	-24.7		253	31.9
350	31	8,374	-31.8		250	36.9
300	31	9,446	-39.8		245	43.3
250	31	10,669	-48.4		250	49.9
200	31	12,113	-55.8		254	58.1
175	31	12,957	-59.1		254	59.2
150	31	13,916	-62.3		258	54.6
125	31	15,033	-65.2		259	43.3
100	31	16,389	-65.8		258	30.5
80	31	17,751	-63.9		258	21.2
70	31	18,572	-62.2		257	17.7
60	30	19,531	-59.9		266	13.8
50	30	20,674	-58.0		270	8.2
40	30	22,087	-56.0		292	8.0
30	30	23,927	-54.0		278	7.6
25	28	25,094	-52.5		271	6.8
20	24	26,545	-51.1		281	8.7
15	21	28,428	-48.7		259	9.9
10	5	31,163	-44.7			
7						

Standard pressure surface (mb.)	GUAM, MARIANA IS. 998 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	111	24.8	93	95	5.2
1000	31	91				
950	31	545	23.9	85	98	12.2
900	31	1,015	21.3	83	100	12.4
850	31	1,509	18.5	81	99	11.5
800	31	2,028	15.5	81	99	10.9
750	31	2,576	12.6	76	100	11.5
700	31	3,151	9.4	71	95	11.3
650	31	3,765	5.9	66	93	10.7
600	31	4,415	2.1	64	90	11.1
550	31	5,111	- 2.0	62	89	10.5
500	31	5,865	- 6.3	59	88	10.9
450	31	6,683	-11.1	55	88	10.9
400	31	7,578	-16.6	45	86	10.3
350	31	8,568	-23.3	40	85	8.9
300	31	9,677	-31.7		66	7.0
250	31	10,939	-42.0		42	7.0
200	31	12,408	-54.6		7	7.6
175	31	13,249	-61.8		352	7.4
150	31	14,186	-69.4		360	7.2
125	31	15,252	-77.1		46	11.7
100	30	16,519	-80.3		73	18.1
80	27	17,786	-76.0		84	16.5
70	25	18,567	-71.8		88	17.5
60	24	19,485	-67.3		95	15.9
50	24	20,595	-64.1		94	14.8
40	24	21,975	-60.1		94	20.2
30	24	23,791	-55.8		88	29.5
25	22	24,961	-53.1		90	36.9
20	22	26,410	-50.0		85	46.0
15	19	28,303	-46.4		88	56.3
10	13	30,991	-42.4			
7						

Standard pressure surface (mb.)	HILO, HAWAII 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	11	20.8	87	254	5.1
1000	31	142	22.7	78	277	3.1
950	31	588	19.7	80	54	4.3
900	31	1,052	16.4	83	71	7.2
850	31	1,538	13.6	85	72	6.8
800	31	2,048	11.3	80	76	5.4
750	31	2,589	10.0	58	82	4.1
700	31	3,158	8.1	44	97	4.3
650	31	3,765	5.2		97	4.3
600	31	4,416	1.3		108	4.9
550	31	5,107	- 2.7		104	4.9
500	31	5,861	- 7.6		107	3.5
450	31	6,669	-13.1		126	3.3
400	31	7,561	-19.2		127	1.9
350	31	8,539	-26.7		253	2.5
300	31	9,633	-35.1		261	11.1
250	31	10,877	-45.3		271	15.2
200	30	12,325	-57.0		271	20.2
175	30	13,158	-63.2		274	20.6
150	30	14,094	-68.2		266	16.7
125	29	15,178	-72.0		273	9.5
100	29	16,488	-72.9		264	5.6
80	28	17,804	-70.4		119	2.3
70	28	18,601	-67.8		111	5.4
60	28	19,535	-64.7		95	10.3
50	28	20,655	-62.1		95	14.6
40	28	22,046	-58.6		97	18.8
30	27	23,874	-53.8		93	24.1
25	27	25,053	-51.0		90	28.2
20	24	26,511	-48.9		92	31.1
15	20	28,412	-46.4		89	35.9
10	7	31,075	-43.6			
7						

Standard pressure surface (mb.)	HUNTINGTON, W. VA. 991 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	246	5.2	87	196	1.0
1000	31	175				
950	31	600	9.9	60	270	3.3
900	31	1,047	7.7	55	297	6.0
850	31	1,517	5.6	51	301	6.8
800	31	2,011	3.7	46	296	9.7
750	31	2,535	1.7	39	296	12.8
700	31	3,088	- .9	39	283	15.2
650	31	3,674	- 3.6	40	275	17.3
600	31	4,306	- 6.7	37	271	20.2
550	31	4,972	-10.6		272	23.7
500	31	5,708	-15.2		271	26.8
450	31	6,485	-20.9		269	28.2
400	31	7,356	-27.1		266	32.2
350	31	8,304	-34.1		263	37.9
300	31	9,366	-41.8		256	44.5
250	31	10,579	-50.0		255	49.3
200	31	12,015	-56.2		256	50.7
175	31	12,859	-58.5		258	49.9
150	31	13,823	-60.6		260	47.0
125	31	14,952	-62.7		260	40.2
100	30	16,326	-63.7		262	31.5
80	30	17,698	-62.5		264	21.6
70	30	18,524	-61.0		265	19.8
60	30	19,487	-59.2		261	17.7
50	30	20,635	-57.1		262	14.2
40	30	22,052	-55.5		265	12.2
30	30	23,893	-53.8		266	11.8
25	28	25,062	-52.6		270	14.4
20	28	26,509	-51.0		267	16.7
15	19	28,381	-49.3		263	20.4
10						
7						

Standard pressure surface (mb.)	* INTERNAT. FALLS, MINN. 971 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	360	2.1	68	236	3.9
1000	31	121				
950	31	537	4.0	69	250	7.6
900	31	976	3.7	63	275	12.0
850	31	1,439	1.8	60	281	14.4
800	31	1,926	- .2	53	292	16.3
750	31	2,438	- 2.2	49	301	17.7
700	31	2,987	- 4.8	49	301	20.2
650	31	3,562	- 8.3	51	300	23.7
600	31	4,183	-11.8	52	299	27.4
550	31	4,843	-15.6	51	300	30.9
500	31	5,559	-20.1	50	299	33.8
450	31	6,329	-25.5	48	298	37.9
400	31	7,177	-31.5	47	298	40.6
350	31	8,108	-38.5	47	297	44.9
300	31	9,151	-45.5		298	46.8
250	31	10,349	-52.0		298	49.5
200	31	11,779	-56.1		302	47.0
175	31	12,626	-56.7		303	42.0
150	31	13,601	-57.5		300	39.4
125	31	14,750	-58.1		299	33.0
100	31	16,154	-58.4		298	28.0
80	31	17,559	-57.8		299	20.6
70	31	18,400	-57.8		302	19.8
60	31	19,373	-57.8		302	17.7
50	30	20,527	-58.0		304	16.1
40	30	21,936	-57.2		301	13.4
30	29	23,760	-56.2		300	11.8
25	27	24,914	-55.8		297	12.0
20	26	26,337	-54.8		288	13.4
15	21	28,188	-53.7		289	18.1
10	16	30,795	-51.1		284	21.8
7	[illegible]	33,161	-47.2			

Standard pressure surface (mb.)	JACKSON, MISS. 1008 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	94	11.1	92	39	2.3
1000	31	164	13.5	77	43	2.9
950	31	599	14.6	60	47	7.0
900	31	1,054	12.2	54	29	7.8
850	31	1,532	10.0	50	20	7.6
800	31	2,034	8.0	43	10	8.4
750	31	2,563	5.7	39	7	7.4
700	31	3,127	3.1	35	350	8.2
650	31	3,717	.1	34	328	7.8
600	31	4,362	- 3.6		308	9.3
550	31	5,034	- 7.9		293	11.8
500	31	5,780	-12.8		282	15.5
450	31	6,569	-18.0		282	18.6
400	31	7,447	-24.4		283	22.5
350	31	8,406	-31.6		282	26.2
300	31	9,479	-39.4		277	31.7
250	31	10,703	-47.9		274	38.7
200	31	12,150	-55.3		267	44.7
175	31	12,993	-59.4		266	43.9
150	31	13,949	-63.7		264	43.3
125	31	15,056	-67.2		269	36.3
100	30	16,387	-68.7		270	25.3
80	29	17,731	-66.1		281	15.9
70	29	18,545	-63.4		272	8.9
60	29	19,497	-61.7		253	7.0
50	29	20,634	-58.7		267	2.1
40	29	22,044	-56.4		46	.6
30	29	23,884	-53.3		107	2.3
25	29	25,062	-51.5		57	1.4
20	28	26,511	-49.4		319	4.7
15	24	28,415	-47.0		288	8.7
10	9	31,148	-41.6			
7						
5						

Standard pressure surface (mb.)	JACKSONVILLE, FLA. 1017 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	15.7	90	342	4.3
1000	31	146	17.7	79	8	6.6
950	31	586	16.6	74	50	8.7
900	31	1,045	14.3	69	66	3.5
850	31	1,527	12.2	66	194	1.9
800	31	2,033	9.9	59	234	4.3
750	31	2,565	7.2	53	239	6.4
700	31	3,133	4.6	44	238	10.3
650	31	3,732	2.1		243	11.3
600	31	4,377	- 1.1		251	15.7
550	31	5,057	- 5.1		248	19.4
500	31	5,809	- 9.8		248	22.7
450	31	6,606	-15.2		245	28.6
400	31	7,494	-21.4		241	34.2
350	31	8,464	-28.4		244	41.2
300	31	9,551	-36.3		246	43.3
250	31	10,792	-44.9		247	55.0
200	31	12,251	-54.7		249	62.4
175	30	13,099	-60.2		252	57.3
150	29	14,042	-65.3		254	52.3
125	29	15,138	-70.0		256	41.8
100	29	16,458	-71.3		258	27.4
80	28	17,784	-67.3		260	11.1
70	28	18,593	-64.4		260	5.6
60	28	19,545	-60.9		309	1.9
50	28	20,686	-58.4		69	5.6
40	28	22,098	-55.5		81	8.2
30	28	23,946	-51.9		68	8.7
25	28	25,133	-49.8		76	5.4
20	27	26,600	-47.3		3	1.2
15	23	28,505	-45.1		254	3.3
10	11	31,260	-40.1			
7	5	33,739	-35.4			
5						

Standard pressure surface (mb.)	JOHN F. KENNEDY INT. ARPT.NY 1019 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	9.5	71	323	6.0
1000	31	157	10.1	64	323	8.5
950	31	583	9.0	58	332	9.7
900	31	1,029	6.6	55	324	9.3
850	31	1,498	5.2	44	296	10.5
800	31	1,992	3.4	38	281	13.8
750	31	2,515	1.5	36	275	18.6
700	31	3,067	- 1.1	38	267	21.2
650	31	3,655	- 3.9	35	263	23.5
600	31	4,284	- 7.3		263	27.6
550	31	4,954	-10.9		263	30.5
500	31	5,684	-15.6		261	35.4
450	31	6,467	-21.0		258	39.2
400	31	7,331	-27.0		258	45.5
350	31	8,281	-33.8		256	52.1
300	31	9,345	-41.6		256	58.5
250	31	10,560	-49.7		253	59.6
200	31	11,998	-55.6		255	62.4
175	31	12,843	-58.5		255	62.4
150	30	13,816	-60.2		256	54.0
125	29	14,943	-62.0		256	43.5
100	29	16,320	-62.5		259	38.3
80	29	17,702	-61.0		261	26.2
70	29	18,534	-59.6		263	21.0
60	29	19,502	-58.2		259	15.9
50	29	20,652	-57.2		259	13.8
40	29	22,069	-55.7		262	13.4
30	29	23,913	-53.0		263	13.6
25	28	25,092	-52.1		263	12.8
20	27	26,538	-50.8		260	14.6
15	23	28,421	-49.1		256	21.4
10	11	31,111	-45.9			
7	5	33,631	-41.7			
5						

Standard pressure surface (mb.)	JOHNSTON IS., PACIFIC AREA 1013 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	25.7	80	84	11.7
1000	31	120	24.8	80	84	14.0
950	31	569	21.4	82	86	16.5
900	31	1,036	18.2	80	88	17.5
850	31	1,525	15.3	77	88	15.2
800	31	2,037	12.8	67	89	13.6
750	31	2,582	10.4	55	90	11.7
700	31	3,150	7.5	46	93	9.7
650	31	3,755	4.4	38	96	8.7
600	31	4,404	.6	32	93	7.8
550	31	5,094	- 3.3		86	5.6
500	31	5,845	- 8.1		88	4.7
450	31	6,656	-13.5		72	1.4
400	31	7,541	-19.3		298	3.3
350	31	8,520	-26.3		277	8.7
300	31	9,615	-34.8		274	15.9
250	31	10,860	-45.2		271	24.3
200	31	12,310	-57.2		274	29.9
175	31	13,142	-63.3		273	29.5
150	31	14,076	-69.0		269	22.7
125	31	15,153	-73.3		273	13.0
100	31	16,450	-75.4		335	1.9
80	27	17,752	-71.7		93	6.8
70	27	18,544	-69.2		85	10.9
60	26	19,471	-66.1		96	14.8
50	26	20,587	-62.6		98	17.7
40	25	21,978	-58.9		90	21.0
30	24	23,800	-54.8		89	29.5
25	24	24,974	-52.2		90	33.6
20	23	26,426	-49.4		89	43.7
15	18	28,322	-46.6		89	49.5
10	8	31,056	-41.5			
7						
5						

Standard pressure surface (mb.)	KEY WEST, FLORIDA 1014 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	3	24.0	83	36	3.5
1000	28	120	23.2	83	50	6.4
950	28	568	20.3	83	82	9.5
900	28	1,033	17.6	84	101	6.8
850	28	1,521	15.1	77	150	4.9
800	28	2,034	12.9	68	178	5.2
750	28	2,575	11.2	55	194	5.8
700	28	3,151	8.7	56	184	5.6
650	28	3,755	5.5	58	198	7.4
600	28	4,412	1.7	56	206	9.1
550	28	5,101	- 2.3	55	211	8.7
500	28	5,860	- 7.1	52	215	7.6
450	28	6,670	-12.2	44	228	7.6
400	28	7,566	-17.9	41	232	10.1
350	28	8,550	-25.0	44	244	16.1
300	28	9,653	-33.2	42	241	21.6
250	28	10,909	-43.0		237	23.1
200	28	12,375	-54.9		241	27.4
175	27	13,214	-61.3		246	27.4
150	27	14,155	-68.0		256	25.8
125	27	15,236	-73.2		257	17.7
100	27	16,532	-75.3		245	13.0
80	27	17,836	-71.3		233	4.3
70	27	18,630	-68.1		124	4.1
60	27	19,563	-64.7		93	7.8
50	26	20,684	-61.6		93	10.5
40	24	22,077	-58.4		86	13.8
30	24	23,906	-53.7		86	16.5
25	24	25,085	-51.0		85	15.2
20	23	26,545	-48.3		86	14.4
15	23	28,449	-45.8		86	14.2
10	18	31,179	-42.1		80	10.3
7	14	33,614	-38.5		101	9.1
5	7	35,833	-37.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1964

Standard pressure surface (mb.)	KING SALMON, ALASKA 1001 MB						+ KOROR, CAROLINE IS. 1006 MB						KOTZEBUE, ALASKA 1004 MB						KWAJALEIN, MARSHALL IS. 1010 MB						LAKE CHARLES, LA. 1019 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed
SURFACE	31	15	.3	86	302	1.2	31	30	28.2	82	223	2.3	31	5	- 2.8	82	84	5.2	31	4	26.6	81	82	8.0	31	5	13.1	86	32	5.2
1000	31	22			354	2.3	31	86	27.7	81	227	2.9	31	34			71	3.1	31	95	26.2	79	85	9.1	31	162	17.1	69	43	7.4
950	31	434	.5	78	307	3.5	31	538	24.1	79	239	4.9	31	438	- 4.0	78	147	6.6	31	547	23.6	80	86	11.1	31	599	15.6	58	46	7.2
900	31	867	- 2.0	77	298	3.1	31	1,012	21.0	78	239	5.4	31	865	- 6.2	77	171	6.6	31	1,019	20.7	79	85	12.0	31	1,058	13.4	51	31	8.4
850	31	1,319	- 4.8	76	271	3.5	31	1,507	18.1	75	243	4.5	31	1,312	- 8.0	76	174	6.2	31	1,512	17.9	77	85	12.0	31	1,538	11.5	43	29	8.9
800	31	1,794	- 7.7	73	265	3.5	31	2,024	15.2	73	226	3.5	31	1,781	-10.2	73	185	6.0	31	2,030	15.3	76	86	11.5	31	2,043	9.4	36	23	8.4
750	31	2,294	-10.5	67	252	4.1	31	2,567	12.3	70	215	2.7	31	2,276	-12.6	65	184	7.0	31	2,576	12.6	71	87	11.1	31	2,576	7.2	32	12	9.9
700	31	2,822	-13.8	63	261	3.7	31	3,147	9.3	68	199	1.6	31	2,800	-15.6	61	193	8.0	31	3,154	9.5	70	88	9.9	31	3,142	4.6	29	354	11.1
650	31	3,380	-17.2	56	273	4.5	31	3,754	6.0	63	148	2.7	31	3,353	-18.7	56	194	7.0	31	3,766	6.0	64	83	9.3	31	3,740	1.6		331	10.9
600	31	3,978	-20.6	49	264	6.2	31	4,411	2.3	63	134	4.9	31	3,948	-22.6	54	188	8.9	31	4,418	2.1	69	80	8.7	31	4,385	- 1.9		318	13.0
550	31	4,615	-24.5	47	263	8.2	31	5,106	- 1.6	56	124	5.8	31	4,575	-26.5	51	195	10.7	31	5,117	- 1.7	68	78	7.8	31	5,066	- 5.7		308	15.3
500	31	5,306	-28.6	44	268	9.3	31	5,864	- 5.8	56	113	6.2	31	5,264	-31.1	49	199	11.7	31	5,870	- 6.1	64	89	5.8	31	5,814	-10.5		298	18.6
450	31	6,052	-33.4	45	260	9.9	31	6,678	-10.3	47	103	5.8	31	5,998	-36.2	50	203	11.1	31	6,687	-11.2	52	89	5.2	31	6,612	-16.2		294	20.8
400	31	6,872	-38.7		260	10.7	31	7,582	-15.8	40	99	7.6	31	6,811	-41.9		206	12.6	31	7,582	-16.7	53	99	4.3	31	7,496	-22.4		289	23.9
350	31	7,778	-44.1		246	11.5	31	8,575	-22.7	35	96	9.3	31	7,704	-47.9		208	14.4	31	8,575	-22.4	47	133	1.7	31	8,462	-29.9		281	26.8
300	31	8,800	-49.3		275	11.5	30	9,688	-30.9		92	12.2	31	8,706	-53.9		216	14.6	31	9,688	-31.2	42	173	2.5	31	9,543	-37.8		284	32.4
250	31	9,987	-51.4		255	12.0	30	10,955	-41.2		90	13.2	31	9,871	-55.0		225	18.8	31	10,953	-41.4	32	251	4.3	31	10,776	-46.2		281	41.2
200	31	11,440	-50.3		267	18.1	30	12,429	-53.9		70	13.6	31	11,305	-52.4		231	19.4	31	12,426	-54.1	34	265	9.1	31	12,231	-54.8		277	47.0
175	31	12,311	-50.5		261	17.9	30	13,272	-61.2		69	15.2	31	12,170	-51.6		229	18.6	31	13,268	-61.4	32	267	12.0	31	13,076	-59.4		273	47.2
150	31	13,316	-50.7		264	20.4	30	14,211	-68.8		70	19.8	31	13,170	-51.4		232	18.5	31	14,207	-68.9	30	268	16.3	31	14,031	-64.1		268	43.3
125	31	14,503	-50.8		259	18.8	29	15,280	-76.5		80	21.6	31	14,355	-51.0		233	19.8	31	15,278	-75.7		268	15.0	31	15,133	-68.6		270	39.0
100	31	15,955	-51.2		256	18.3	29	16,544	-81.1		85	20.8	30	15,804	-50.9		235	19.8	27	16,557	-79.1		220	2.1	31	16,463	-69.7		275	24.7
80	31	17,405	-51.2		254	17.5	29	17,825	-73.6		75	10.3	30	17,256	[illegible].9		238	21.6	24	17,839	-73.2		103	2.1	31	17,797	-67.4		287	10.7
70	31	18,272	-51.6		255	15.9	29	18,611	-70.1		53	2.7	30	18,124	-51.1		241	20.8	24	18,628	-69.9		241	3.5	31	18,606	-64.7		303	3.7
60	30	19,273	-51.8		251	15.2	29	19,536	-66.2		255	2.5	30	19,127	-51.5		245	20.6	24	19,552	-67.0		273	8.2	31	19,556	-61.7		216	2.3
50	30	20,454	-51.9		256	14.2	29	20,650	-62.8		266	6.6	30	20,310	-51.9		248	21.0	24	20,661	-64.0		298	5.1	31	20,693	-59.3		89	1.4
40	30	21,900	-51.7		260	10.7	28	22,033	-60.3		282	3.1	30	21,757	-51.6		256	20.4	23	22,041	-60.4		77	5.6	31	22,100	-56.4		93	4.1
30	29	23,768	-51.3		269	8.4	28	23,842	-56.8		88	15.3	29	23,623	-5[illegible]		259	25.3	22	23,854	-55.3		83	25.4	30	23,941	-52.8		85	5.1
25	29	24,953	-50.9		286	8.0	28	25,003	-54.7		93	34.0	29	24,805	-51.[illegible]		262	25.4	22	25,019	-54.1		87	37.7	29	25,124	-49.9		73	3.1
20	25	26,401	-50.3		285	9.1	25	26,441	-50.6		94	53.0	28	26,257	-51.5		266	27.0	22	26,460	-50.5		91	55.0	28	26,589	-47.9		6	1.7
15	18	28,278	-49.5		332	9.3	19	28,337	-46.3		92	66.6	22	28,116	-51.5		264	36.1	18	28,363	-45.8		91	69.5	25	28,497	-45.2		306	2.3
10	8	30,993	-48.4				7	31,046	-40.6				12	30,738	-50.3				13	31,104	-40.0		91	73.2	13	31,224	-41.7			
7													5	33,026	-49.1				11	33,561	-35.8		89	63.5						
5																			5	35,929	-31.2									

Standard pressure surface (mb.)	LANDER, WYO. 833 MB						LAS VEGAS, NEV. 939 MB						* LIHUE, HAWAII 1013 MB						LITTLE ROCK, ARK. 1012 MB						MCGRATH, ALASKA 992 MB					
SURFACE	31	1,696	4.3	50	263	2.9	31	660	16.6	28	223	4.3	30	36	23.2	79	58	7.6	31	79	10.0	82	339	1.9	31	103	- 2.3	91	345	1.7
1000	31	174					31	119					30	151	22.8	77	60	10.3	31	173	12.2	67	341	1.4	31	37				
950	31	602					31	561					30	595	19.2	84	69	14.6	31	603	13.6	52	326	1.9	31	444	- 2.4	82	88	2.7
900	31	1,052					31	1,028	21.9		30	2.3	30	1,060	15.7	89	70	15.0	31	1,060	11.8	50	323	5.1	31	873	- 3.9	80	139	3.1
850	31	1,525					31	1,521	19.2	23	3	3.1	30	1,544	12.9	81	70	13.4	31	1,537	9.8	47	337	7.0	31	1,323	- 5.7	79	168	2.7
800	31	2,024	7.9	33	274	1.7	31	2,038	15.4	25	277	1.9	30	2,052	11.0	71	68	10.7	31	2,039	7.1	46	342	8.0	31	1,797	- 8.1	76	184	2.9
750	31	2,549	5.5	32	281	4.3	31	2,576	11.2	29	197	2.9	30	2,589	9.7	52	74	7.8	31	2,567	4.7	37	339	7.6	31	2,292	-10.7	72	203	3.7
700	31	3,115	2.3	33	302	9.5	31	3,153	6.8	31	164	3.9	30	3,161	7.5	37	83	5.4	31	3,127	1.6	38	323	9.7	31	2,824	-13.6	63	197	5.1
650	31	3,705	- 1.5	32	301	13.8	31	3,751	2.4	30	177	5.4	30	3,763	4.4	34	90	4.9	31	3,715	- 1.8	37	323	11.1	31	3,381	-16.5	56	196	5.4
600	31	4,344	- 5.4	30	297	17.3	31	4,398	- 1.8	28	217	6.0	29	4,416	1.2	32	92	4.7	31	4,354	- 5.2	33	312	11.5	31	3,983	-20.3	52	184	7.8
550	31	5,016	- 9.2		295	22.0	31	5,075	- 6.1		237	6.0	29	5,103	- 2.8	29	105	4.1	31	5,024	- 9.2		306	13.6	31	4,616	-24.6	51	178	6.2
500	31	5,753	-14.0		296	25.6	31	5,825	-11.2		245	8.0	29	5,860	- 7.6	29	103	3.3	31	5,764	-14.0		299	17.3	31	5,309	-29.3	48	167	5.4
450	31	6,539	-19.7		299	25.8	31	6,623	-17.1		255	7.2	29	6,663	-13.3	31	139	2.7	31	6,545	-19.5		294	20.6	31	6,048	-34.5	42	163	6.6
400	31	7,409	-26.5		298	25.8	31	7,498	-23.8		262	9.3	29	7,558	-20.1	31	180	2.9	31	7,420	-26.1		290	22.3	31	6,869	-39.7		179	8.2
350	31	8,359	-33.9		300	28.4	31	8,459	-31.4		265	12.2	29	8,533	-27.6	33	207	5.1	31	8,372	-33.2		290	27.6	31	7,771	-45.3		186	11.1
300	31	9,421	-42.0		301	31.1	31	9,531	-39.8		272	18.1	29	9,622	-36.3	34	239	9.5	31	9,438	-40.4		288	30.5	31	8,788	-50.5		206	9.9
250	31	10,630	-51.2		297	33.8	31	10,751	-49.1		275	19.6	28	10,862	-46.3		251	11.8	31	10,658	-48.7		277	35.9	31	9,969	-52.7		246	10.7
200	31	12,054	-58.3		296	38.1	31	12,185	-57.7		271	22.7	28	12,308	-57.2		266	15.9	31	12,099	-56.0		281	37.7	31	11,412	-51.6		268	14.0
175	31	12,889	-61.0		293	35.2	31	13,021	-61.2		273	23.1	28	13,141	-62.7		284	14.8	31	12,942	-59.0		281	37.9	31	12,280	-50.7		259	15.0
150	31	13,843	-62.8		289	37.1	31	13,970	-64.4		271	22.3	28	14,079	-67.9		285	9.5	31	13,901	-62.2		280	37.3	31	13,285	-50.6		256	15.7
125	31	14,963	-64.1		293	33.0	31	15,076	-67.1		273	18.8	27	15,167	-71.9		277	8.0	31	15,019	-65.2		280	33.0	31	14,473	-50.5		256	16.9
100	31	16,326	-64.6		298	25.4	31	16,417	-68.5		276	14.2	27	16,475	-74.0		285	4.3	31	16,370	-66.9		281	23.9	31	15,930	-50.2		249	17.1
80	31	17,692	-63.7		294	17.1	31	17,757	-67.1		294	8.5	27	17,780	-71.5		89	1.4	31	17,721	-65.3		287	16.3	31	17,386	-50.6		248	18.3
70	31	18,511	-63.1		300	13.6	31	18,566	-65.5		309	4.9	25	18,576	-68.6		101	4.7	31	18,538	-62.8		286	12.6	31	18,255	-50.9		249	18.3
60	31	19,464	-61.2		307	9.9	31	19,507	-63.3		308	4.1	24	19,506	-65.6		98	9.3	30	19,494	-60.6		277	9.7	31	19,258	-51.3		252	18.1
50	31	20,600	-60.2		304	7.2	31	20,635	-60.7		306	4.5	21	20,629	-62.3		98	14.4	29	20,638	-58.5		273	6.4	31	20,442	-51.4		254	18.5
40	31	21,996	-58.5		300	6.4	31	22,034	-57.7		276	5.1	21	22,020	-58.3		93	17.5	28	22,052	-56.1		268	6.4	31	21,891	-51.5		259	16.7
30	31	23,814	-56.1		297	6.8	30	23,861	-54.3		273	8.5	21	23,847	-54.5		90	21.4	28	23,892	-53.7		269	5.6	31	23,761	-50.8		269	18.1
25	28	24,983	-54.8		285	8.5	29	25,035	-53.2		272	11.7	20	25,018	-52.4		91	24.5	28	25,067	-52.3		263	7.6	31	24,948	-51.0		274	17.5
20	26	26,424	-53.2		281	9.1	28	26,479	-51.4		270	13.6	19	26,470	-50.3		90	27.8	27	26,511	-50.6		269	10.3	29	26,395	-50.8		275	20.4
15	22	28,313	-51.3		278	18.1	22	28,352	-49.4		273	16.3	17	28,362	-48.0		90	28.4	25	28,400	-47.7		272	16.9	29	28,270	-50.5		280	23.3
10													16	31,049	-43.8		95	24.1	12	31,054	-45.6				23	30,923	-49.9		297	29.1
7													6	33,455	-39.6										10	33,242	-49.6			

Standard pressure surface (mb.)	+ MAJURO, MARSHALL IS. 1010 MB						* MARCUS IS., N. PACIFIC 1012 MB						MEDFORD, OREG. 971 MB						* MIAMI, FLA. 1014 MB						* MIDLAND, TEXAS 919 MB					
SURFACE	31	3	28.6	77	115	5.4	31	9	26.6	81	87	6.4	31	401	6.1	90	281	.2	31	4	22.4	88	12	1.9	30	874	11.0	78	151	1.7
1000	31	91	27.4	76	114	6.0	31	115	25.9	80	88	8.0	31	161					31	122	22.4	84	38	3.7	30	157				
950	31	541	23.3	77	103	8.0	31	563	22.5	85	97	9.5	31	592	11.3	67	285	.6	31	568	20.0	82	85	6.0	30	591				
900	31	1,015	20.1	78	100	9.9	31	1,037	19.4	82	105	8.4	31	1,039	12.7	58	143	3.9	31	1,034	17.1	79	123	4.9	30	1,048	14.8	59	181	8.2
850	31	1,507	17.4	73	96	10.5	31	1,528	16.6	78	108	7.6	31	1,518	11.5	50	163	6.0	31	1,521	14.4	76	163	4.3	30	1,533	15.3	44	205	8.7
800	31	2,024	15.2	72	90	9.7	31	2,043	13.7	66	106	6.6	31	2,023	9.1	43	212	7.4	31	2,032	12.4	68	191	4.3	30	2,045	12.6	40	259	3.1
750	31	2,569	12.5	67	92	9.9	31	2,584	11.5	53	111	5.6	31	2,552	6.5	41	225	10.1	31	2,573	10.6	56	213	5.8	30	2,583	9.3	37	302	4.3
700	31	3,146	9.6	63	97	10.1	31	3,160	8.9	45	111	5.1	31	3,119	3.7	37	233	13.2	31	3,146	7.9	50	218	7.8	30	3,153	5.6	38	340	6.6
650	31	3,757	6.2	61	99	9.9	31	3,767	5.7	38	110	6.6	31	3,715	.3	35	235	13.8	31	3,752	4.8	49	229	9.9	30	3,752	1.9	38	333	8.2
600	31	4,411	2.4	60	94	8.7	31	4,421	1.9	39	108	6.8	31	4,354	- 3.6	30	237	15.3	31	4,404	1.0	50	226	9.7	30	4,396	- 2.3	36	319	9.9
550	31	5,105	- 1.6	60	88	8.0	31	5,113	- 2.1	32	106	7.2	31	5,030	- 8.1	31	243	18.3	31	5,094	- 2.8	45	228	10.5	30	5,075	- 6.6	32	315	11.1
500	31	5,864	- 5.6	53	73	6.4	31	5,869	- 6.8	34	108	5.8	31	5,771	-13.1		246	19.6	31	5,850	- 7.4	43	233	12.8	30	5,821	-11.5	31	317	14.8
450	31	6,680	-10.2	48	89	5.1	31	6,678	-12.1	30	118	5.6	31	6,558	-18.7		245	22.5	31	6,662	-12.6	40	235	15.2	30	6,620	-17.2	29	312	19.1
400	31	7,583	-15.8	43	91	4.5	31	7,575	-18.3	34	122	5.1	31	7,433	-25.3		242	24.1	31	7,554	-18.4	34	238	19.2	30	7,494	-23.8	34	302	20.2
350	31	8,576	-22.8	39	79	3.3	31	8,559	-25.2	34	164	2.3	31	8,388	-33.0		244	25.6	31	8,537	-25.2	30	237	21.4	30	8,454	-31.3	36	297	25.8
300	31	9,689	-31.2	31	27	1.7	31	9,660	-33.6	32	198	2.3	31	9,452	-41.7		245	28.0	31	9,638	-33.5	31	237	27.6	30	9,528	-39.6		292	32.2
250	31	10,954	-41.5		323	2.5	31	10,913	-43.4		315	3.7	31	10,663	-51.3		245	30.3	31	10,893	-43.3		237	32.8	30	10,751	-48.3		285	43.3
200	31	12,428	-54.0		291	8.5	31	12,376	-55.1		325	9.3	31	12,087	-58.6		244	27.6	31	12,357	-55.0		241	34.4	30	12,192	-56.8		284	51.5
175	31	13,272	-61.0		284	11.8	31	13,216	-61.2		350	9.7	31	12,921	-60.9		244	28.6	31	13,197	-61.4		246	34.2	30	13,029	-61.2		284	49.1
150	31	14,213	-68.6		278	15.5	31	14,159	-67.4		25	8.4	31	13,876	-62.4		250	26.2	31	14,138	-68.0		254	30.9	30	13,977	-65.1		283	42.7
125	31	15,287	-75.5		282	14.8	31	15,241	-73.4		40	7.2	31	14,997	-64.0		250	23.9	31	15,218	-73.5		261	22.5	30	15,079	-68.3		286	34.6
100	30	16,563	-79.5		307	3.5	30	16,535	-76.7		68	9.3	31	16,361	-64.8		254	18.8	31	16,510	-75.9		260	11.7	30	16,409	-70.8		291	21.2
80	30	17,854	-77.1		292	2.3	29	17,822	-75.3		88	12.4	31	17,724	-63.8		258	11.1	31	17,817	-70.3		244	3.3	30	17,735	-69.2		293	12.8
70	30	18,646	-68.7		279	6.8	29	18,603	-71.3		90	14.0	31	18,545	-62.7		264	7.8	31	18,615	-67.1		129	2.5	30	18,536	-67.0		305	8.2
60	30	19,574	-65.6		268	10.7	29	19,526	-66.0		94	14.2	31	19,497	-61.9		276	5.1	31	19,554	-63.9		87	6.8	30	19,474	-63.9		283	2.3
50	30	20,690	-62.9		262	12.6	28	20,647	-61.6		86	16.9	31	20,627	-60.8		325	4.5	31	20,681	-60.6		94	9.5	29	20,596	-60.8		275	3.1
40	29	22,073	-59.7		258	7.4	27	22,037	-58.7		91	18.6	29	22,027	-59.1		329	4.7	29	22,081	-57.4		94	12.0	29	21,994	-57.8		235	.8
30	28	23,888	-55.6		95	14.8	26	23,868	-54.3		84	18.8	28	23,843	-56.7		339	5.1	29	23,917	-53.1		80	13.0	29	23,820	-54.8		250	1.9
25	28	25,058	-53.3		93	32.6	26	25,043	-51.7		85	21.6	28	25,002	-55.0		328	5.1	28	25,095	-50.5		83	13.0	29	24,989	-53.2		259	4.5
20	21	26,515	-50.2		91	51.3	26	26,503	-48.2		88	21.0	25	26,442	-53.2		312	8.4	27	26,557	-48.1		89	12.2	29	26,432	-51.3		265	8.2
15	10	28,413	-45.3				24	28,408	-46.3		82	18.5	25	28,303	-51.1		288	14.4	27	28,466	-45.5		76	8.9	28	28,315	-48.9		271	15.3
10							22	31,121	-42.9		77	17.3	19	30,984	-48.1		273	21.4	20	31,193	-41.7		189	4.5	27	31,001	-45.2		276	21.0
7							8	33,505	-42.6				8	33,441	-44.3				13	33,648	-39.0		234	13.2	19	33,399	-42.2		269	26.8
5																									5	35,584	-39.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1964

MONTGOMERY, ALA.
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	11.1	93	13	3.5
1000	31	160	13.4	79	29	5.1
950	31	593	14.3	61	56	6.0
900	31	1,050	12.3	60	34	4.3
850	31	1,528	10.1	55	1	3.9
800	31	2,030	8.0	48	354	3.9
750	31	2,562	6.0	41	337	4.3
700	31	3,124	3.4	35	318	4.9
650	31	3,720	.3		300	6.2
600	31	4,361	- 3.3		285	9.1
550	31	5,037	- 7.4		278	12.8
500	31	5,780	-12.1		275	16.5
450	31	6,579	-17.5		272	19.8
400	31	7,452	-23.7		267	24.5
350	31	8,413	-30.5		261	30.3
300	31	9,490	-38.7		262	35.0
250	31	10,719	-46.7		255	41.2
200	31	12,173	-54.6		256	45.3
175	31	13,019	-58.8		256	45.5
150	31	13,976	-63.5		258	43.5
125	31	15,085	-67.1		262	37.5
100	31	16,423	-68.6		263	27.4
80	31	17,766	-66.0		271	15.9
70	31	18,578	-64.4		263	9.9
60	31	19,528	-61.1		258	8.5
50	31	20,666	-58.6		270	2.1
40	31	22,075	-56.3		320	.6
30	31	23,912	-53.7		59	1.4
25	31	25,089	-51.5		325	1.2
20	31	26,545	-49.0		289	2.7
15	29	28,443	-47.3		270	6.2
10	20	31,139	-43.1		266	14.4
7	9	33,506	-41.2			

NANTUCKET, MASS.
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	10.4	83	321	3.9
1000	31	143	10.8	75	300	6.0
950	31	566	9.5	64	305	9.7
900	31	1,018	7.3	61	291	9.9
850	31	1,488	5.5	54	278	12.4
800	31	1,982	4.2	49	268	16.1
750	31	2,504	2.0	48	263	20.8
700	31	3,061	- .6	46	257	24.5
650	31	3,645	- 3.7	43	252	28.6
600	31	4,279	- 7.1	38	252	31.9
550	31	4,947	-10.8		251	34.4
500	31	5,680	-15.2		249	37.3
450	31	6,462	-20.3		247	41.6
400	31	7,332	-26.3		246	45.6
350	31	8,285	-32.9		243	49.5
300	31	9,352	-40.8		247	53.8
250	31	10,570	-49.2		251	57.9
200	31	12,010	-55.8		256	59.1
175	31	12,855	-58.0		258	56.9
150	31	13,823	-60.0		260	52.8
125	31	14,954	-62.5		259	43.5
100	31	16,326	-63.0		259	34.0
80	31	17,705	-60.8		260	24.1
70	31	18,537	-59.6		259	18.8
60	31	19,505	-58.0		256	17.7
50	31	20,658	-56.8		259	14.4
40	31	22,076	-55.2		260	10.5
30	29	23,916	-52.8		261	10.7
25	29	25,095	-51.7		259	13.0
20	28	26,548	-50.3		267	14.8
15	26	28,419	-48.8		266	23.3
10	12	31,010	-47.9			
7	5	33,207	-46.9			

NASHVILLE, TENN.
999 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	177	9.0	87	22	1.6
1000	30	171			66	2.1
950	30	601	11.9	58	98	.8
900	30	1,050	9.7	58	304	4.3
850	30	1,523	7.7	53	303	6.4
800	30	2,021	5.6	48	308	8.9
750	30	2,547	3.7	40	309	10.5
700	30	3,106	.9	38	304	11.7
650	30	3,696	- 2.1	37	293	14.2
600	30	4,330	- 5.4	37	288	15.7
550	29	5,004	- 9.6		286	18.1
500	29	5,738	-14.5		283	21.2
450	29	6,525	-19.9		277	24.7
400	29	7,392	-26.3		277	25.6
350	29	8,343	-33.6		273	29.7
300	29	9,406	-41.4		266	34.8
250	29	10,621	-49.4		264	39.8
200	29	12,059	-56.0		262	46.4
175	29	12,903	-58.5		263	47.4
150	29	13,864	-61.7		265	45.1
125	29	14,987	-64.1		266	37.9
100	29	16,347	-65.5		269	29.9
80	29	17,710	-63.3		270	19.8
70	29	18,534	-61.3		264	15.5
60	29	19,493	-59.5		263	14.4
50	29	20,640	-57.6		271	11.7
40	29	22,055	-55.6		269	8.5
30	29	23,897	-53.5		279	5.4
25	28	25,076	-52.2		274	6.8
20	28	26,525	-50.8		275	9.5
15	28	28,408	-48.4		266	17.1
10	19	31,069	-45.4		265	35.0
7	7	33,395	-44.8			

NOME, ALASKA
1002 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	7	- 1.0	81	113	2.1
1000	29	21			341	2.7
950	29	427	- 3.0	77	137	4.7
900	29	855	- 5.6	79	160	4.9
850	29	1,302	- 8.1	77	179	4.9
800	29	1,771	-10.0	69	188	6.2
750	29	2,263	-12.5	58	192	7.8
700	29	2,791	-15.2	51	204	6.6
650	29	3,342	-18.5	47	210	7.4
600	29	3,941	-21.8	51	216	8.2
550	29	4,569	-26.2	53	212	9.1
500	29	5,259	-30.5	51	217	10.1
450	29	5,994	-35.5	54	219	11.7
400	29	6,812	-40.8		224	10.5
350	28	7,713	-46.7		238	11.8
300	28	8,722	-51.9		248	15.3
250	28	9,897	-53.6		232	16.7
200	28	11,337	-51.5		229	20.0
175	27	12,201	-50.8		234	20.8
150	27	13,205	-50.7		237	19.4
125	27	14,393	-50.4		238	21.8
100	27	15,850	-50.1		243	21.0
80	27	17,306	-50.5		241	21.4
70	27	18,175	-50.7		241	21.2
60	27	19,180	-50.7		242	20.0
50	27	20,366	-51.3		249	20.2
40	27	21,815	-51.2		253	19.6
30	26	23,683	-51.1		262	21.0
25	24	24,864	-51.2		261	21.6
20	24	26,314	-51.1		267	24.5
15	14	28,223	-49.8			
10	5	30,864	-50.1			

NORFOLK, VA.
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	11.7	80	21	4.5
1000	31	162	13.5	64	11	6.4
950	31	591	11.3	60	9	7.8
900	31	1,043	8.8	60	356	6.0
850	31	1,516	7.5	52	306	3.7
800	31	2,014	6.0	44	273	7.0
750	31	2,541	4.2	38	264	9.5
700	31	3,101	1.9	36	255	14.4
650	31	3,692	- .9	33	253	18.5
600	31	4,331	- 4.3		252	21.4
550	31	5,004	- 8.5		251	25.3
500	31	5,745	-13.3		252	28.6
450	31	6,534	-18.5		251	30.9
400	31	7,409	-24.7		252	33.8
350	31	8,366	-31.7		249	37.7
300	31	9,438	-39.6		246	44.1
250	31	10,662	-47.8		245	53.8
200	31	12,108	-55.5		249	66.0
175	31	12,952	-59.1		252	64.7
150	31	13,910	-62.4		253	58.9
125	31	15,028	-65.1		253	49.0
100	30	16,388	-65.4		253	34.6
80	29	17,752	-63.4		256	24.5
70	29	18,576	-61.2		254	19.4
60	28	19,535	-59.1		270	11.5
50	28	20,682	-57.4		269	8.9
40	27	22,100	-55.2		296	6.6
30	27	23,948	-52.7		307	3.5
25	27	25,129	-51.2		289	5.4
20	25	26,587	-48.8		270	8.0
15	12	28,461	-47.3			

NORTH PLATTE, NEBR.
920 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	1.8	76	323	1.4
1000	31	168				
950	31	590				
900	31	1,029	8.3	60	274	2.5
850	31	1,504	10.4	44	264	10.9
800	31	2,007	8.3	40	286	11.7
750	31	2,537	5.0	39	299	12.0
700	31	3,097	1.7	38	301	14.8
650	31	3,685	- 2.0	36	298	16.3
600	31	4,322	- 5.9	36	294	17.9
550	31	4,992	-10.1	35	301	20.0
500	31	5,727	-14.6		302	22.1
450	31	6,512	-20.0		300	23.3
400	31	7,379	-26.5		301	26.2
350	31	8,329	-34.0		303	26.6
300	31	9,390	-42.4		305	28.0
250	31	10,598	-51.4		303	29.5
200	31	12,021	-58.2		298	36.1
175	31	12,957	-60.1		296	36.7
150	31	13,815	-61.9		298	37.1
125	31	14,937	-63.6		298	29.9
100	31	16,302	-64.0		299	23.7
80	31	17,670	-63.3		300	17.1
70	31	18,497	-62.1		299	14.2
60	31	19,448	-61.2		299	12.0
50	30	20,580	-59.8		295	9.5
40	30	21,980	-57.9		282	8.7
30	30	23,804	-55.5		279	12.2
25	30	24,970	-54.4		275	13.8
20	30	26,404	-52.9		271	16.1
15	29	28,273	-50.7		274	20.2
10	28	30,923	-48.4		268	25.6
7	19	33,217	-46.5		268	46.4
5	8	35,282	-47.4			

* OAKLAND, CALIF.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	14.2	77	227	.2
1000	31	133	15.2	71	175	.8
950	31	576	16.8	54	290	1.0
900	31	1,031	17.2	41	259	1.9
850	31	1,517	15.3	38	214	3.5
800	31	2,028	12.7	36	221	6.2
750	31	2,563	9.5	35	214	7.4
700	31	3,136	5.9	34	211	7.8
650	31	3,735	2.2	33	215	9.3
600	31	4,381	- 1.8	31	218	8.5
550	31	5,060	- 6.4	30	227	8.0
500	31	5,807	-11.5	31	235	9.5
450	31	6,599	-17.4	32	234	11.5
400	31	7,480	-23.9	30	231	13.0
350	31	8,440	-31.4	33	227	13.0
300	31	9,513	-40.1	31	237	15.0
250	31	10,733	-49.4		253	19.8
200	31	12,167	-57.9		258	26.6
175	31	13,102	-60.8		256	25.6
150	31	13,957	-62.8		255	25.3
125	31	15,072	-65.5		256	21.0
100	31	16,423	-67.1		260	14.6
80	31	17,775	-65.3		262	8.7
70	31	18,590	-64.1		264	5.1
60	31	19,537	-63.1		264	3.5
50	31	20,665	-61.0		319	3.7
40	30	22,062	-58.8		320	4.3
30	29	23,885	-55.8		295	6.8
25	28	25,053	-54.3		281	8.9
20	28	26,490	-52.4		278	12.4
15	24	28,370	-50.8		270	17.9
10	20	31,036	-48.0		274	22.3
7	10	33,336	-45.8			

OKLAHOMA CITY, OKLA.
974 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	10.3	77	149	2.7
1000	31	170				
950	31	603	13.9	58	174	6.2
900	31	1,056	13.3	50	211	7.0
850	31	1,536	11.4	49	252	5.6
800	31	2,040	9.1	41	280	7.0
750	31	2,571	6.1	36	291	8.2
700	31	3,134	2.8	34	312	9.7
650	31	3,726	- .9	36	312	10.7
600	31	4,365	- 4.6	35	314	15.3
550	31	5,039	- 8.8		306	18.1
500	31	5,777	-13.8		301	18.6
450	31	6,562	-19.3		301	22.1
400	31	7,434	-25.9		298	25.1
350	31	8,388	-32.9		297	28.7
300	31	9,455	-40.5		296	35.0
250	31	10,674	-49.0		295	38.1
200	31	12,112	-56.4		290	42.7
175	31	12,953	-59.7		289	44.9
150	31	13,910	-62.4		290	39.8
125	31	15,027	-65.4		288	33.2
100	30	16,378	-67.0		288	26.4
80	30	17,729	-65.4		286	17.9
70	30	18,543	-64.1		288	13.4
60	30	19,491	-61.8		282	9.7
50	29	20,625	-59.3		268	8.9
40	29	22,032	-56.2		261	9.9
30	29	23,868	-54.2		258	8.5
25	26	25,050	-52.6		259	10.9
20	25	26,491	-50.7		269	15.5
15	22	28,378	-48.3		271	23.1
10	15	31,040	-45.5			

OMAHA, NEBR.
972 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	6.1	74	217	3.1
1000	31	164				
950	31	587	9.5	60	233	6.4
900	31	1,037	9.6	49	262	12.8
850	31	1,510	7.8	43	281	13.6
800	31	2,008	5.3	42	290	14.6
750	31	2,528	2.5	38	296	16.9
700	31	3,087	- .7	36	297	20.4
650	31	3,673	- 3.5	32	298	20.8
600	31	4,305	- 7.1	31	297	22.5
550	31	4,974	-11.3	30	298	24.9
500	31	5,704	-15.6	28	299	26.8
450	31	6,485	-21.0	31	297	27.6
400	31	7,352	-27.2		300	30.9
350	31	8,300	-34.3		300	31.9
300	31	9,360	-42.6		302	34.8
250	31	10,567	-51.2		299	36.3
200	31	11,993	-57.7		299	40.0
175	31	12,831	-59.6		298	41.0
150	31	13,792	-61.1		295	38.5
125	30	14,913	-62.6		292	33.2
100	30	16,287	-62.9		296	27.0
80	30	17,663	-62.0		291	19.8
70	30	18,489	-61.3		290	16.9
60	30	19,448	-59.9		288	14.8
50	30	20,590	-58.7		289	12.2
40	30	21,995	-57.1		273	12.2
30	30	23,823	-55.2		270	15.2
25	30	24,990	-53.7		266	16.5
20	27	26,440	-52.0		269	19.6
15	24	28,305	-50.1		270	24.5
10	10	30,992	-48.1			

PEORIA, ILL.
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	200	5.1	79	265	1.0
1000	31	170				
950	31	596	9.2	57	277	5.8
900	31	1,040	6.9	53	293	8.9
850	31	1,509	5.1	51	293	13.0
800	31	2,003	3.5	42	291	15.9
750	31	2,523	1.4	36	292	18.1
700	31	3,078	- 1.3	34	291	18.6
650	31	3,664	- 4.3	34	291	21.2
600	31	4,292	- 7.9	37	290	22.9
550	31	4,961	-11.8	35	290	24.9
500	31	5,688	-16.4		291	27.6
450	31	6,470	-21.8		294	29.5
400	31	7,329	-28.3		297	30.3
350	31	8,273	-35.4		299	32.2
300	31	9,328	-43.3		301	36.3
250	31	10,532	-51.5		297	38.7
200	31	11,960	-56.9		284	39.0
175	31	12,804	-57.6		280	38.9
150	30	13,768	-59.6		279	39.8
125	30	14,904	-61.1		281	33.4
100	30	16,285	-62.0		280	27.4
80	30	17,669	-60.8		282	20.2
70	30	18,500	-59.9		284	18.3
60	30	19,467	-58.4		276	15.2
50	29	20,619	-56.8		265	14.0
40	29	22,038	-55.3		269	16.9
30	29	23,981	-53.8		267	18.6
25	28	25,052	-52.8		267	19.2
20	28	26,497	-51.3		265	22.3
15	28	28,376	-49.3		268	25.6
10	24	31,046	-46.1		269	34.8
7	12	33,351	-45.2			
5	5	35,558	-43.0			

PITTSBURGH, PA.
978 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	5.3	81	242	1.9
1000	31	172				
950	31	592	8.1	65	274	4.7
900	31	1,039	6.3	58	287	8.7
850	31	1,506	4.0	55	281	9.9
800	31	1,996	1.5	52	283	12.8
750	31	2,511	- .5	49	282	15.7
700	31	3,064	- 2.7	41	278	19.4
650	31	3,643	- 5.5	37	275	21.0
600	31	4,273	- 8.9	33	273	24.1
550	31	4,936	-12.5		270	27.2
500	31	5,664	-16.7		268	29.9
450	31	6,442	-21.8		264	32.6
400	31	7,305	-28.1		262	38.3
350	31	8,249	-35.2		262	42.0
300	31	9,307	-42.6		257	44.9
250	31	10,518	-49.9		252	49.7
200	31	11,956	-55.7		254	50.7
175	31	12,802	-57.6		257	52.6
150	31	13,771	-59.4		256	44.3
125	31	14,907	-61.2		260	40.2
100	31	16,291	-61.3		264	28.6
80	31	17,677	-60.6		261	24.9
70	31	18,508	-59.5		259	22.5
60	31	19,477	-57.9		263	18.1
50	31	20,629	-56.5		259	16.7
40	31	22,049	-55.2		263	14.8
30	30	23,893	-53.4		271	16.3
25	30	25,070	-52.1		273	15.7
20	30	26,517	-51.0		260	16.9
15	29	28,402	-49.0		263	24.7
10	22	31,078	-46.4		265	30.9
7	8	33,402	-44.7			
5						

* POINT ARGUELLO, CALIF.
1002 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	113	11.7	94	84	1.6
1000	31	128			91	1.7
950	31	572	18.9	57	15	2.9
900	31	1,029	18.7	46	24	1.7
850	31	1,518	16.6	39	172	.8
800	31	2,031	13.7	36	182	2.9
750	31	2,569	10.3	35	177	4.7
700	31	3,141	6.7	38	167	6.8
650	31	3,741	2.7	39	172	6.0
600	31	4,388	- 1.5	37	191	6.0
550	31	5,066	- 5.9	33	194	5.8
500	31	5,815	-10.7	31	206	6.2
450	31	6,611	-16.9	32	219	6.4
400	31	7,489	-23.9	33	224	7.2
350	31	8,449	-31.4	35	235	7.4
300	31	9,522	-39.5	35	256	10.7
250	31	10,746	-48.3		262	15.5
200	31	12,187	-56.5		261	23.3
175	31	13,026	-60.2		259	24.5
150	31	13,980	-63.4		263	22.5
125	31	15,091	-66.4		259	20.2
100	31	16,434	-68.3		261	15.2
80	31	17,775	-66.7		265	7.4
70	31	18,584	-65.1		269	3.3
60	31	19,528	-63.5		296	1.4
50	29	20,654	-61.4		296	1.9
40	29	22,048	-58.2		299	4.9
30	28	23,866	-55.0		273	8.7
25	27	25,025	-53.7		275	12.2
20	27	26,464	-52.0		269	14.0
15	27	28,338	-49.2		271	22.0
10	24	31,014	-46.4		274	29.5
7	19	33,403	-43.1		263	27.6
5	6	35,711	-37.8			

PONAPE, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	39	28.1	78	102	2.5
1000	31	81	27.7	77	106	3.1
950	31	527	23.9	78	115	6.2
900	31	1,008	20.6	79	110	9.1
850	31	1,501	17.8	74	105	8.2
800	31	2,019	15.4	69	97	9.3
750	31	2,564	12.7	66	99	9.1
700	31	3,142	9.6	63	98	10.5
650	31	3,754	6.1	61	98	10.1
600	31	4,408	2.2	64	93	11.1
550	30	5,104	- 1.4	58	100	9.3
500	30	5,862	- 5.5	55	95	7.6
450	30	6,680	-10.2	48	94	7.2
400	30	7,583	-15.5	45	109	4.7
350	30	8,578	-22.1	43	102	4.7
300	30	9,693	-30.4	36	84	2.7
250	30	10,962	-40.7		331	2.3
200	30	12,441	-53.2		305	6.0
175	30	13,288	-60.3		292	8.2
150	30	14,231	-67.9		285	10.5
125	30	15,307	-75.2		269	6.4
100	30	16,582	-78.8		60	4.5
80	30	17,871	-72.1		63	1.9
70	29	18,665	-68.4		284	4.3
60	29	19,595	-65.6		281	7.6
50	29	20,711	-62.0		268	11.3
40	26	22,102	-59.4		267	7.4
30	24	23,922	-54.6		91	17.7
25	19	25,087	-52.8		94	36.1
20	16	26,538	-50.3		90	53.4
15	10	28,421	-46.1			

PORTLAND, ME.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	20	4.4	87	312	3.7
1000	31	140	6.6	69	321	5.2
950	31	561	7.0	61	313	7.8
900	31	1,006	4.7	61	297	8.5
850	31	1,471	2.9	57	283	11.7
800	31	1,961	1.0	48	276	14.6
750	30	2,474	- 1.1	43	272	18.6
700	30	3,028	- 3.2	39	262	22.1
650	30	3,603	- 6.1	36	256	25.6
600	30	4,234	- 9.6	35	253	30.5
550	30	4,897	-13.3		250	33.6
500	30	5,622	-17.5		249	35.4
450	29	6,396	-22.5		254	40.8
400	29	7,258	-28.1		256	42.3
350	29	8,205	-34.4		254	46.8
300	29	9,267	-42.0		254	49.1
250	29	10,480	-49.5		254	51.1
200	28	11,922	-55.1		255	51.1
175	28	12,771	-56.6		257	51.3
150	28	13,747	-57.8		261	43.9
125	28	14,891	-59.9		258	35.9
100	28	16,282	-60.1		257	30.3
80	28	17,678	-58.9		258	25.4
70	28	18,516	-58.3		258	21.8
60	27	19,492	-56.9		255	18.3
50	27	20,649	-56.1		254	17.1
40	27	22,071	-54.7		255	15.5
30	27	23,920	-52.7		257	15.7
25	27	25,099	-51.9		255	17.1
20	24	26,555	-50.7		260	20.8
15	16	28,423	-48.8		254	26.0
10	12	31,044	-46.4		260	36.9
7	8	33,395	-44.2			

RAPID CITY, S. DAK.
907 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	6.3	53	308	4.5
1000	31	155				
950	31	579				
900	31	1,027			308	5.8
850	31	1,503	9.8	39	310	14.2
800	31	2,004	7.1	37	312	15.5
750	31	2,529	4.1	34	307	16.7
700	31	3,090	.8	31	305	18.1
650	31	3,673	- 3.0	31	301	18.3
600	31	4,310	- 7.0	30	298	22.1
550	31	4,975	-10.9	32	300	25.1
500	31	5,710	-15.3		299	26.8
450	31	6,489	-21.3		303	28.6
400	31	7,355	-27.7		303	30.9
350	31	8,301	-35.0		304	33.4
300	31	9,358	-43.1		295	33.4
250	31	10,563	-51.9		296	35.2
200	31	11,983	-59.0		293	38.7
175	31	12,817	-60.5		295	39.2
150	31	13,774	-61.9		296	38.9
125	31	14,901	-62.6		298	32.2
100	31	16,274	-62.6		298	26.2
80	31	17,650	-62.1		301	20.4
70	31	18,476	-61.5		302	15.9
60	31	19,434	-60.7		303	11.7
50	30	20,574	-59.9		299	8.7
40	30	21,973	-58.3		304	6.2
30	29	23,792	-56.2		282	6.6
25	27	24,945	-55.1		295	6.4
20	25	26,364	-54.5		277	10.3
15	21	28,233	-51.9		278	17.3
10	10	30,831	-49.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	ST. CLOUD, MINN. 979 MB						ST. PAUL IS., ALASKA 1004 MB						SALEM, OREG. 1012 MB						SALT LAKE CITY, UTAH 876 MB						SAN ANTONIO, TEXAS 992 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	316	4.7	77	229	2.7	31	10	3.1	85	278	6.6	31	61	7.2	89	184	1.9	31	1,288	5.4	56	134	4.5	31	243	12.4	85	355	5.1
1000	31	139					31	41			292	8.5	31	157	10.0	77	190	1.0	31	191					31	172				
950	31	559	6.3	68	255	7.6	31	454	- .3	82	289	8.5	31	586	11.9	63	178	1.9	31	618					31	616	15.8	65	132	2.1
900	31	1,003	6.1	56	269	13.4	31	885	- 3.3	82	286	10.1	31	1,039	11.9	54	201	5.1	31	1,071					31	1,066	14.1	61	189	1.6
850	31	1,470	4.3	54	277	14.6	31	1,336	- 5.8	78	278	10.7	31	1,516	10.0	51	222	8.0	31	1,540	12.3	14	158	4.3	31	1,547	12.3	51	345	1.7
800	31	1,962	2.2	52	285	15.9	31	1,810	- 8.1	69	272	12.8	31	2,017	7.4	50	230	9.5	31	2,047	11.[illegible]	27	[illegible]	3.3	31	2,054	10.0	42	5	5.2
750	31	2,477	- .3	47	291	19.4	31	2,310	-10.6	60	271	15.5	31	2,540	4.7	47	232	11.5	31	2,584	7.9	28	266	5.4	31	2,589	7.8	34	358	7.6
700	31	3,032	- 3.0	44	294	23.1	31	2,837	-13.6	57	270	15.9	31	3,105	1.3	45	230	15.0	31	3,148	4.3	31	294	8.2	31	3,155	5.2	32	347	8.4
650	31	3,609	- 5.8	40	296	25.1	31	3,400	-16.7	57	274	18.1	31	3,692	- 2.5	40	236	18.1	31	3,742	.6	32	290	11.8	31	3,756	2.0		329	8.9
600	31	4,239	- 9.5	36	299	25.6	31	3,995	-20.3	54	275	19.4	31	4,327	- 6.1	41	245	21.0	31	4,385	- 3.9	35	287	13.8	31	4,400	- 1.4		328	9.7
550	31	4,899	-13.6	36	300	29.7	30	4,643	-24.6	50	280	19.8	31	4,998	-10.2	38	246	23.3	31	5,060	- 8.5	33	288	16.3	31	5,082	- 6.1		315	11.3
500	31	5,626	-18.3	37	300	31.7	30	5,334	-28.9	48	276	21.0	31	5,730	-14.9	37	247	26.8	31	5,800	-13.2	34	291	19.0	31	5,825	-10.7		301	16.5
450	31	6,395	-23.9		302	32.8	30	6,078	-33.6	45	277	22.5	31	6,512	-20.2		248	30.1	31	6,594	-18.5		289	22.7	31	6,625	-16.1		296	17.1
400	31	7,254	-30.5		303	34.0	30	6,899	-39.1		274	24.9	31	7,381	-26.5		251	33.2	31	7,464	-25.2		292	23.3	31	7,511	-22.4		289	20.4
350	31	8,189	-37.2		304	36.3	30	7,902	-45.2		268	24.5	31	8,331	-34.7		255	35.9	31	8,419	-32.7		296	25.4	31	8,477	-30.0		286	26.6
300	31	9,239	-44.3		300	37.5	30	8,819	-50.6		279	25.3	31	9,391	-42.4		254	36.9	31	9,485	-41.2		298	28.2	30	9,562	-38.0		284	34.6
250	31	10,440	-52.1		299	40.4	30	10,004	-51.3		291	28.4	31	10,598	-51.4		255	37.5	31	10,699	-50.5		296	30.7	30	10,795	-47.0		282	47.2
200	30	11,872	-58.4		299	41.6	30	11,457	-50.9		288	34.8	31	12,021	-58.6		254	32.6	31	12,125	-58.4		291	36.1	30	12,244	-56.2		279	54.8
175	30	12,710	-58.8		297	40.0	30	12,325	-51.4		282	34.6	31	12,856	-60.6		253	32.8	31	12,960	-60.8		288	34.2	30	13,083	-61.0		276	52.1
150	30	13,677	-59.2		295	37.3	30	13,327	-51.1		278	31.1	31	13,812	-61.7		256	32.8	31	13,912	-63.3		283	33.4	30	14,030	-65.7		277	44.5
125	30	14,816	-60.4		293	31.7	29	14,505	-51.2		277	26.8	31	14,938	-62.9		255	28.7	31	15,025	-65.6		290	29.9	30	15,127	-70.2		275	34.6
100	30	16,204	-60.5		295	24.5	28	15,950	-51.2		266	24.1	31	16,309	-63.4		258	21.0	31	16,378	-66.5		290	22.0	30	16,445	-72.1		281	21.6
80	30	17,595	-59.8		296	23.3	28	17,399	-51.5		259	22.0	31	17,684	-62.1		263	14.0	31	17,731	-65.4		297	16.1	30	17,763	-70.0		302	11.1
70	30	18,429	-59.5		296	17.7	28	18,265	-51.6		260	19.4	31	18,510	-61.7		272	9.1	31	18,544	-64.5		306	12.2	30	18,564	-66.4		313	5.1
60	30	19,396	-58.8		296	14.0	28	19,266	-51.6		257	17.3	31	19,469	-60.4		283	6.8	31	19,492	-62.6		308	9.5	30	19,505	-63.3		99	1.4
50	29	20,542	-58.3		299	12.4	28	20,449	-51.6		259	16.5	31	20,607	-59.6		303	4.9	31	20,620	-60.9		304	7.6	29	20,632	-60.7		101	4.9
40	29	21,950	-57.0		297	11.1	28	21,896	-51.8		263	14.8	31	22,005	-58.7		334	4.3	31	22,015	-58.9		298	6.2	29	22,031	-57.3		88	7.0
30	29	23,779	-55.0		281	11.7	28	23,765	-50.9		266	12.0	30	23,828	-56.5		2	5.2	31	23,830	-56.4		293	9.7	29	23,865	-53.8		88	7.0
25	29	24,947	-53.9		282	12.4	28	24,953	-50.2		271	11.5	30	24,987	-55.3		356	5.2	27	24,971	-55.4		292	9.1	28	25,046	-51.7		66	4.3
20	29	26,382	-53.2		280	17.3	26	26,415	-49.4		279	11.5	28	26,422	-53.9		347	6.0	26	26,403	-53.7		280	12.0	27	26,495	-49.3		36	3.7
15	27	28,246	-51.6		282	20.8	25	28,306	-48.7		283	9.9	20	28,301	-52.1		299	10.3	22	28,263	-51.8		277	19.4	23	28,4[illegible]0	-46.5		294	5.2
10	18	30,885	-49.2		278	32.2	22	30,970	-47.5		283	12.4	7	30,919	-50.1				8	30,945	-48.9				14	31,089	-43.1			
7	5	33,176	-48.0				14	33,327	-45.9																					

Standard pressure surface (mb.)	SAN DIEGO, CALIF. 1000 MB						* SAN JUAN, P. R. 1014 MB						SAN NICOLAS, CALIF. 994 MB						SANTA MONICA, CALIF. 1010 MB						SAULT STE. MARIE, MICH. 990 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	124	16.3	87	354	1.9	31	6	25.3	85	159	2.1	28	174	15.7	78	196	2.7	31	38	16.5	83	24	1.6	31	221	3.6	86	180	.8
1000	31	121			350	1.9	31	126	25.0	79	116	6.0	28	118					31	126	17.2	77	6[illegible]	1.2	31	134				
950	31	562	19.0	60	5	3.3	31	575	22.2	76	104	11.5	28	560	20.[illegible]	46	272	1.2	31	567	19.0	55	8[illegible]	1.9	31	552	4.4	73	263	8.9
900	31	1,027	19.6	41	4	2.3	31	1,045	19.5	69	103	11.5	28	1,025	18.8	39	135	2.1	31	1,030	19.1	4[illegible]	176	.4	31	991	2.9	67	281	11.8
850	31	1,517	17.7	33	293	1.7	31	1,536	16.8	65	102	10.7	28	1,513	17.[illegible]	35	157	3.9	31	1,520	16.8	46	226	2.3	31	1,452	.6	62	282	15.7
800	31	2,033	14.4	35	231	2.5	31	2,051	14.2	56	94	9.5	28	2,028	14.[illegible]	36	162	6.0	31	2,033	13.9	33	211	5.1	31	1,937	- 1.1	56	280	20.0
750	31	2,569	10.8	36	184	3.9	31	2,587	11.6	51	100	9.3	28	2,568	10.4	33	168	7.6	31	2,570	10.2	36	182	6.2	31	2,448	- 3.2	53	27[illegible]	21.8
700	31	3,147	6.9	36	172	6.2	31	3,168	8.5	45	91	9.1	28	3,139	6.5	38	169	8.5	31	3,145	6.3	39	170	7.0	31	2,993	- 6.0	49	282	22.9
650	31	3,745	2.7	39	157	7.0	31	3,769	5.1	41	89	8.7	28	3,743	2.7	34	164	8.2	31	3,745	2.6	36	169	6.8	31	3,568	- 8.8	47	282	25.6
600	31	4,395	- 1.3	33	161	7.2	31	4,427	1.3	38	91	9.1	28	4,385	- 1.7	35	172	7.0	31	4,39[illegible]	- 1.6	33	165	7.6	31	4,186	-12.6	46	281	27.2
550	31	5,073	- 5.8		171	6.4	31	5,114	- 2.8	33	91	8.7	28	5,072	- 6.4	27	179	6.6	31	5,07[illegible]	- 6.4		174	6.6	31	4,843	-16.3	43	282	29.9
500	31	5,824	-10.5		205	6.[illegible]	31	5,871	- 7.2	33	88	7.8	28	5,816	-11.2	22	196	5.8	31	5,818	-11.1		196	7.0	31	5,557	-20.7	41	284	32.4
450	31	6,619	-16.2		213	5.6	31	6,677	-12.4	31	91	7.4	28	6,610	-16.9	23	204	7.0	31	6,610	-17.3		196	7.0	31	6,324	-25.9	38	287	33.0
400	31	7,503	-23.1		254	7.4	31	7,575	-18.0	25	84	7.2	28	7,484	-22.6	24	217	9.7	31	7,491	-24.1		213	9.1	31	7,172	-32.1	37	290	34.8
350	31	8,467	-30.6		259	9.7	31	8,558	-25.2	23	82	7.2	28	8,449	-30.3	26	231	10.7	31	8,451	-31.4		224	10.9	31	8,101	-38.7		289	35.7
300	31	9,543	-38.9		262	12.8	31	9,658	-33.9	23	60	8.2	28	9,527	-38.8	28	250	12.0	31	9,525	-39.8		258	8.[illegible]	31	9,143	-45.6		292	38.9
250	31	10,771	-47.5		273	18.1	31	10,908	-44.0		57	8.9	28	10,755	-47.4	29	260	15.9	31	10,748	-48.6		264	12.4	31	10,343	-51.3		297	42.0
200	31	12,219	-55.9		270	25.1	31	12,366	-55.8		38	13.0	28	12,201	-56.0	29	256	2[illegible]	31	12,187	-57.2		266	19.4	31	11,777	-55.2		291	40.0
175	31	13,060	-60.1		271	24.1	31	13,204	-62.0		34	13.4	28	13,042	-60.1	29	264	21.8	31	13,024	-60.9		[illegible]	19.[illegible]	30	12,619	-56.2		288	38.5
150	31	14,014	-63.8		266	23.7	31	14,142	-68.4		32	16.9	28	13,995	-64.1	29	265	20.8	31	13,973	-64.9		263	20.6	30	13,598	-56.3		285	37.1
125	31	15,122	-67.3		271	18.6	31	15,217	-74.3		33	13.8	28	15,102	-67.2		264	20.2	31	15,176	-68.1		267	15.7	30	14,754	-57.2		28[illegible]	31.5
100	31	16,457	-69.7		277	12.8	31	16,506	-76.5		36	8.9	28	16,440	-69.1		264	13.[illegible]	31	16,468	-69.6		277	11.1	30	16,162	-57.4		280	27.4
80	31	17,791	-67.9		299	5.4	31	17,308	-70.5		48	6.6	28	17,777	-67.6		276	5.2	31	17,745	-67.7		294	5.2	30	17,570	-57.6		28[illegible]	20.4
70	29	18,599	-66.3		340	2.9	31	18,606	-67.4		81	8.5	27	18,587	-66.2		325	1.4	31	18,549	-66.5		333	3.1	30	18,413	-57.3		278	17.5
60	29	19,539	-63.5		321	1.9	31	19,540	-64.9		83	10.7	25	19,517	-63.7		249	1.7	31	19,488	-64.2		357	.8	30	19,388	-57.1		274	15.2
50	29	20,666	-60.4		319	2.9	29	20,655	-61.8		81	11.5	25	20,645	-60.7		283	1.9	31	20,611	-61.5		315	2.1	30	20,542	-57.0		274	14.6
40	29	22,067	-57.3		274	1.9	29	22,049	-57.7		85	18.1	25	22,042	-57.8		259	6.4	31	22,006	-58.2		278	4.5	30	21,958	-56.0		269	13.4
30	28	23,899	-53.9		269	6.8	29	23,884	-53.4		87	26.2	25	23,871	-54.5		266	7.8	29	23,835	-54.7		261	8.4	30	23,793	-54.6		270	11.8
25	26	25,081	-52.3		281	8.0	29	25,064	-50.7		89	30.9	25	25,041	-53.0		271	9.3	28	25,00[illegible]	-53.5		264	10.1	30	24,962	-53.9		270	12.8
20	25	26,531	-50.7		269	10.7	28	26,529	-47.9		93	35.4	25	26,487	-51.1		266	10.3	27	26,434	-52.1		[illegible]	13.8	28	26,405	-53.0		27[illegible]	16.5
15	23	28,414	-48.2		270	14.6	27	28,442	-44.7		95	37.9	25	28,367	-48.6		266	17.9	22	28,288	-49.7		262	[illegible]	26	28,262	-51.4		267	24.3
10	8	31,076	-46.5				26	31,174	-41.0		92	35.7	23	31,061	-45.3		274	25.8	10	30,924	-47.0				14	30,859	-50.3		268	36.1
7							23	33,626	-35.5		81	33.8	16	33,455	-42.6		269	32.8							6	33,176	-47.7			
5							11	35,971	-32.2				9	35,746	-39.4															

Standard pressure surface (mb.)	SHEMYA, ALASKA 1007 MB						* SHREVEPORT, LA. 1012 MB						SPOKANE, WASH. 936 MB						SWAN ISLAND, W. I. 1010 MB						TAMPA, FLA. 1015 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	4.5	81	259	7.6	31	79	12.6	86	33	1.6	31	722	4.8	81	126	3.3	31	10	26.3	84	321	2.9	31	8	18.4	87	24	6.0
1000	31	91			262	7.4	31	176	14.7	72	68	2.5	31	177					31	99	25.7	84	337	3.7	31	134	19.5	77	37	8.5
950	31	502	1.0	78	263	11.8	31	614	15.2	56	80	3.3	31	601					31	554	22.8	84	345	3.9	31	570	18.3	72	67	8.9
900	31	939	- 1.4	76	271	16.3	31	1,069	12.9	53	39	4.9	31	1,044	8.4	63	176	4.5	31	1,02[illegible]	19.9	83	338	2.1	31	1,038	15.[illegible]	72	81	4.7
850	30	1,391	- 4.0	75	271	17.9	31	1,548	10.5	51	5	5.1	31	1,516	7.4	52	219	7.2	31	1,513	17.2	77	334	1.4	31	1,522	13.3	64	125	1.9
800	30	1,868	- 6.4	71	273	18.8	31	2,051	8.1	47	354	7.2	31	2,013	5.4	47	243	9.3	31	2,029	14.4	75	189	.8	31	2,031	11.2	57	182	2.1
750	30	2,369	- 8.6	62	274	20.0	31	2,586	5.4	43	344	7.4	31	2,535	2.9	44	249	12.2	31	2,584	11.5	74	155	2.5	31	2,566	8.9	49	200	4.1
700	30	2,903	-10.9	55	274	23.7	31	3,143	2.8	41	338	9.1	31	3,094	- .1	43	261	14.8	31	3,148	8.7	69	149	2.9	31	3,138	6.7	36	238	7.0
650	30	3,464	-14.1	51	272	26.0	31	3,742	.0	36	328	10.7	31	3,679	- 3.7	44	26[illegible]	16.9	31	3,763	5.3	67	152	3.3	31	3,737	4.[illegible]		238	10.1
600	30	4,073	-17.7	48	271	28.4	31	4,377	- 3.8	34	317	12.4	31	4,311	- 8.0	43	263	19.0	31	4,409	1.6	65	151	4.3	31	4,391	.4		24[illegible]	12.2
550	30	4,714	-21.7	46	272	31.5	31	5,056	- 8.0	29	307	13.6	31	4,977	-12.1	41	264	24.9	31	5,101	- 2.4	63	[illegible]	3.3	31	5,076	- 3.6		243	15.9
500	30	5,414	-26.3	46	271	35.2	31	5,794	-12.5	25	306	17.5	31	5,704	-16.7	38	263	27.6	31	5,858	- 6.7	59	121	3.9	31	5,831	- 8.4		243	20.4
450	30	6,159	-31.3	41	276	37.1	31	6,589	-18.1	25	301	21.4	31	6,482	-21.9	34	266	30.5	31	6,677	-11.3	53	38	3.5	31	6,63[illegible]	-14.9		241	24.3
400	30	6,993	-37.1		274	41.8	31	7,461	-24.5	27	296	25.1	31	7,343	-28.0		266	32.6	31	7,569	-17.1	48	95	3.9	31	7,525	-20.8		243	28.[illegible]
350	30	7,905	-42.6		269	48.6	31	8,419	-31.7	28	287	30.7	31	8,288	-35.1		268	36.3	31	8,557	-24.2	44	128	3.3	31	8,501	-26.7		244	33.2
300	30	8,934	-47.4		271	59.8	31	9,491	-39.5		285	36.1	31	9,345	-43.1		273	38.7	31	9,662	-32.6	46	138	2.9	31	9,596	-34.6		241	39.2
250	30	10,131	-50.2		272	62.5	31	10,717	-47.8		282	41.4	31	10,549	-51.9		274	37.9	31	10,919	-43.1		149	3.9	31	10,845	-43.6		24[illegible]	48.0
200	30	11,582	-51.6		273	57.9	31	12,164	-55.5		279	44.9	31	11,971	-57.7		274	36.5	30	12,379	-55.9		115	2.5	31	12,309	-54.3		244	51.3
175	30	12,447	-52.1		272	53.8	31	13,008	-59.5		276	44.9	31	12,810	-59.7		268	32.8	28	13,216	-62.9		110	3.5	31	13,152	-60.4		247	56.1
150	30	13,443	-52.9		271	50.5	31	13,963	-63.5		273	41.8	30	13,774	-60.2		274	32.1	28	14,148	-70.0		118	4.1	31	14,098	-66.8		250	45.6
125	30	14,616	-54.0		272	45.3	30	15,070	-66.8		274	36.5	30	14,907	-61.9		275	28.9	27	15,212	-76.5		159	5.8	31	15,188	-71.2		255	36.7
100	30	16,047	-53.4		267	37.5	30	16,410	-68.5		278	25.6	30	16,287	-62.0		277	22.1	27	16,487	-78.1		91	4.5	3[illegible]	16,492	-72.7		26[illegible]	20.6
80	30	17,480	-54.1		265	29.1	30	17,752	-66.4		285	16.7	30	17,670	-61.2		280	18.5	27	17,776	-72.9		84	6.2	3[illegible]	17,813	-69.2		245	8.[illegible]
70	30	18,338	-53.4		261	26.0	30	18,564	-64.2		285	9.1	30	18,5[illegible]	-6[illegible].2		292	13.2	27	18,575	-69.7		83	8.7	30	18,617	-65.3		227	3.5
60	30	19,331	-53.2		256	22.9	30	19,513	-61.4		255	4.7	30	19,461	-60.2		297	10.3	26	19,492	-66.5		80	11.5	3[illegible]	19,564	-62.[illegible]		10[illegible]	2.7
50	30	20,506	-52.9		256	17.9	30	20,651	-58.9		247	3.9	30	20,600	-59.2		305	7.4	25	20,623	-63.8		85	14.2	3[illegible]	20,699	-59.4		9[illegible]	8.4
40	30	21,946	-52.5		260	17.7	30	22,059	-56.5		261	2.1	30	22,002	-58.0		315	5.8	25	21,985	-59.5		91	19.2	30	22,105	-56.4		79	8.9
30	29	23,908	-51.6		251	11.5	30	23,896	-53.7		165	.6	29	23,827	-56.3		345	6.0	23	23,806	-54.7		92	27.6	29	23,947	-52.2		75	10.7
25	29	24,992	-50.7		257	10.7	29	25,076	-51.9		242	2.1	27	24,99[illegible]	-55.7		360	7.6	22	24,974	-52.0		89	35.1	28	25,132	-49.8		82	8.5
20	28	26,445	-50.2		255	6.6	29	26,529	-50.0		291	4.9	24	26,428	-55.[illegible]		353	7.0	20	26,426	-49.4		89	37.5	28	26,601	-46.9		76	4.7
15	26	28,325	-48.6		249	5.4	29	28,422	-47.1		281	10.5	16	28,286	-53.9		334	10.1	19	28,33[illegible]	-46.1		90	47.0	24	28,5[illegible]8	-44.3		56	3.[illegible]
10	17	30,988	-47.2				23	31,134	-44.1		277	15.2							5	31,036	-42.5				15	31,247	-40.6		[illegible]	7.2
7							6	33,658	-38.7																6	33,679	-37.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	* TATOOSH IS., WASH 1013 MB						TOPEKA, KANS. 989 MB						+ TRUK, CAROLINE IS. 1009 MB						TUCSON, ARIZ. 925 MB						* WAKE IS., PACIFIC AREA 1013 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	31	10.5	83	81	10.5	31	269	6.7	80	213	.4	31	2	29.0	76	80	1.7	31	789	16.2	56	138	6.6	31	5	26.1	83	87	9.1
1000	30	141	11.6	73	103	9.5	31	176					31	85	28.1	76	88	2.3	31	121					31	121	25.4	82	91	12.6
950	30	567	11.4	65	166	6.0	31	604	11.2	58	221	5.6	31	532	24.2	77	122	4.1	31	560					31	569	22.0	88	94	17.3
900	30	1,021	9.2	65	210	10.3	31	1,053	10.2	51	260	8.0	31	1,012	20.9	77	117	5.1	31	1,027	20.8	40	131	7.6	31	1,042	19.1	80	97	17.3
850	30	1,493	6.8	63	218	12.0	31	1,527	8.5	41	283	8.9	31	1,506	18.1	73	119	5.4	31	1,520	18.7	37	112	4.9	31	1,532	16.3	76	99	16.5
800	30	1,990	4.6	56	219	13.8	31	2,027	6.1	37	289	10.9	31	2,025	15.5	69	110	6.0	31	2,037	15.2	39	124	3.5	31	2,047	13.6	72	96	14.8
750	30	2,507	1.7	56	224	17.1	31	2,551	3.1	42	298	13.6	31	2,571	12.6	67	107	6.6	31	2,577	11.5	38	141	2.9	31	2,588	11.2	62	94	15.5
700	30	3,067	- 1.5	51	231	19.0	31	3,109	.3	39	304	16.3	31	3,148	9.6	64	104	6.6	31	3,153	7.3	36	159	3.1	31	3,164	8.6	52	92	13.8
650	30	3,645	- 4.8	45	235	21.2	31	3,697	- 2.6	38	299	18.6	31	3,761	6.2	62	110	7.2	31	3,752	2.9	37	162	3.9	31	3,770	5.6	49	87	14.2
600	30	4,280	- 8.8	42	238	25.3	31	4,332	- 6.3	36	296	20.4	31	4,414	2.5	60	105	8.0	31	4,402	- 1.5	35	190	3.1	31	4,426	1.7	47	87	13.8
550	30	4,944	-13.0	40	238	28.0	31	4,999	-10.4	33	298	21.2	31	5,107	- 1.4	59	102	8.2	31	5,082	- 5.7		217	3.5	31	5,118	- 2.7	44	89	14.2
500	30	5,669	-17.5	41	242	33.2	31	5,736	-15.1		300	22.3	31	5,869	- 5.5	54	96	9.1	31	5,830	-10.8		234	4.1	31	5,873	- 7.3	42	86	14.0
450	30	6,445	-22.6	43	243	36.9	31	6,515	-20.5		299	23.3	31	6,685	-10.1	44	86	7.8	31	6,623	-16.5		244	5.1	31	6,684	-12.5	40	82	12.6
400	30	7,306	-28.6	44	243	39.6	31	7,387	-26.8		300	26.0	31	7,590	-15.6	42	79	8.2	31	7,507	-23.1		276	8.0	31	7,578	-18.5	38	82	10.1
350	30	8,249	-35.6	42	246	45.3	31	8,336	-34.2		297	25.8	31	8,584	-22.3	36	75	7.8	31	8,471	-30.1		282	13.6	31	8,560	-25.9	41	87	8.0
300	30	9,305	-43.2		244	44.9	31	9,395	-42.5		306	27.6	31	9,698	-30.6		73	6.4	31	9,550	-38.1		285	18.5	31	9,657	-34.4	38	80	3.9
250	30	10,510	-51.3		249	45.3	31	10,603	-51.0		303	33.6	31	10,966	-40.9		60	6.2	31	10,781	-47.2		279	22.5	31	10,907	-44.0		266	2.7
200	30	11,935	-58.0		258	43.3	31	12,031	-57.4		299	37.9	31	12,443	-53.6		28	8.5	31	12,227	-56.2		274	29.7	31	12,367	-55.5		274	7.0
175	30	12,773	-59.4		255	41.2	31	12,870	-59.6		297	39.0	31	13,288	-60.8		10	9.1	31	13,066	-60.5		272	32.1	31	13,206	-61.7		287	8.2
150	30	13,738	-59.5		253	38.5	31	13,829	-61.5		294	37.1	31	14,229	-68.4		1	8.2	31	14,016	-64.7		271	28.2	31	14,146	-68.2		313	5.4
125	30	14,876	-60.5		254	33.4	31	14,953	-63.7		292	30.3	31	15,301	-75.9		24	5.1	31	15,119	-68.1		275	24.3	29	15,224	-73.6		18	4.9
100	29	16,261	-61.2		257	27.6	31	16,319	-64.0		292	26.4	30	16,573	-79.6		68	9.7	31	16,450	-70.5		278	15.7	28	16,518	-75.9		68	8.7
80	28	17,645	-59.9		259	20.2	31	17,686	-63.3		287	17.7	30	17,861	-72.5		87	6.0	31	17,778	-68.5		293	7.6	27	17,815	-73.5		86	13.8
70	28	18,479	-59.0		257	15.0	31	18,508	-62.0		287	15.3	30	18,652	-69.1		97	1.0	31	18,581	-66.6		305	3.9	24	18,606	-69.4		84	14.2
60	27	19,444	-58.6		265	12.2	31	19,465	-60.4		281	11.8	30	19,582	-65.5		282	6.2	31	19,520	-63.8		317	2.9	24	19,533	-66.1		86	17.5
50	26	20,590	-58.4		281	9.7	30	20,605	-58.0		274	11.7	30	20,698	-62.4		282	8.0	31	20,647	-60.5		261	1.9	24	20,648	-62.6		90	20.8
40	26	21,995	-57.5		314	5.2	30	22,017	-56.4		268	12.4	30	22,084	-59.6		353	2.5	31	22,047	-57.3		275	3.1	23	22,037	-59.6		94	24.1
30	26	23,814	-56.5		315	4.1	30	23,853	-54.2		262	13.2	27	23,901	-54.7		99	16.7	31	23,880	-54.0		265	5.1	22	23,862	-54.6		86	31.3
25	25	24,981	-55.9		331	4.7	30	25,025	-52.9		261	14.6	27	25,073	-52.7		99	33.4	30	25,051	-52.5		265	6.2	21	25,043	-51.4		88	35.9
20	24	26,405	-55.4		355	6.6	29	26,474	-51.5		266	18.6	24	26,515	-50.0		97	53.4	30	26,500	-50.3		265	9.3	20	26,508	-48.7		90	37.9
15	17	28,254	-54.7		341	8.4	27	28,344	-49.5		264	23.1	13	28,398	-46.3				28	28,389	-47.9		274	18.3	20	28,411	-46.4		89	39.8
10	14	30,869	-52.5		351	4.1	7	31,097	-45.4										18	31,059	-45.1		277	21.8	17	31,137	-42.3		91	39.4
7	7	33,192	-50.3																5	33,483	-42.3				6	33,618	-38.2			

Standard pressure surface (mb.)	WALLOPS IS. VA. NASA 1019 MB						WASHINGTON, D. C. 1010 MB						WINNEMUCCA, NEV. 873 MB						WINSLOW, ARIZ. 854 MB						YAKUTAT, ALASKA 1005 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	19	3	10.1	89	326	3.5	31	84	4.7	83	312	3.3	31	1,310	3.6	43	124	2.7	31	1,492	7.4	45	178	2.5	31	12	3.4	95	122	3.3
1000	19	162	13.6	61	334	6.6	31	166	8.7	71	307	4.3	31	182					31	169					31	55			109	5.2
950	19	592	12.1	54	343	5.8	31	595	9.3	58	330	9.3	31	609					31	602					31	474	4.3	76	140	8.2
900	19	1,044	9.6	52	296	4.3	31	1,039	7.2	51	330	10.7	31	1,061					31	1,056					31	912	1.3	75	149	9.9
850	19	1,516	6.8	52	269	6.4	31	1,508	5.4	48	317	11.8	31	1,527	12.4	29	63	3.3	31	1,535	9.8	43	173	2.5	31	1,370	- 1.8	75	155	10.3
800	19	2,013	5.1	48	258	9.9	31	2,002	3.9	39	295	12.4	31	2,035	11.7	28	218	2.1	31	2,045	14.4	29	280	3.9	31	1,851	- 4.6	73	158	9.7
750	19	2,539	3.0	40	259	12.8	31	2,528	2.2	34	277	13.4	31	2,570	8.4	28	237	5.8	31	2,581	11.2	30	288	3.1	31	2,356	- 7.5	69	169	10.7
700	19	3,096	.6	41	256	17.5	31	3,080	- .4	34	272	15.3	31	3,138	4.9	31	240	9.3	31	3,159	7.0	32	271	4.1	31	2,892	-10.6	65	180	14.0
650	19	3,692	- 2.2	38	261	20.6	31	3,665	- 3.4	32	271	18.6	31	3,739	1.0	32	235	13.6	31	3,755	2.6	33	276	3.7	31	3,453	-14.2	63	189	15.0
600	19	4,321	- 5.3	37	253	24.7	31	4,290	- 6.6	33	264	23.3	31	4,377	- 3.2	33	243	14.0	31	4,405	- 1.6	32	285	4.9	31	4,062	-18.1	59	190	16.7
550	19	4,996	- 9.3	39	251	29.9	31	4,966	-10.4	32	261	25.6	31	5,058	- 7.4	31	250	16.3	30	5,085	- 6.4	28	275	5.6	31	4,703	-22.2	55	198	17.1
500	19	5,731	-13.7	39	254	33.8	31	5,702	-15.1		262	29.9	31	5,796	-12.3	29	249	15.7	30	5,834	-11.2		285	7.4	31	5,403	-27.1	52	200	20.4
450	18	6,519	-19.8	35	253	37.3	31	6,481	-20.4		260	33.6	31	6,591	-18.0		256	16.5	30	6,623	-17.0		292	9.7	31	6,150	-32.7	51	201	21.2
400	17	7,387	-26.1	30	264	37.7	31	7,353	-26.3		255	38.3	31	7,462	-24.7		260	18.5	30	7,507	-23.8		300	11.3	31	6,975	-38.3		203	25.3
350	17	8,340	-33.0	33	257	42.5	31	8,305	-33.5		253	43.7	31	8,419	-32.2		261	21.6	30	8,468	-31.2		299	14.2	31	7,882	-44.6		199	24.3
300	17	9,407	-40.7		249	50.3	31	9,369	-41.5		251	48.8	31	9,487	-40.9		264	21.2	30	9,541	-39.8		297	15.9	31	8,900	-50.0		205	23.1
250	17	10,625	-49.2		253	57.5	31	10,583	-49.9		249	55.4	31	10,700	-50.6		269	24.5	30	10,763	-48.7		293	22.0	31	10,086	-51.8		219	25.1
200	17	12,065	-56.1		256	71.1	31	12,020	-55.9		252	59.8	31	12,126	-58.8		269	29.5	30	12,199	-57.6		292	27.8	31	11,533	-52.0		233	25.1
175	17	12,908	-59.2		257	73.4	31	12,863	-58.6		250	56.7	31	12,959	-61.0		269	30.7	30	13,034	-61.3		285	27.4	31	12,396	-52.3		242	22.9
150	17	13,867	-61.9		258	63.9	31	13,826	-61.0		252	53.8	31	13,913	-63.0		264	28.4	30	13,983	-64.7		281	27.8	31	13,394	-52.0		239	21.2
125	17	14,990	-63.7		258	50.9	30	14,954	-62.9		252	41.2	31	15,030	-64.9		266	26.2	30	15,087	-67.6		284	24.5	31	14,573	-52.2		241	23.3
100	17	16,355	-64.3		262	38.3	29	16,324	-64.1		253	33.2	31	16,386	-66.1		275	18.3	30	16,422	-68.9		288	18.3	31	16,019	-52.0		243	20.2
80	17	17,726	-62.3		262	28.7	29	17,696	-61.8		257	24.9	31	17,744	-64.3		276	12.2	30	17,761	-67.3		297	11.5	31	17,464	-51.8		246	19.4
70	17	18,552	-60.6		269	21.0	29	18,524	-60.4		258	19.6	31	18,562	-63.4		285	8.2	30	18,567	-66.1		300	8.7	30	18,330	-52.1		252	18.5
60	17	19,515	-58.8		273	15.3	29	19,488	-59.1		261	15.7	31	19,512	-62.3		300	8.0	30	19,508	-63.7		308	5.1	30	19,329	-52.3		255	17.5
50	16	20,665	-57.3		272	13.6	29	20,637	-57.2		266	11.8	31	20,642	-60.9		307	5.8	29	20,633	-60.7		284	4.3	30	20,505	-53.1		264	15.9
40	16	22,083	-55.5		280	13.0	29	22,053	-55.7		265	11.7	31	22,035	-58.9		326	5.8	29	22,032	-57.7		266	7.4	30	21,943	-52.7		276	12.6
30	16	23,924	-53.5		276	9.9	29	23,894	-53.4		261	11.7	30	23,851	-56.3		297	5.6	26	23,860	-54.9		269	10.5	29	23,802	-53.1		281	13.0
25	16	25,100	-52.5		277	8.7	29	25,072	-52.2		262	12.6	30	25,014	-54.4		285	7.0	25	25,032	-53.2		268	13.2	26	24,973	-53.2		289	13.0
20	16	26,547	-51.0		274	9.7	27	26,519	-50.9		258	14.0	24	26,454	-52.9		280	11.1	24	26,471	-51.4		269	15.0	25	26,412	-52.9		294	13.2
15	15	28,419	-48.6		263	19.2	22	28,403	-48.7		253	11.8	19	28,331	-50.5		283	20.2	11	28,359	-49.3				17	28,278	-52.4		286	15.3
10	12	31,115	-45.7				10	31,145	-44.6																10	30,941	-51.7			
7	10	33,530	-41.9																											

Standard pressure surface (mb.)	+ YAP, CAROLINE IS. 1007 MB						YUCCA FLAT, NEV. 883 MB					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	17	28.8	80	112	2.3	31	1,196	6.9	30	327	1.0
1000	31	79	28.0	80	116	3.3	31	157				
950	31	525	23.7	82	128	4.9	31	573				
900	31	1,005	20.5	80	126	6.0	31	1,040				
850	31	1,499	18.2	77	124	6.0	31	1,520	17.0	25	351	2.5
800	31	2,017	15.6	72	123	6.0	31	2,035	14.6	25	211	3.1
750	31	2,559	12.8	68	117	6.8	31	2,572	10.7	27	205	5.4
700	31	3,142	9.7	65	119	8.2	31	3,146	6.4	30	202	6.2
650	31	3,752	6.3	62	118	8.4	31	3,746	2.0	31	200	5.1
600	31	4,408	2.4	59	111	9.3	31	4,390	- 2.2	28	200	4.7
550	31	5,100	- 1.5	56	104	10.7	31	5,071	- 6.5		223	5.6
500	31	5,861	- 5.7	49	100	10.5	31	5,813	-11.6		247	7.2
450	31	6,676	-10.3	43	101	11.1	31	6,605	-17.3		255	8.9
400	31	7,580	-15.8	38	87	9.9	31	7,484	-24.1		256	10.3
350	31	8,574	-22.5	35	87	9.3	31	8,444	-31.4		270	14.0
300	31	9,686	-30.9		89	10.5	31	9,517	-39.9		271	17.7
250	31	10,953	-41.2		81	9.9	31	10,738	-49.0		280	19.6
200	30	12,425	-53.8		75	8.5	31	12,172	-57.9		275	25.1
175	29	13,265	-61.2		68	9.1	31	13,008	-61.1		269	26.2
150	29	14,204	-68.9		65	10.1	31	13,958	-64.1		272	23.3
125	29	15,272	-76.6		76	14.8	31	15,066	-66.9		265	22.0
100	29	16,537	-80.6		77	20.2	31	16,408	-68.2		275	17.3
80	29	17,815	-74.6		77	13.6	31	17,751	-66.5		286	10.5
70	29	18,599	-70.2		78	8.2	31	18,561	-65.2		299	7.8
60	29	19,523	-66.8		74	5.2	31	19,504	-63.5		316	5.4
50	28	20,635	-62.9		76	4.5	31	20,629	-61.3		319	5.8
40	28	22,019	-59.3		86	11.7	29	22,023	-58.8		295	5.1
30	28	23,834	-56.1		90	24.9	28	23,844	-55.6		278	9.3
25	25	24,996	-54.2		89	37.9	27	25,012	-54.1		271	13.2
20	21	26,445	-50.7		92	54.6	27	26,447	-52.7		273	13.8
15	16	28,340	-46.8		94	61.4	20	28,310	-50.7		276	21.6
10							6	30,951	-48.3			

See reference note at end of table

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. OCTOBER 1964

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Oct. 1	0.77	0.89	1.01	1.19	1.32	1.11	1.04	0.92	0.84
2	.65	.76	.90	1.11	1.38	1.24	1.08	.94	.80
3	.89	1.01	1.14	1.30	1.43	1.28	1.08	.96	.87
4	.82	.93	1.05	1.17	1.33	1.19	1.01	.84	.75
5	.55	.67	.82	1.04	1.28	1.15	.99	.86	.72
6					1.35				
7	.78	.92	1.04	1.22	1.38	1.26	1.08	.97	.88
8	.87	.98	1.09	1.26	1.41	1.30	1.14	1.02	.89
9	.81	.94	1.06	1.21	1.35	1.18	1.00	.88	.73
10	.73	.85	.96	----	1.28	----	----	----	----
11	.82	.97	1.07	1.24	1.39	1.29	1.12	1.03	.89
12	.82	.96	1.05	1.21	1.35	----	----	----	----
13	.86	.99	1.10	1.24	1.39	1.25	1.09	.98	.84
14	.86	.98	1.08	1.22	1.35	1.24	1.09	1.00	.87
15	.93	1.04	1.13	1.28	1.38	----	(1.05)	(1.00)	.86
16	.87	.99	1.04	1.23	1.35	----	(1.00)	(.88)	(.72)
17	.86	.99	1.08	1.25	1.33	1.21	----	----	----
19	----	----	----	----	1.35	1.15	1.00	.90	.75
20	.87	1.00	1.08	1.26	1.37	1.30	1.16	1.04	.93
21	.94	1.08	1.19	1.33	1.45	1.32	1.17	1.06	.94
22	.98	1.10	1.20	1.35	1.42	1.34	1.20	1.11	.98
23	.75	.90	.99	1.19	(1.24)	----	----	----	----
24	.91	1.04	1.16	1.33	1.41	1.34	1.20	1.09	.95
25	.96	1.08	1.20	1.35	1.44	1.32	1.16	1.03	.89
26	----	----	----	1.36	1.42	1.32	1.18	1.05	.90
27	----	1.00	----	----	----	----	----	----	----
28	----	(.97)	(1.09)	(1.25)	(1.31)	----	----	----	----
30	.90	1.01	1.14	1.29	1.35	1.23	1.09	.95	.84
31	.99	1.09	1.23	1.35	1.41	1.34	1.19	1.06	.95
Averages	0.84	0.97	1.08	1.25	1.37	1.26	1.05	0.98	0.86
	BLUE HILL OBS., MASS.								
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Oct. 1	0.75	0.84	0.96	1.18	1.33	1.13	0.94	0.82	0.62
3	----	1.06	1.16	1.28	1.37	1.25	1.08	.94	.84
11	.77	.89	1.07	1.29	1.37	1.25	1.03	.95	.82
12	.84	.93	1.06	1.24	1.30	1.21	.98	.77	.58
14	.71	.82	----	----	----	----	----	----	----
15	----	----	----	1.20	1.27	1.13	.96	.82	.72
22	.62	.76	.93	1.13	1.23	----	----	----	----
23	----	----	----	----	1.25	1.18	1.00	.86	.74
24	.84	.96	1.07	1.23	1.29	1.24	1.05	.88	.77
25	----	.72	.87	.95	----	----	----	----	----
27	.53	.65	.79	1.04	1.08	----	----	----	----
28	.53	.65	.82	1.04	----	----	----	----	----
30	----	----	----	1.27	1.32	1.30	1.07	.96	.88
31	.94	1.04	1.16	1.30	1.33	1.30	1.13	1.01	.91
Averages	0.73	0.85	0.99	1.18	1.29	1.22	1.03	0.89	0.76
	MAUNA LOA OBS., HAWAII								
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Oct. 2	1.05	1.14	1.25	1.39	1.44	1.39	1.27	1.17	1.09
3	1.13	1.22	1.32	1.44	1.57	1.44	1.31	1.21	1.13
4	1.09	1.19	1.31	1.44	1.56	1.43	1.32	1.21	1.13
5	1.11	1.20	1.32	1.44	1.58	1.40	1.28	1.17	1.10
6	1.14	1.22	1.34	1.45	----	----	(1.25)	1.15	1.06
7	1.14	1.24	1.30	1.45	----	----	----	----	----
8	1.15	1.23	1.34	1.46	1.55	1.39	1.27	1.17	1.08
9	1.14	1.22	1.33	1.43	1.55	1.40	1.27	1.18	----
10	1.13	1.21	1.33	1.44	1.57	----	----	(1.12)	(1.04)
11	1.12	1.21	1.33	1.44	1.53	----	----	----	----
12	1.14	1.23	1.34	1.46	1.54	----	----	----	----
13	1.17	1.24	1.35	1.47	1.58	1.38	1.27	1.17	1.07
14	1.14	1.23	1.33	1.45	1.58	1.43	1.29	1.18	1.08
15	1.10	1.20	1.30	1.44	1.57	1.42	1.29	1.20	1.10
16	1.13	1.22	1.32	1.44	1.53	----	----	1.15	1.06
18	1.13	1.19	1.31	1.43	----	----	----	----	----
19	(1.07)	(1.16)	(1.27)	----	----	----	----	----	----
20	----	(1.09)	(1.20)	(1.34)	----	----	----	----	----
22	1.04	1.14	1.26	1.41	1.55	----	----	----	----
23	1.13	1.22	1.34	1.47	----	----	1.28	1.17	1.09
24	1.13	1.22	1.33	1.46	1.56	----	----	----	----
28	(1.05)	(1.15)	(1.26)	(1.38)	----	----	----	----	----
31	(.99)	(1.10)	(1.20)	----	----	----	----	----	----
Averages	1.12	1.21	1.32	1.44	1.55	1.41	1.29	1.18	1.09

H	Haze
HS	Slight haze
HM	Moderate haze
HI	Intense haze
S	Slight haze - indeterminable
M	Moderate haze - indeterminable
( )	Clouds present
†	Wind mast
*	Values corresponding to true solar noon

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Oct. 1	M 0.53	M 0.64	M 0.79	1.02	----	----	----	----	----
2	----	----	----	----	----	----	1.05	0.94	0.85
3	S .78	S .90	S 1.02	S 1.15	M 1.40	M 1.06	M .86	M .77	M .54
9	M .78	M .99	----	----	----	----	----	.93	.84
10	.85	.94	1.07	1.21	1.29	1.21	1.05	----	----
11	H .67	----	----	----	----	----	----	----	----
12	----	----	----	----	----	----	S .79	S .65	----
13	----	----	----	----	HI1.09	M 1.04	S .91	S .74	S .63
14	----	----	----	----	M 1.23	S 1.14	S .96	S .86	S .74
15	----	----	M .84	M 1.04	M 1.15	S 1.05	S .83	S .75	S .65
16	H .55	H .69	H .83	H 1.04	H 1.11	H 1.05	H .87	H .70	H .59
24	----	----	----	----	----	----	----	S .66	S .60
25	M .62	H .73	H .89	H 1.07	H 1.20	----	----	----	----
Averages	0.68	0.82	0.91	1.09	1.21	1.09	0.92	0.78	0.68
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Oct. 1	0.51	0.62	----	----	----	----	----	0.63	0.50
2	.64	.74	0.88	----	----	----	----	.58	----
3	.51	.60	.74	----	----	----	----	----	----
4	.49	.59	.75	----	----	----	----	.48	.38
5	.65	.76	----	----	----	----	0.81	----	.55
6	.64	.74	----	----	----	----	----	----	.59
7	.69	.79	----	----	----	----	----	----	----
8	.59	.70	----	----	----	----	----	----	----
9	.65	----	----	----	----	----	----	----	----
10	.57	.69	----	----	----	----	----	----	----
11	.52	.65	.78	----	----	----	----	----	.50
12	.64	.75	.90	----	----	----	----	----	.69
13	.65	----	----	----	----	----	----	.65	.45
14	.75	----	----	----	----	----	----	----	----
15			Pyrheliometer inoperable						
17			Pyrheliometer inoperable						
19	----	----	----	----	----	----	----	----	.75
20	.90	.99	----	----	----	----	----	----	----
21	.85	.95	1.09	----	----	----	----	----	----
24	.91	1.01	1.13	----	----	----	----	----	----
25	----	----	----	----	----	----	----	----	.76
26	----	.77	1.05	----	----	----	----	----	.76
28	----	----	----	----	----	----	----	----	.80
30	.82	.94	----	----	----	----	----	----	.74
31	.68	----	.95	----	----	----	----	----	.77
Averages	0.67	0.77	0.92	----	----	----	----	0.59	0.63
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Oct. 2	----	----	----	----	HS1.42	HS1.24	†	HS0.99	HS0.86
3	HS0.84	HS0.92	HS1.04	HS1.21	HS1.33	----	----	----	----
4	HS .90	HS .98	HS1.15	HS1.27	----	----	----	HS .98	----
5	HS .89	HS .99	HS1.11	HS1.26	----	----	----	----	----
6	HS .84	HS .93	HS1.06	HS1.18	----	----	----	----	----
8	----	----	----	----	----	----	HS1.08	----	----
9	HS .89	HS1.02	HS1.11	HS1.28	HS1.38	HS1.26	HS1.10	HS .97	HS .88
10	HM .75	----	----	----	----	HS1.08	----	----	----
13	HM .78	HS .85	HS1.00	HS1.18	HS1.26	----	HS .96	----	HM .70
14	HM .74	HM .86	HM .92	HM1.09	HM1.18	HM1.09	HM .88	HM .74	HM .65
15	HM .75	HM .88	HM1.01	HS1.18	HS1.26	HS1.15	HS .99	HM .85	HM .74
16	HM .72	HM .82	HM .94	HS1.15	HS1.22	----	----	----	----
18	----	----	----	----	HS1.30	----	----	----	----
20	HS .86	HS .98	----	----	HS1.33	----	----	----	----
21	HS .78	HS .85	HS1.02	HS1.20	HS1.33	HS1.22	HS1.04	HS .96	HM .82
23	HM .62	HM .72	HM .87	HM1.04	----	HM1.07	HM .87	HM .71	HM .60
25	----	----	----	----	HM .90	----	----	----	----
28	HM .73	HM .85	----	----	----	----	----	----	----
29	----	----	----	HS1.19	HM1.04	HM .97	HM .72	HM .66	HM .59
30	----	----	HI .74	HM1.09	HM1.13	----	----	----	----
Averages	0.79	0.90	1.00	1.18	1.24	1.14	0.96	0.86	0.72
	GUAM, M. I.								
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observation due to cloudiness

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 64 of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	496	514	518	501	485	470	488	489	478	379	478	443	470	464	461	444	429	376	428	448	450	448	415	436	437	427	411	---	308	396	407	446
AMES IOWA	404	444	419	426	367	412	176	110	425	389	49	131	344	356	353	351	255	345	171	331	353	320	330	313	291	232	220	245	266	260	232	301
ANNETTE ALASKA	13	140	95	166	359	168	171	9	188	14	30	162	52	78	93	108	36	2	11	120	25	95	21	6	91	74	6	56	115	30	22	82
APALACHICOLA FLORIDA	509	443	77	222	331	552	556	512	507	511	493	469	151	48	161	467	478	474	433	503	497	453	466	450	437	242	365	445	442	429	425	405
ARGONNE NAT. LAB.	447	332	454	322	342	342	333	185	281	766	411	248	376	347	350	355	356	221	200	188	355	322	333	341	330	295	95	217	160	289	304	319
ASTORIA OREGON	427	343	441	359	362	285	123	254	96	186	348	328	293	209	260	246	313	359	350	329	330	329	108	143	244	264	86	276	38	137	77	256
ATLANTA GEORGIA	114	135	193	129	367	523	522	520	467	508	516	421	397	100	37	145	461	454	314	472	465	452	429	428	408	430	303	302	340	361	355	357
BETHEL ALASKA	190	234	208	60	126	175	116	191	213	180	112	47	117	25	111	164	102	41	26	90	99	115	73	36	106	27	90	66	70	70	---	109
BISMARCK N.DAK.	143	390	395	259	284	329	93	349	376	227	339	343	344	352	322	160	---	335	309	291	289	271	309	302	290	248	280	80	271	209	108	277
BLUE HILL MASS.	462	208	465	324	198	318	267	399	142	224	444	421	227	311	386	285	26	58	270	49	292	338	344	343	337	283	290	261	224	319	331	285
BOISE IDAHO	431	430	440	421	428	381	377	373	348	402	388	388	378	351	97	365	346	367	365	350	348	345	338	338	266	130	168	298	63	153	193	325
BOSTON MASSACHUSETTS	460	175	436	342	196	333	253	391	105	202	411	390	194	303	350	276	27	51	244	48	281	279	329	---	---	---	---	---	---	---	---	264
BROWNSVILLE TEXAS	459	518	545	559	577	513	478	564	572	537	557	516	442	545	559	539	547	416	81	550	519	424	267	356	405	362	476	413	479	432	369	470
BURLINGTON VERMONT	---	342	355	382	376	329	393	319	320	66	360	242	55	255	359	322	229	281	34	208	271	55	172	108	297	---	209	94	120	251	191	241
CAPE HATTERAS N.C.	402	166	275	308	41	133	145	425	146	---	---	459	446	301	118	345	226	334	409	27	418	407	136	411	421	412	374	278	115	363	388	291
CARIBOU MAINE	420	393	238	361	214	382	310	382	88	128	287	66	59	76	62	279	285	26	44	197	20	53	217	256	114	283	202	187	59	87	263	195
CHARLESTON S.C.	401	193	261	270	66	519	452	419	318	508	516	510	458	168	48	66	404	457	443	255	482	470	255	463	468	421	406	309	368	407	200	354
CLEVELAND OHIO	415	215	436	336	315	337	405	257	81	112	390	307	347	339	326	310	352	230	212	266	220	75	258	336	313	302	176	192	40	303	289	274
COLUMBIA MISSOURI	447	401	459	463	462	408	401	89	443	429	353	221	336	359	363	373	362	209	360	353	371	338	360	336	337	129	141	262	340	325	330	341
DAVIS CALIFORNIA	448	438	418	401	394	386	338	420	404	393	392	388	387	392	373	366	381	366	365	362	353	342	343	327	166	318	126	83	94	334	184	338
DODGE CITY KANSAS	409	435	419	397	418	407	379	407	373	373	226	323	369	376	370	361	341	207	366	352	348	338	335	126	104	313	136	160	274	308	294	324
E. LANSING MICHIGAN	454	143	461	404	299	234	436	71	111	328	429	126	344	387	369	354	368	115	284	159	116	183	337	349	331	277	218	222	253	328	305	284
EL PASO TEXAS	554	539	510	428	552	534	529	530	522	524	511	514	518	515	474	467	488	195	441	497	480	439	465	450	363	462	442	439	445	439	411	473
ELY NEVADA	492	486	484	479	---	411	474	413	419	448	447	444	440	427	416	359	417	431	419	422	421	416	412	412	350	288	346	194	110	86	342	390
EPPLEY.NEWPORT R.I.	327	126	428	275	113	306	220	378	189	247	410	388	186	313	331	268	56	92	252	74	302	332	312	330	267	276	286	274	184	285	318	263
FLAMING GORGE UTAH	475	473	416	420	423	416	410	372	314	253	---	---	385	376	361	278	341	377	368	---	---	211	204	372	374	302	332	319	270	137	256	342
FORT WORTH TEXAS	256	491	521	535	548	516	526	503	520	498	491	226	448	384	486	476	465	211	495	482	472	463	423	417	311	144	236	383	413	402	421	425
FRESNO CALIFORNIA	457	453	448	432	404	421	424	436	411	422	430	421	391	394	376	392	387	385	387	388	383	377	337	346	213	307	157	187	328	359	282	372
GLASGOW MONTANA	334	252	375	348	397	342	389	385	344	329	345	314	352	330	172	217	314	335	318	282	261	310	310	288	280	206	253	269	240	115	248	299
GRAND JUNCTION COLO.	491	502	492	489	491	493	491	467	417	368	429	456	458	443	434	353	345	440	413	427	423	397	370	406	405	343	380	328	333	294	378	418
GREAT FALLS MONTANA	374	---	365	358	349	312	317	---	259	210	298	307	299*	263	99	279	207	291	280	269	127	267	272	252	228	195	165	239	158	206	197	257*
GREENSBORO N.C.	55	160	344	46	122	531	521	514	478	515	508	484	462	243	64	36	261	427	182	395	426	401	416	414	414	394	332	365	207	357	310	335
GRIFFIN EXP.STA.GA.	153	154	195	97	235	586	592	604	508	580	580	482	283	121	49	211	537	532	408	553	537	520	509	506	505	510	303	409	421	437	431	405
INDIANAPOLIS INDIANA	483	309	523	444	454	484	471	---	181	491	484	385	410	396	341	398	411	79	412	339	394	368	396	404	380	346	153	269	194	337	358	370
ITHACA NEW YORK	371	123	410	302	240	278	414	396	72	82	340	344	159	348	336	332	203	54	50	267	197	36	165	107	292	282	173	81	122	224	294	229
LAKE CHARLES LA.	324	160	74	481	553	540	536	516	478	519	522	506	380	446	461	459	473	425	343	495	471	456	446	424	382	228	342	392	365	401	347	418
LAKELAND FLORIDA	403	394	448	409	278	125	271	174	484	374	370	319	178	307	350	439	511	515	458	508	517	500	480	453	263	388	352	355	339	472	386	381
LANDER WYOMING	454	463	450	461	452	446	424	371	244	393	428	411	414	401	254	308	379	376	370	385	379	92	357	365	362	233	319	191	146	283	263	351
LARAMIE WYOMING	437	439	422	435	429	415	365	407	336	144	334	393	388	383	375	344	312	355	366	365	360	208	275	338	343	256	311	239	307	285	72	337
LAS VEGAS NEVADA	531	518	507	514	506	495	474	481	492	494	---	---	464	431	440	324	432	462	466	454	447	436	425	422	423	423	410	221	263	395	394	439
LITTLE ROCK ARKANSAS	400	347	455	314	488	---	409	384	422	417	399	345	108	109	127	353	356	135	394	376	360	348	353	335	334	213	---	---	310	328	315	330
LOS ANGELES CALIF.	348	467	480	477	450	413	445	464	423	329	390*	415	315	350	164	347	346	407	426	425	396*	220	104	372	131	318	299	138	342	370	337	352*
MADISON WISCONSIN	438	434	451	266	310	257	220	36	451	448	368	346	355	374	377	366	325	372	172	151	209	241	338	336	329	276	104	269	137	292	218	299
MANHATTAN KANSAS	458	511	486	523	495	340	390	426	470	405	125	412	431	417	423	419	354	379	403	409	404	396	376	341	127	197	132	187	372	346	289	369
MATANUSKA ALASKA	132	73	119	100	85	24	51	72	187	111	137	185	114	83	50	42	170	196	129	13	73	41	132	103	120	98	20	52	101	54	99	96
MAUNA LOA OB.HAWAII	301	719	728	722	721	696	519	703	715	697	603	580	701	703	695	611	404	573	387	339	275	565	642	537	371	373	425	396	270*	466	350	541*
MEDFORD OREGON	448	422	423	399	385	396	190	358	392	379	389	358	339	291	116	224	349	367	361	346	343	333	335	320	189	190	107	141	164	193	126	302
MIAMI FLORIDA	510	397	413	489	355	425	336	433	---	304	267	105	296	201	393	452	432	486	448	449	441	429	238	422	443	374	233	108	242	265	265	355
MIDLAND TEXAS	466	207	461	465	502	498	488	472	475	468	467	319	443	453	457	441	422	76	440	438	429	437	412	384	181	396	408	387	358	400	387	407
NASHVILLE TENNESSEE	359	116	342	81	350	491	481	456	444	483	468	450	391	303	54	376	397	249	429	432	426	423	416	409	401	350	354	102	191	264	292	348
NEW YORK N.Y. U	378	56	461	184	179	351	450	399	238	273	430	380	224	367	317	252	41	264	108	75	340	315	250	351	318	310	208	260	182	328	324	278
NORTH OMAHA NEBRASKA	227	487	455	485	482	446	295	302	451	382	66	---	404	396	402	386	235	388	336	382	380	339	340	325	254	143	293	200	323	305	214	337
OAK RIDGE TENNESSEE	278	209	230	70	317	407	411	408	399	419	396	350	350	330	139	113	360	328	142	317	360	335	358	332	335	337	288	100	231	287	280	297
OKLAHOMA CITY OKLA.	374	318	437	447	450	428	433	433	429	407	183	249	333	351	399	392	379	202	409	392	381	370	362	323	231	251	89	297	331	323	282	345

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

OCTOBER 1964

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PAGE ARIZONA	438	448	444	442	438	408	430	407	387	391	409	411	411	405	390	273	322	403	384	391	388	381	380	387	381	357	347	278	288	347	341	384
PHOENIX ARIZONA	470	469	453	455	454	443	442	437	434	---	441	440	429	414	262	275	397	400	414	420	416	384	391	400	388	378	311	353	314	382	378	401
PORTLAND MAINE	500	363	428	345	240	322	285	694	78	206	397	381	130	327	333	295	170	41	204	85	242	251	320	309	169	281	263	236	183	291	315	280
RAPID CITY S.DAK.	189	401	323	402	383	378	342	375	361	305	332	342	359	346	328	249	339	300	298	318	312	221	296	295	297	218	281	256	277	243	29	303
RIVERSIDE CALIFORNIA	495	483	464	460	426	404	435	461	460	461	460	451	373	349	214	415	406	431	461	453	385	409	98	281	296	373	368	175	288	406	421	389
SAINT CLOUD MINN.	149	431	318	211	298	387	265	344	409	383	91	146*	363	365	353	332	234	329	242	272	136	75	314	304	292	247	241	72	166	215	122	261*
SALT LAKE CITY UTAH	515	517	493	495	483	476	459	434	335	444	473	358	452	436	443	330	436	454	431	394	400	390	403	407	386	328	352	372	301	103	248	405
SAN ANTONIO TEXAS	496	472	512	535	565	549	545	532	518	502	508	468	497	499	510	509	479	175	360	510	493	495	441	439	432	289	236	444	433	419	290	457
SANTA MARIA CALIF.	480	477	455	453*	413	422	407	452	452	451	409	262	376	387	392	344	378	381	406	405	358	356	130	274	111	176	202	107	304	372	342	353*
SAULT STE MARIE MICH	294	191	175	206	214	333	183	18	118	404	326	202	268	344	338	329	283	329	269	122	76	242	156	307	266	261	246	240	287	288	197	242
SEATTLE TACOMA WASH.	296	85	401	395	380	361	318	134	114	224	318	322	136	200	153	170	273	305	300	265	231	189	195	54	197	235	164	205	70	92	94	222
SHREVEPORT LOUISIANA	314	361	432	516	536	523	514	488	502	514	486	464	302	353	381	385	449	289	473	472	458	442	432	439	422	244	275	333	361	359	360	415
SPOKANE WASHINGTON	407	183	430	431	411	396	390	150	78	200	300	364	343	232	253	324	349	324	342	319	312	317	305	265	216	288	96	165	176	76	168	278
STATE COLLEGE PENN.	385	99	474	204	346	378	466	447	149	188	456	410	324	401	371	310	176	367	66	277	212	273	192	324	338	336	249	233	113	316	333	297
STERLING VIRGINA	133	115	466	57	188	457	457	431	321	282	455	440	392	392	270	164	52	377	33	167	322	372	268	377	360	335	285	313	192	343	339	295
STILLWATER OKLAHOMA	384	440	474	470	479*	437	437	463	449	420	164	283	276	395	401	418	410	163	424	406	410	386	374	344	293	219	95	305	341	351	329	363*
SWAN ISLAND W.I.	502	217	476	554	353	272	371	62	28	13	295	344	134	478	428	548	575	543	537	399	480	515	470	236	225	419	370	334	428	541	331	370.
TAMPA FLORIDA	402	357	487	481	252	128	484	220	514	327	378	416	143	416	274	402	508	507	481	528	526	500	495	488	---	---	389	348	373	459	397	403
TUCSON ARIZONA	479	473	445	474	---	465	473	470	471	456	457	449	---	---	---	---	211	440	449	450	437	430	415	429	426	418	413	398	355	403	399	430
WAKE ISLAND,PACIFIC	358	464	527	379	464	531	487	524	481	518	489	465	253	208	288	348	228	372	492	445	274	391*	500	494	498	487	440	473	434	---	---	425*

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

OCTOBER 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-26	150	114	143	136	121	130	145	105	64	112	117	120	121	47	12	57	69	67	57	82	59	67	48	58	2	79	68	49	44	58	80

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. **The value represents the total incoming minus the total outgoing radiation of all wave lengths.**

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. **The instrument with which they were measured has not been checked by the Weather Bureau.**

TOTAL OZONE DATA

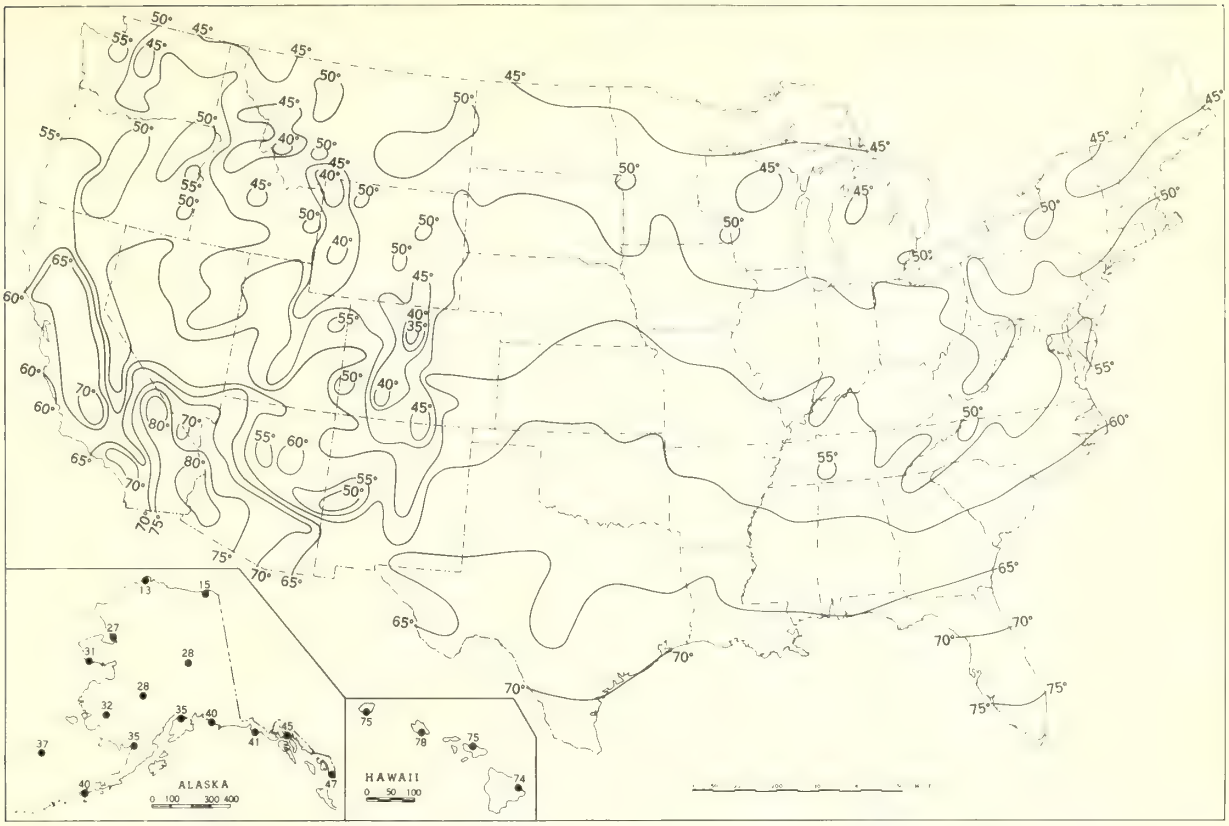
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λ s Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

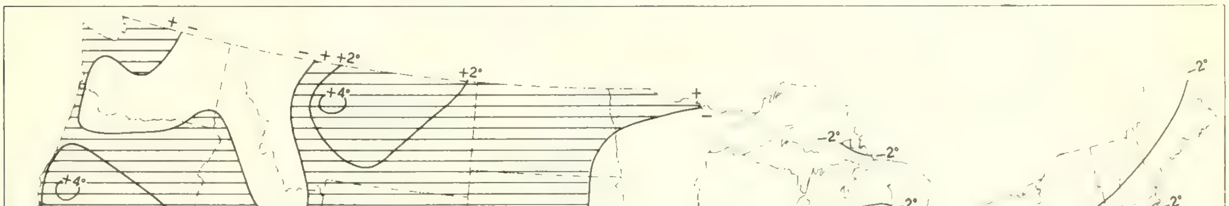
Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O_3
															Data will be delayed																

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e g., 350 milli-atmo-cm ozone implies an ozone layer 0 350 centimeter thick. The code λ s designates the type of measurement made

Chart I. A. Average Temperature (°F.) at Surface, October 1964.



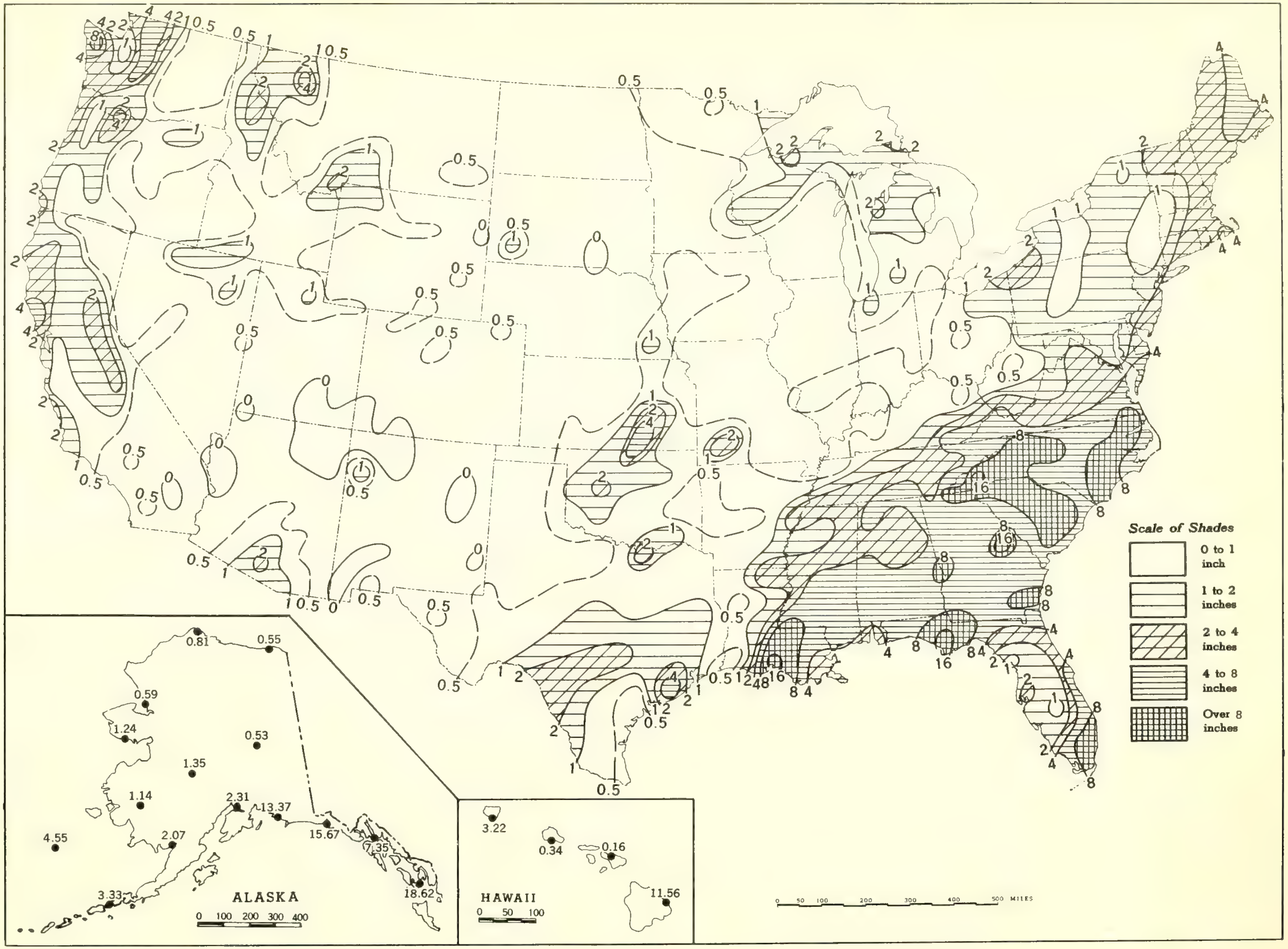
B. Departure of Average Temperature from Normal (°F.), October 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

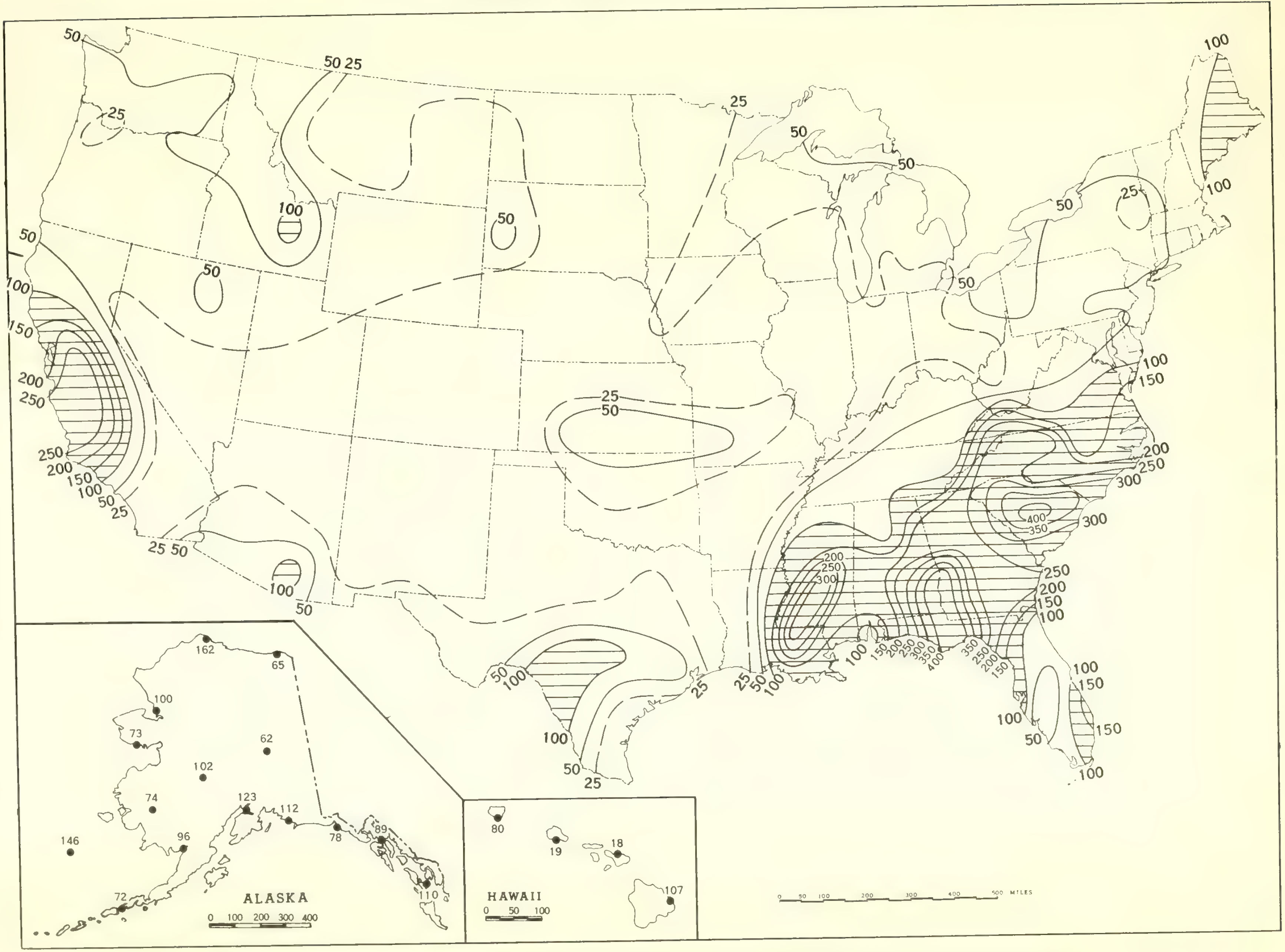
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), October 1964.



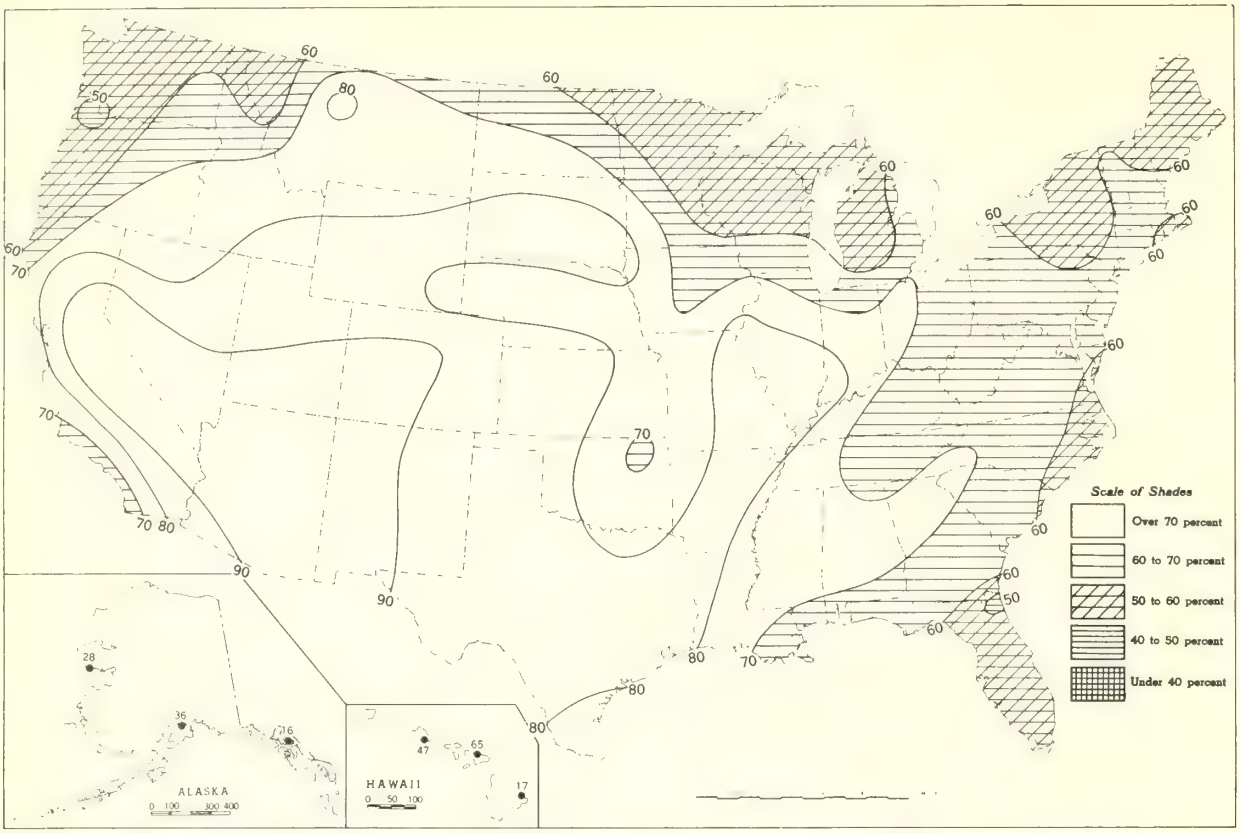
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, October 1964.

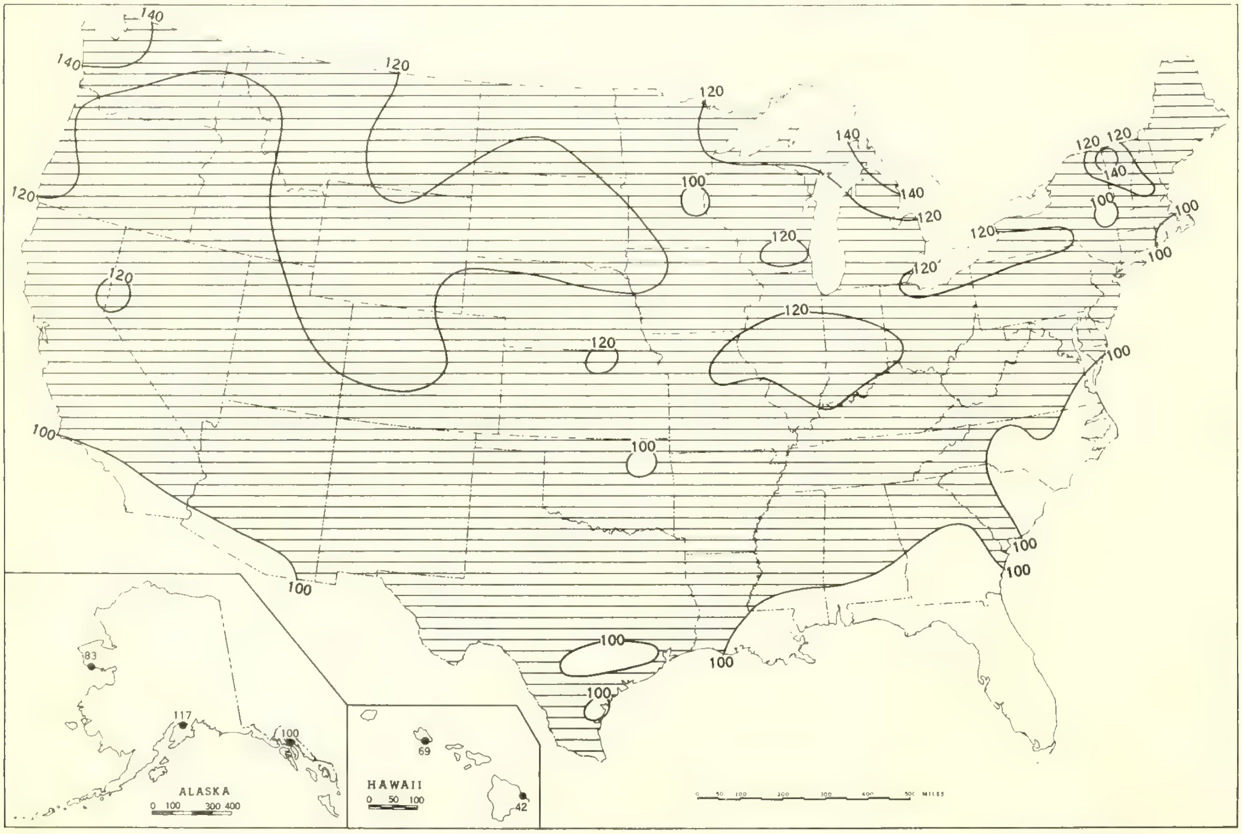


Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, October 1964.

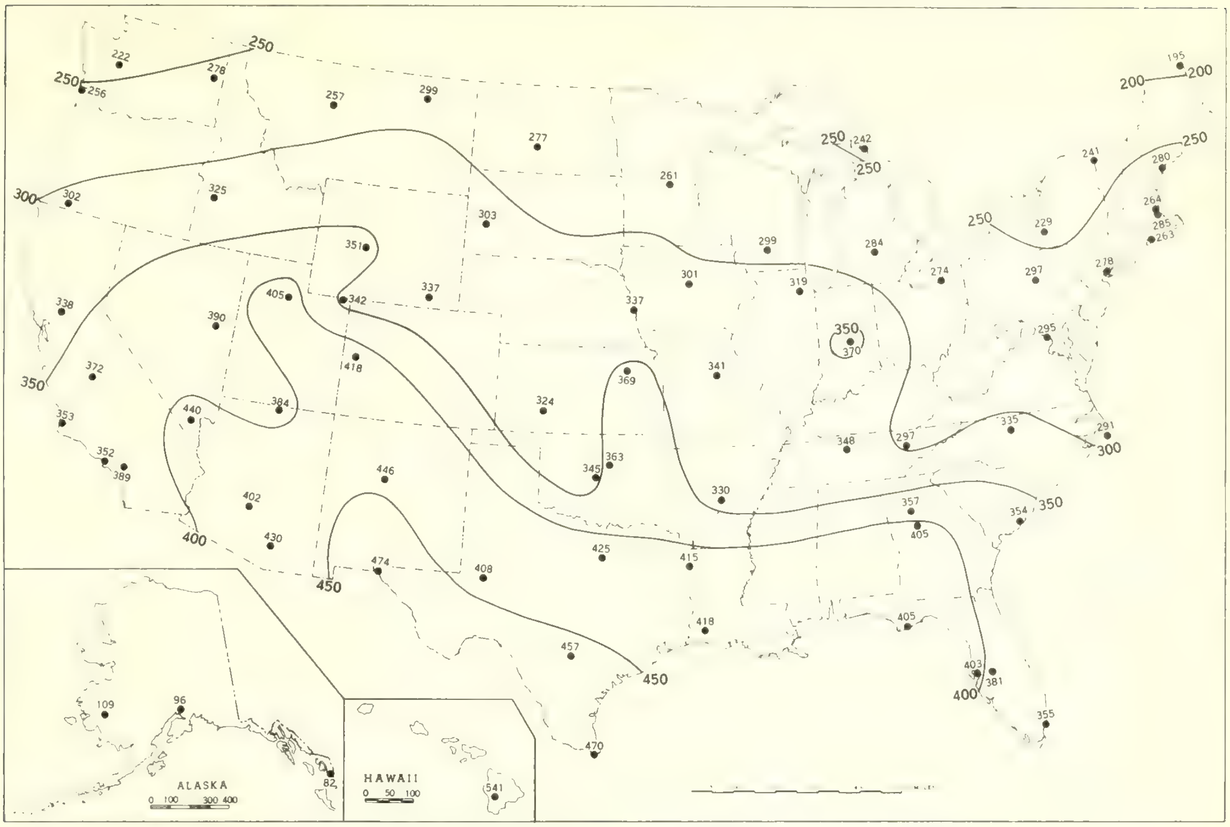


B. Percentage of Mean Monthly Sunshine, October 1964.

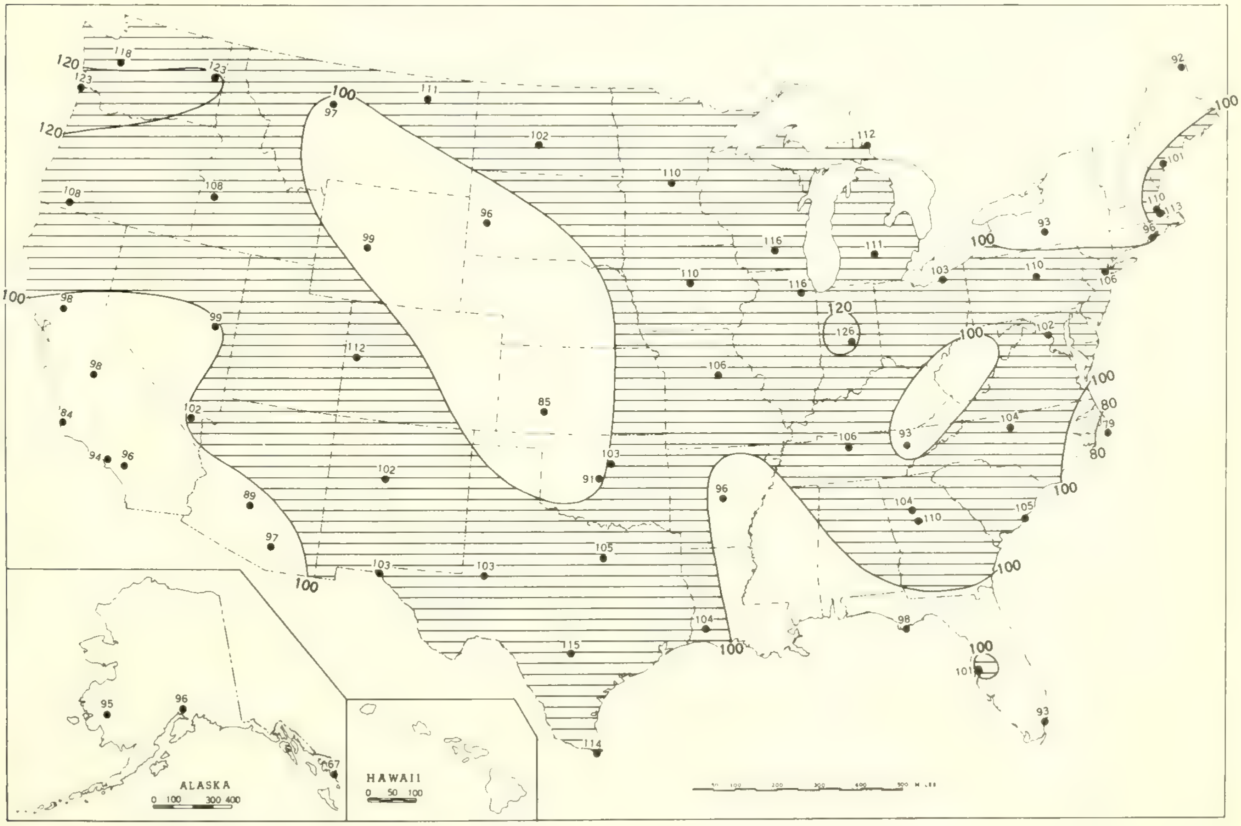


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, October 1964.

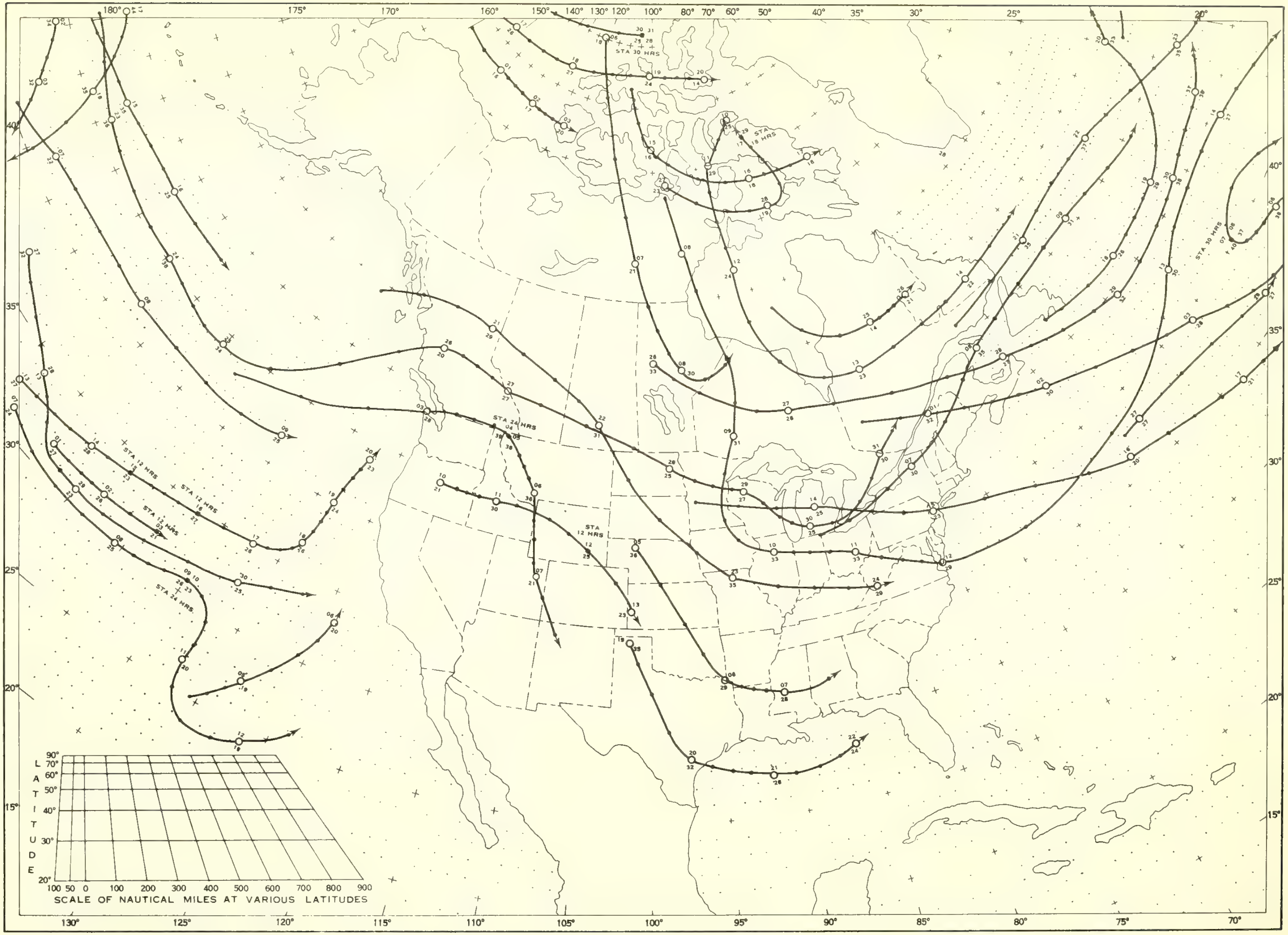


B. Percentage of Mean Daily Solar Radiation, October 1964.



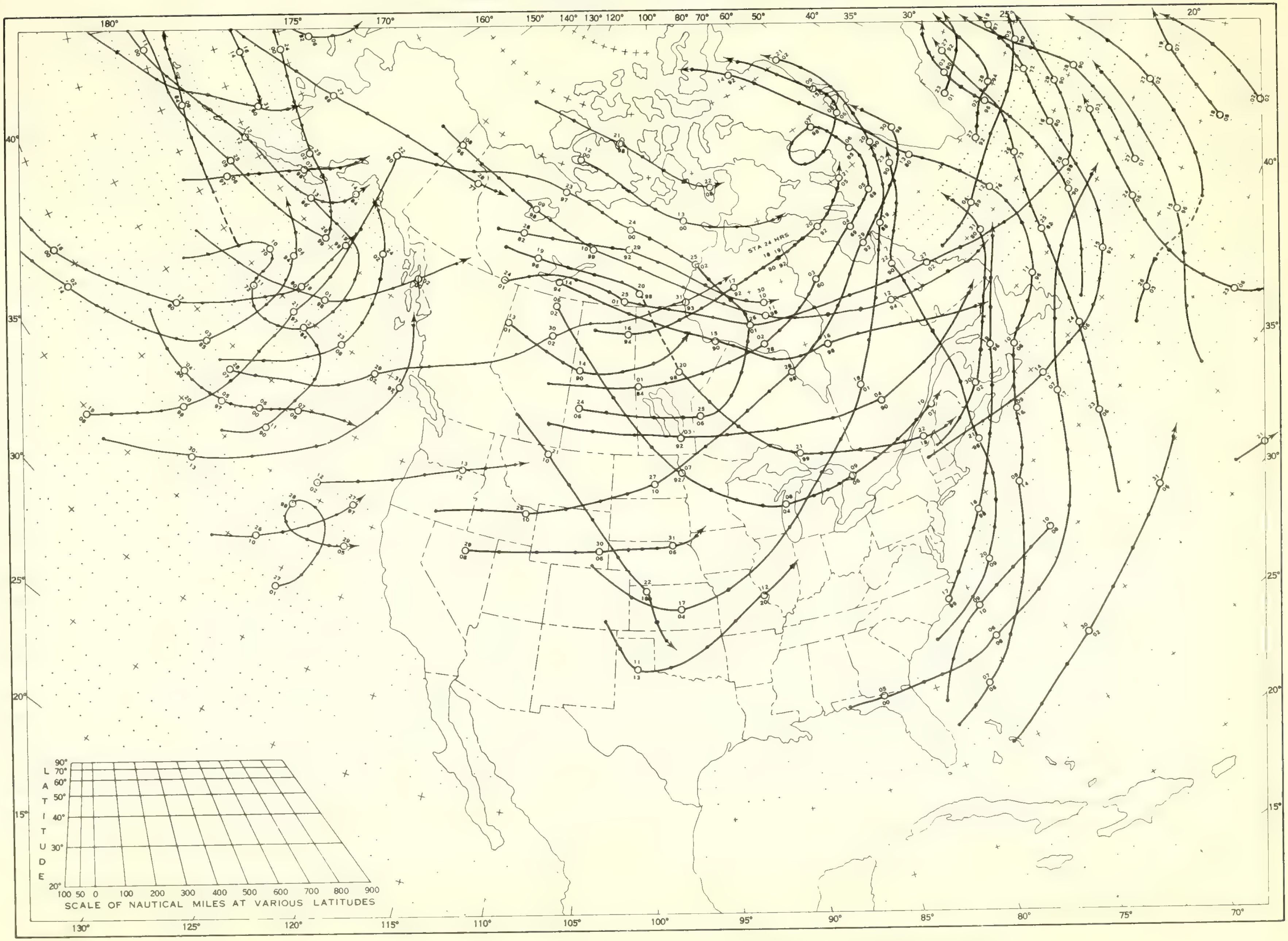
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, October 1964.



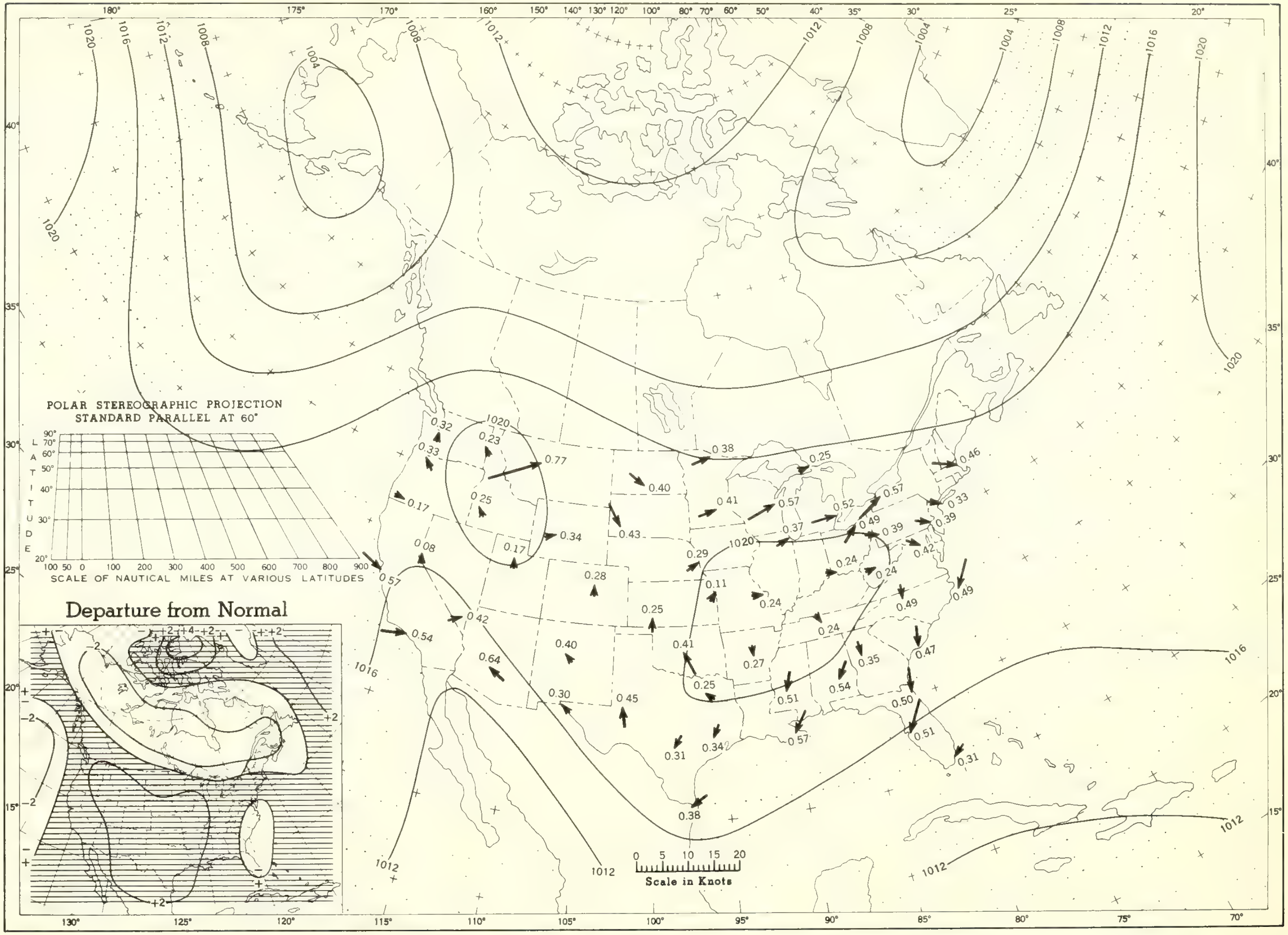
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, October 1964.



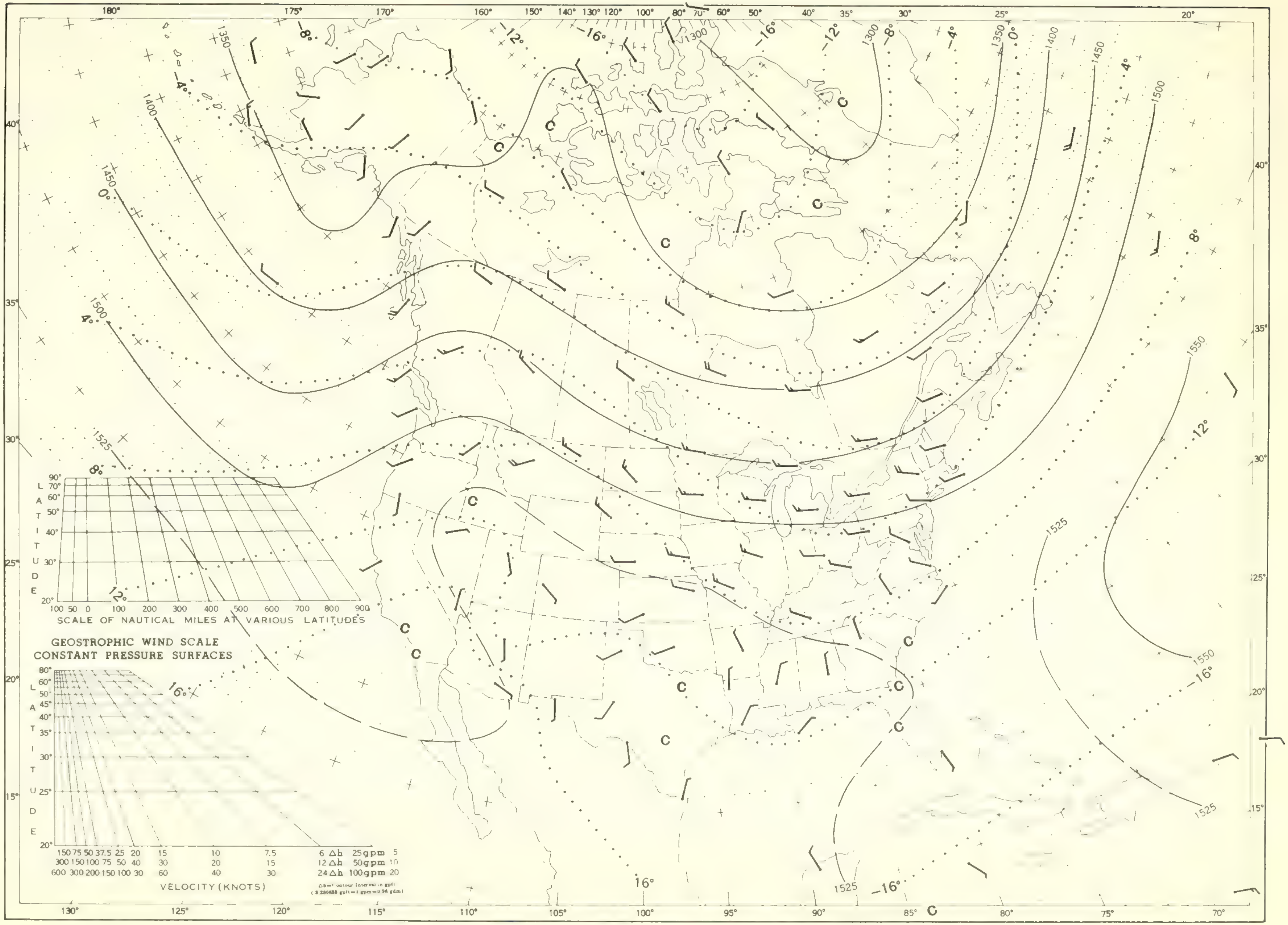
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, October 1964. Inset: Departure of Average Pressure (mb.) from Normal, October 1964.



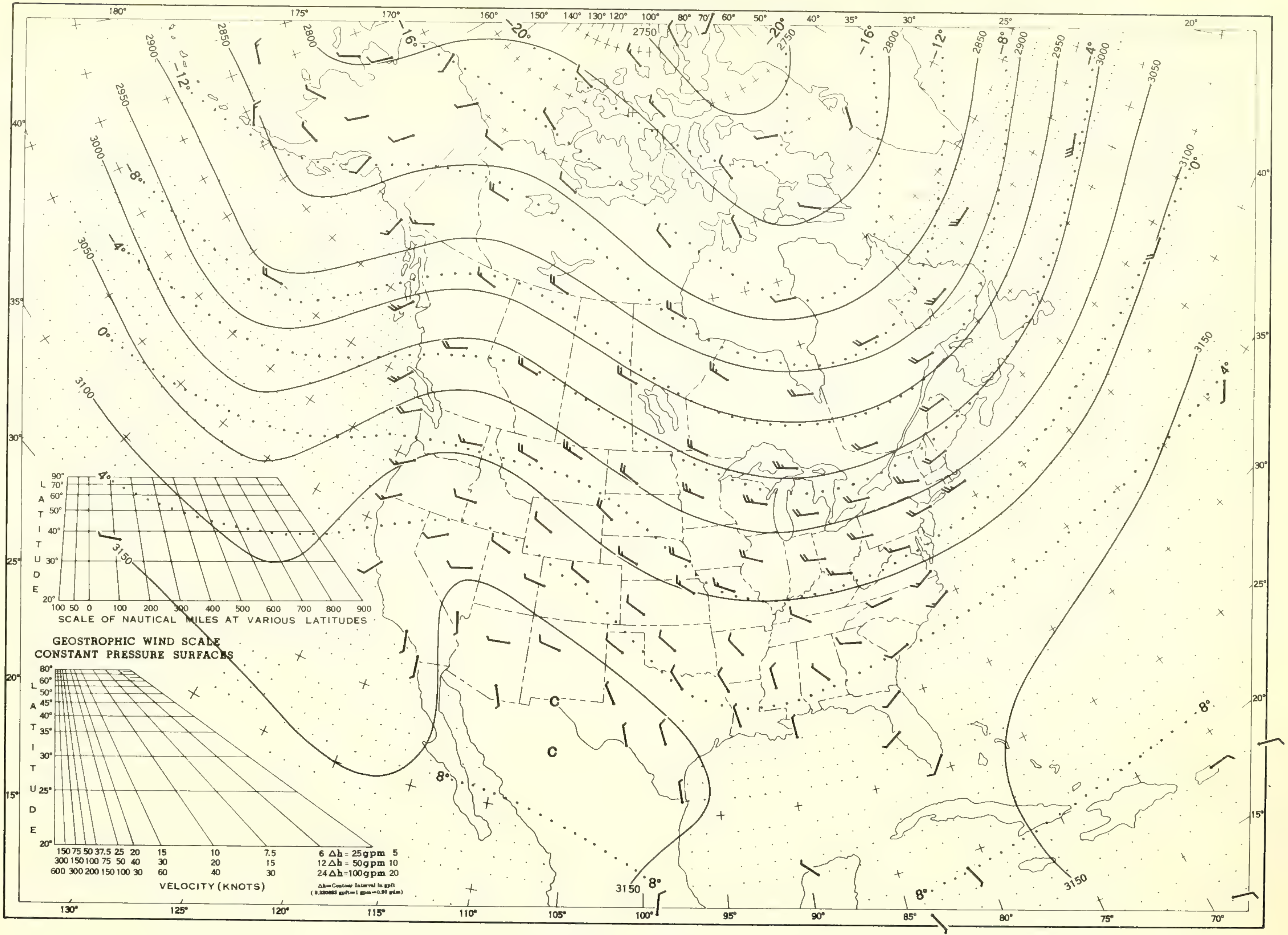
Average sea level pressures are obtained from the averages of 24 hourly readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, October 1964. Average Height and Temperature, and Resultant Winds.



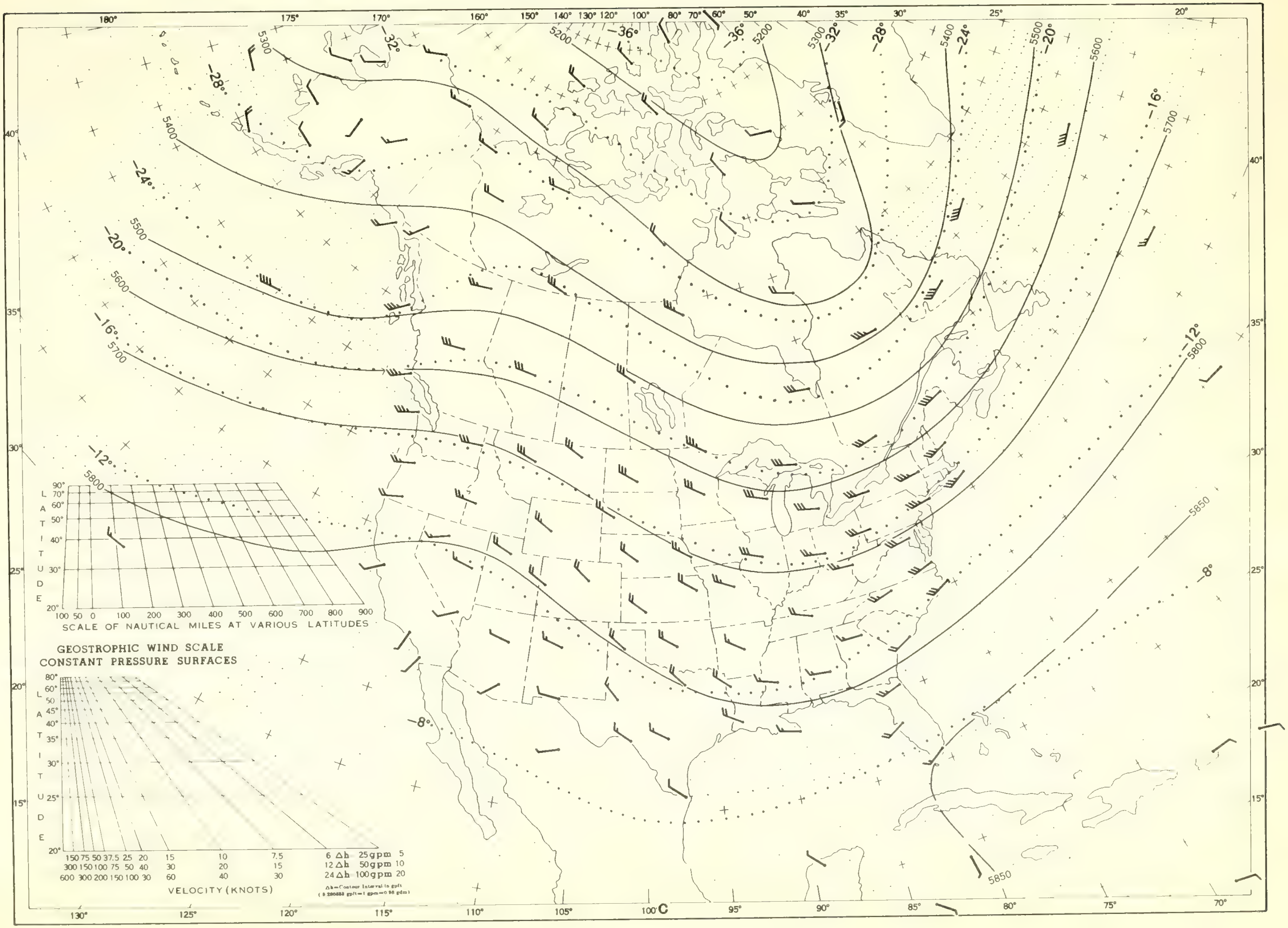
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, October 1964. Average Height and Temperature, and Resultant Winds.



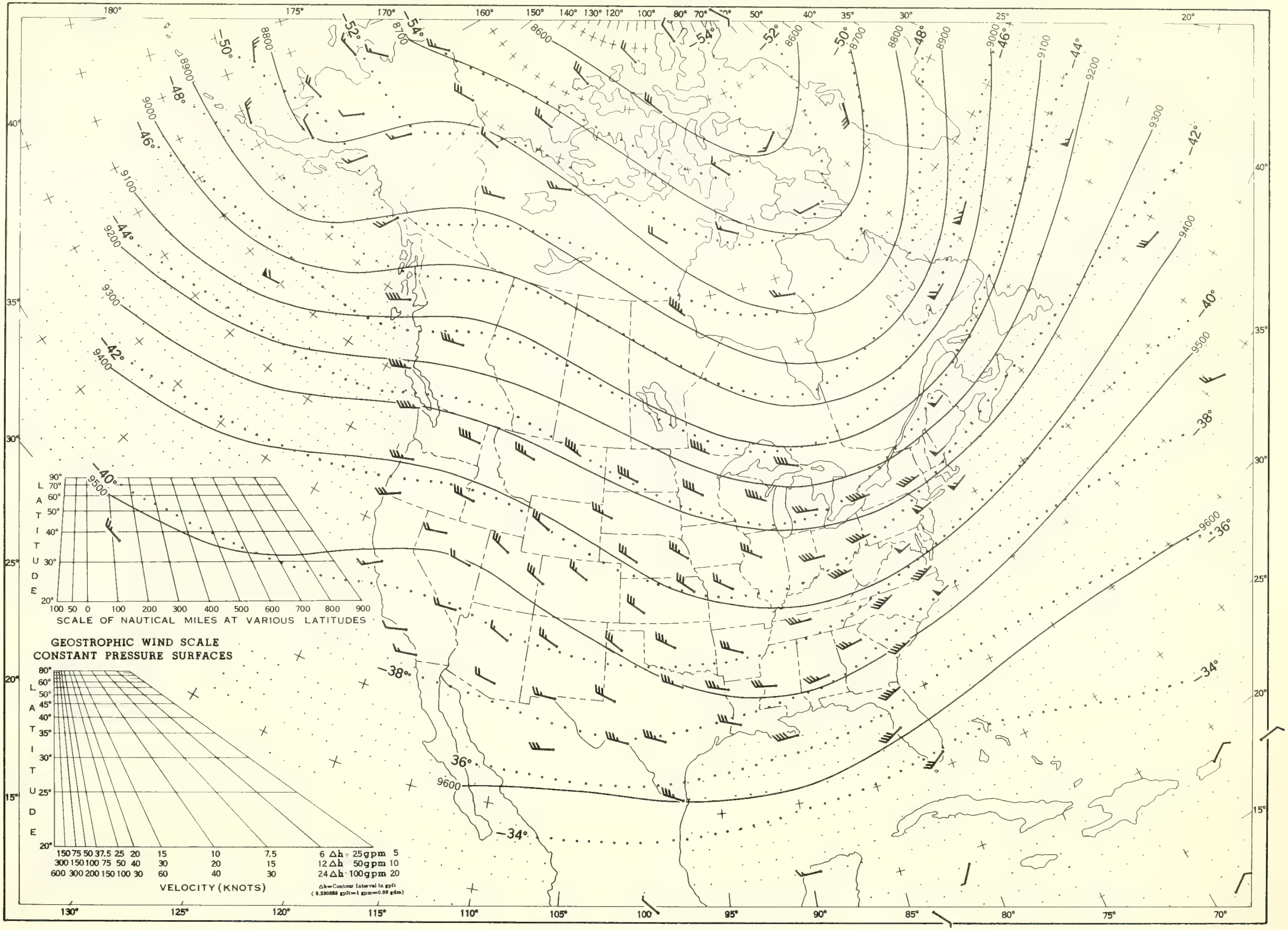
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, October 1964. Average Height and Temperature, and Resultant Winds.



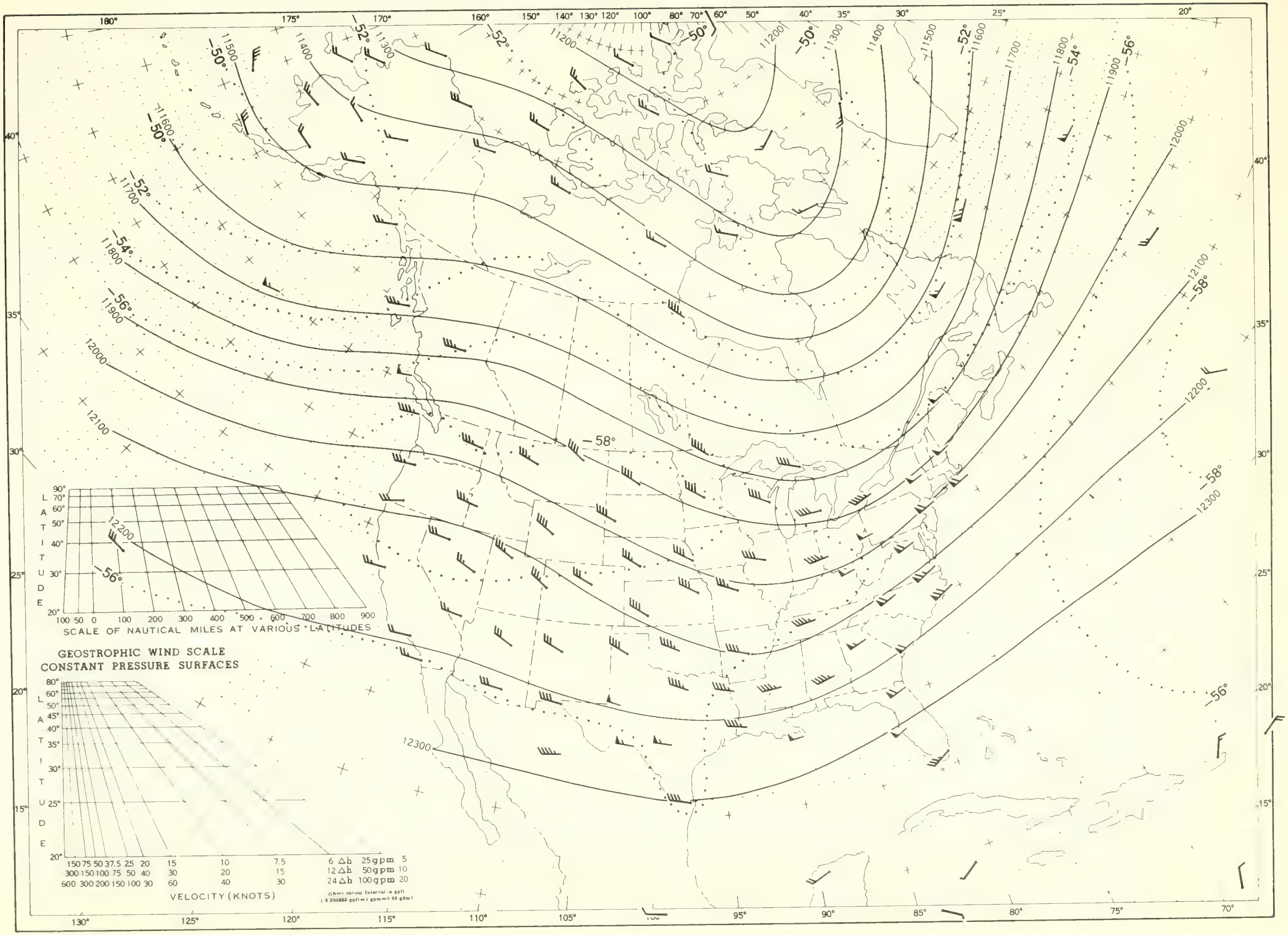
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, October 1964. Average Height and Temperature, and Resultant Winds.


8600
8700
8800
8900
9000
9100
9200
9300
9400
9500
9600
−54°
−52°
−50°
−48°
−46°
−44°
−42°
−40°
−38°
−36°
−34°
SCALE OF NAUTICAL MILES AT VARIOUS LATITUDES
100 50 0 100 200 300 400 500 600 700 800 900
LATITUDE
GEOSTROPHIC WIND SCALE
CONSTANT PRESSURE SURFACES
150 75 50 37.5 25 20 15 10 7.5 6 Δh = 25gpm 5
300 150 100 75 50 40 30 20 15 12 Δh 50gpm 10
600 300 200 150 100 30 60 40 30 24 Δh 100gpm 20
VELOCITY (KNOTS)
Δh=Contour Interval in gpft
(3.280833 gpft=1 gpm=0.98 gdm)

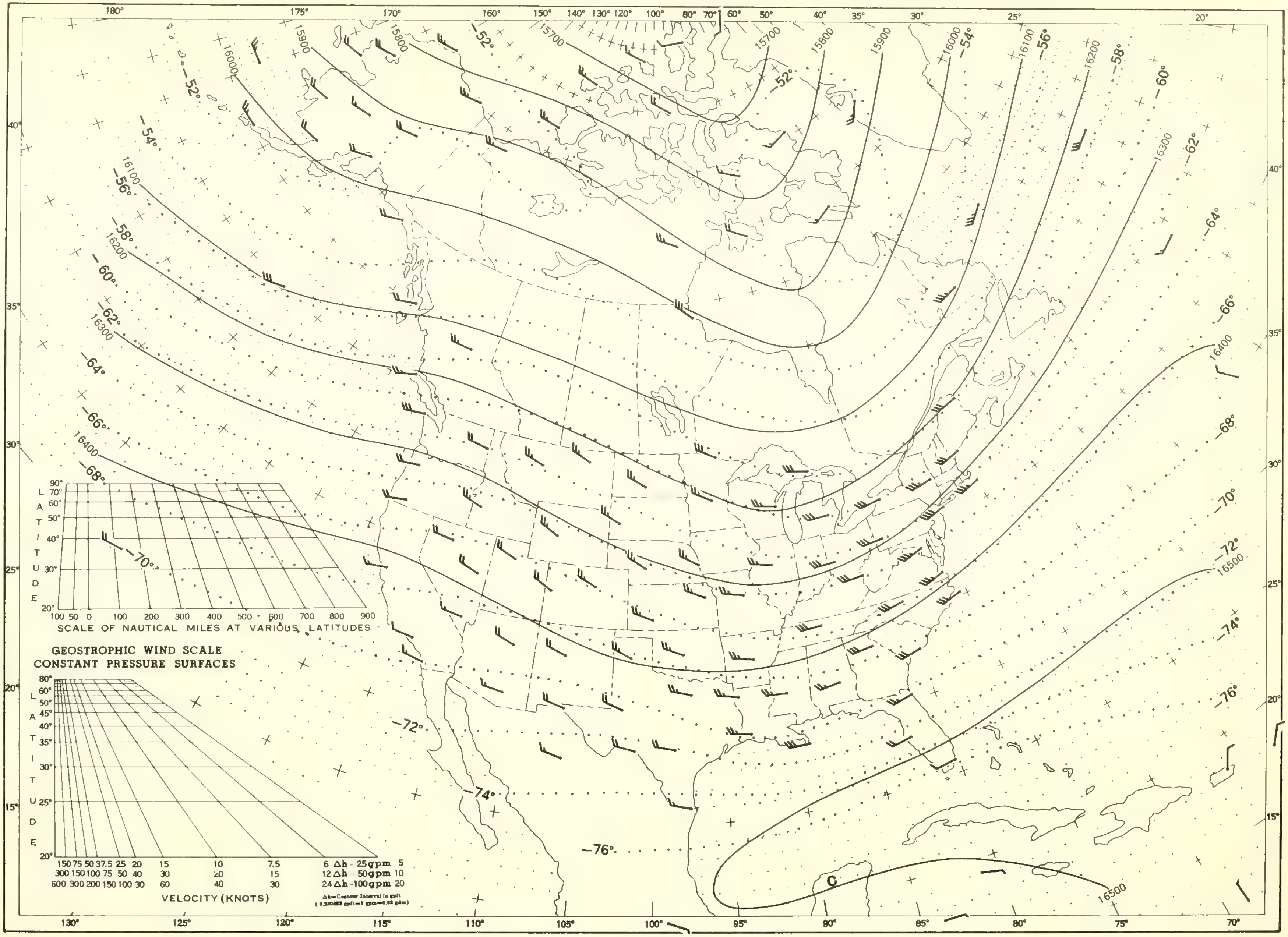
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, October 1964. Average Height and Temperature, and Resultant Winds.



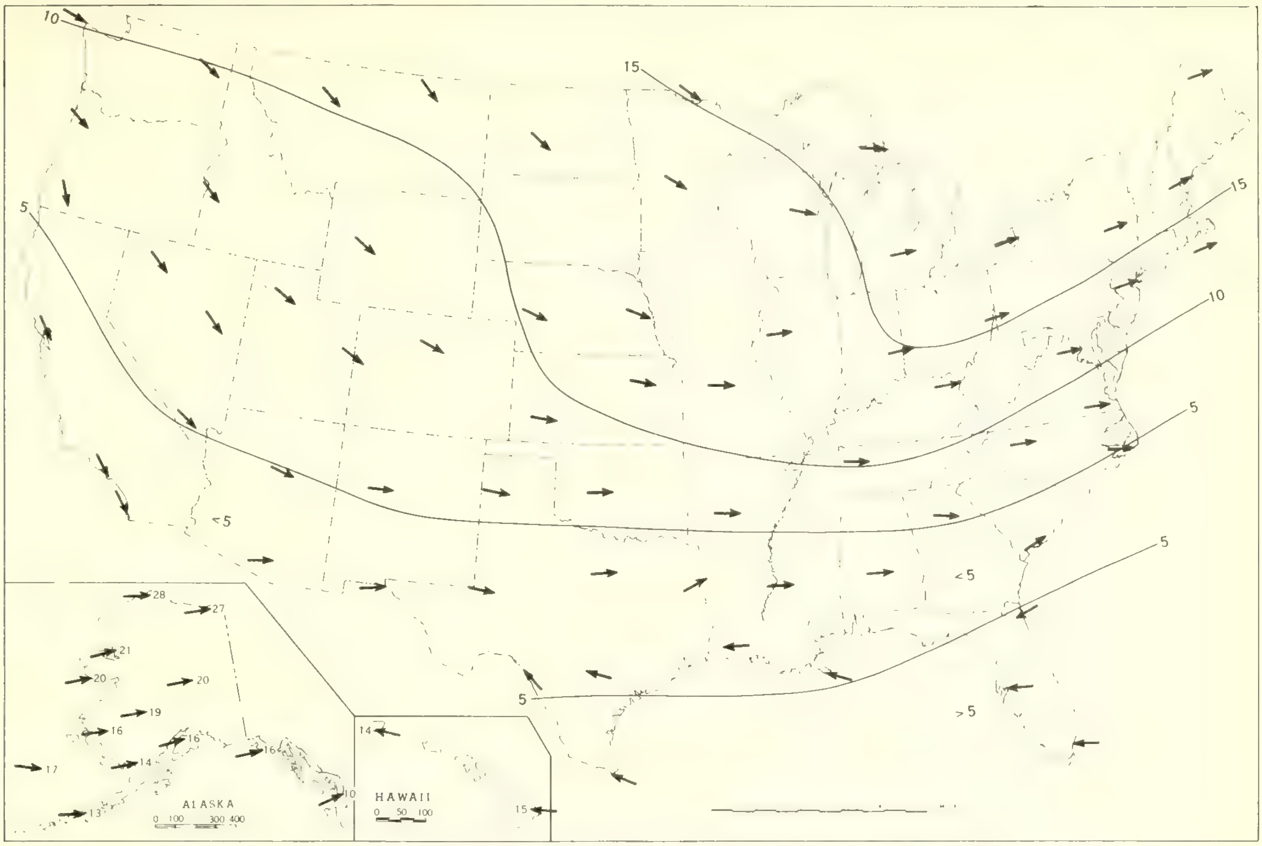
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, October 1964. Average Height and Temperature, and Resultant Winds.

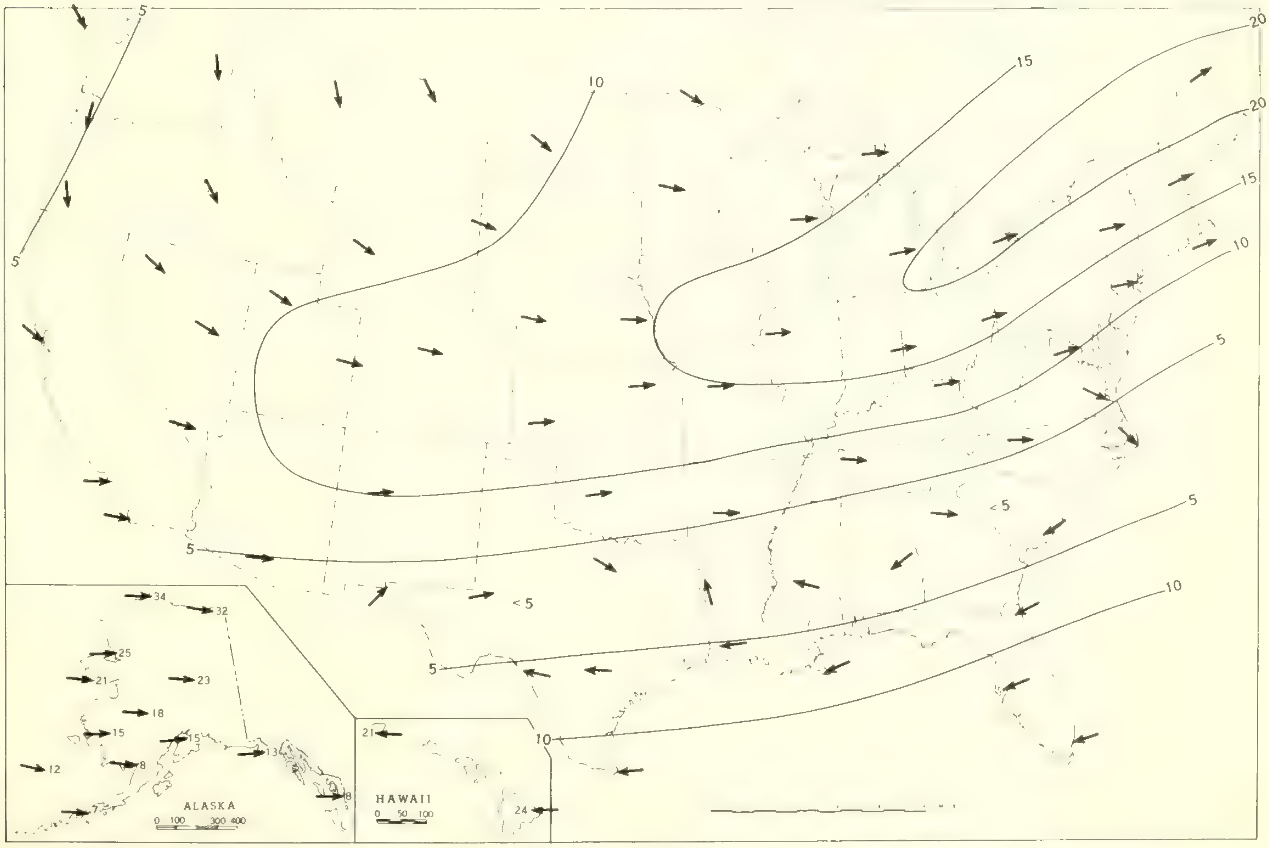


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, October 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, October 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

NOVEMBER 1964
Volume 15 No. 11

ASHEVILLE: 1965

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 11 NOVEMBER 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

Arctic air brought the coldest weather of the season to the northern Great Plains and ended the Indian Summer in the Northeast. Heavy rains fell along the coast of Washington and Oregon and over portions of the central Great Plains.

TEMPERATURE.--Mild temperatures prevailed over most of the Nation during the first week of November. Most of the northern and central Great Plains averaged more than 6° above normal. Many stations in the central Great Plains registered temperatures in the low 80's on November 2. Polar air pushed southward over the western States and by Friday, November 6, freezing temperatures occurred from Montana to western Texas. El Paso, Tex., registered 31° on the 6th. Abnormally cold weather persisted over the western States during the second week. The temperature at Ely, Nev., dropped to 15° below zero on Saturday morning, November 14. Warm air remained over central and eastern sections of the Country. Kansas City, Mo., registered 81° on the afternoon of the 14th. A wide area from northern Texas to the Red River of the North Valley and eastward to the Great Lakes averaged more than 10° warmer than normal during the second week of November. The polar air spread southward and eastward during the third week of November. Unseasonably cold weather occurred on Friday, November 20, with subzero temperatures over parts of the Great Basin, the northern Great Plains, and northern Maine. Freezing temperatures occurred over much of the Deep South. Birmingham, Ala., registered 20° Sunday morning, November 22. Arctic air maintained its grip over the northern Great Plains and spread eastward during the last week of November. Temperatures during the last week averaged 21° below normal at Glasgow, Mont. The cold intensified at the end of the month, dropping to 31° below zero at Valley City, N. Dak., on the 30th. Hard freezes occurred in portions of the Deep South. The western States warmed slightly during the final week, averaging above normal from the Pacific Ocean to the Continental Divide. A few stations in the West reported that November 1964 was one of the coldest Novembers in several decades. In contrast, it was one of the warmest in several decades at some central and eastern locations.

PRECIPITATION.--Generous rains fell along the Washington, Oregon, and northern California coast during the first, second, and last weeks of November. November totals exceed 10 inches over some of the coastal areas. More rain fell at Walla Walla, Wash., than in any other November in the past half century. Well-spaced thunderstorms produced generous showers over portions of the central Great Plains and the Southeast. Oklahoma City received more rain than in any other November in the past three decades. The rains during the last half of the month ended the long dry spell in the lower Ohio River Valley, reducing the fire hazard and replenishing soil moisture. Soil moisture, however, remained short over portions of the Atlantic States. For instance, November 1964 was one of the driest Novembers of record at Charleston, S. C. Central Florida averaged less than 1/2 inch of rain in November. Many areas in the South and East received rains during the last half of November but needed more moisture. Most of Nebraska and the southeastern two-thirds of South Dakota received less than half the normal November rainfall.

SNOW.--As maritime air poured into the Far Northwest, it produced rain along the coast and snow in the higher elevations. By the end of November, snow depths reached 30 to 45 inches above 3,000 feet in the Cascade Mountains in Washington. Snow accumulated to a few inches over the northern Great Plains and to 20 inches or more in portions of Michigan near Lake Superior and Lake Michigan.

CONDENSED CLIMATOLOGICAL SUMMARY

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	6 Stations	85	17+	Waterloo	9	22	Coden	5.74	Jacksonville 2SW	2.10
Alaska	Lincoln Rock Light Sta	60	17	Tok	-52	27	Little Port Walter	26.35	Wainwright	.03
Arizona	3 Stations	90	7+	Fort Valley	-16	17	Maverick	2.34	Kingman	.00
Arkansas	Greers Ferry Dam	89	16	2 Stations	6	30+	Mount Magazine	8.41	West Memphis	1.74
California	Indio U.S. Date Garden	93	1	Bodie	-25	18	Fort Dick 1NNE	21.19	Mojave 2ESE	.03
Colorado	Two Buttes 1NW	84	2	Antero Reservoir	-28	22	Wolf Creek Pass 1E	7.34	4 Stations	T
Connecticut	2 Stations	73	13	Coventry	4	23	Westbrook	3.92	Cream Hill	1.74
Delaware	Dover	75	12	Newark University Farm	15	23	Georgetown 5SW	2.19	Lewes 1SW	1.41
Florida	2 Stations	90	22+	2 Stations	30	22	Saint Augustine	9.51	2 Stations	.09
Georgia	do	89	18+	Blairsville Exp Sta	10	22	Kensington	4.53	Midville Exp Sta	.40
Hawaii	do	89	25+	Mauna Loa Slope Obs	25	9	Puohokamoa 2 343, Maui	49.20	Hualalai 72, Hawaii	.84
Idaho	do	70	7+	Stanley	-16	16	Moscow U of I	6.81	2 Stations	.32
Illinois	7 Stations	80	16+	Golden 1NW	-14	30	Pleasant Hill	5.61	Pontiac	.91
Indiana	Crane Naval Depot	81	3	Greensburg 3SW	-2	30	Rockville	D 4.62	Auburn 2SSE	.71
Iowa	2 Stations	80	2	Creston 2SW	-18	30	Sidney	3.15	Merrill 5W	.02
Kansas	Garden City FAA AP	84	2	2 Stations	-2	21	Wellington	10.74	St Francis 8NW	.06
Kentucky	Hickman 1E	82	15	do	4	22	Franklin 1E	6.10	Jeremiah	1.94
Louisiana	Donaldsonville	90	12	do	20	23+	Saint Joseph Exp Sta	12.18	Springhill 2S	1.30
Maine	Portland WBAP	67	13	Fort Kent	-13	23	Gilead	5.74	Presque Isle	1.68
Maryland	La Plata 1W	78	13	Bittinger 2NW	5	22	Shallmar	4.30	Boyds 2NW	.61
Massachusetts	Springfield Armory	72	13	2 Stations	8	23	West Medway	4.01	Chatham Lt Sta	.41
Michigan	Rogers City	77	4	Crystal Falls 6NE	-16	30	Benton Harbor Airport	4.70	Pontiac State Hospital	.54
Minnesota	Winona	76	4	Bigfork	-35	30	Duluth Harbor Station	3.07	Campbell	.07
Mississippi	Collins	89	13	University	12	22	Port Gibson	12.03	Yazoo City 5NNE	2.90
Missouri	2 Stations	85	2	Memphis	-13	30	Bowling Green	7.38	Mercer 6NW	.65
Montana	3 Stations	74	5+	Lonesome Lake	-38	29	Heron 2NW	5.86	2 Stations	.04
Nebraska	Tecumseh	82	2	Ellsmere 9ENE	-22	30	Wymore 2N	2.39	3 Stations	.00
Nevada	Sunrise Manor Las Vegas	81	1	Midas 4SE	-22	18	Mt Rose Highway Sta	5.50	Imlay	.06
New Hampshire	2 Stations	70	14+	Colebrook	-1	19	Pinkham Notch	5.63	Surry Mountain Dam	1.84
New Jersey	do	76	14+	Layton 2	7	23	Milton	3.62	Cape May 3W	1.05
New Mexico	Potash Mine	87	1	2 Stations	-10	21+	Lake Maloya	3.95	19 Stations	.00
New York	Poughkeepsie	75	13	do	-1	23	Hooker 4N	5.71	Burdett 1NE	.92
North Carolina	Mount Gilead 4W	84	13	Celo 2S	5	22	Lake Toxaway 2SW	5.47	Carthage 1SSE	.66
North Dakota	Washburn	73	7	Moffit 4SE	-34	29	Fairfield	1.65	Arvilla	.07
Ohio	Toledo Blade	80	5+	Tom Jenkins Dam	0	22	Racine Dam 23	4.57	Sandusky	.68
Oklahoma	Tribbey	86	3	2 Stations	9	30	Garber	10.40	Kenton	1.31
Oregon	Grants Pass	71	3	Fremont	-11	15	Valsetz	25.27	Rome 2NW	.29
Pennsylvania	West Chester	78	16	Karthaus	0	24+	Donegal	4.57	Rew	.65
Puerto Rico	4 Stations	94	16+	Cayey 1E	54	29	Maricao	9.88	2 Stations	.00
Rhode Island	Providence WBAP	70	13	Kingston	11	23	Greenville	4.26	Block Island WBAP	1.29
South Carolina	McClellanville	88	18	Chester 2WSW	15	23	Caesars Head	5.59	Marion	.35
South Dakota	Wagner	82	2	Highmore 25N	-28	30	Deadwood	2.18	13 Stations	T
Tennessee	Brownsville	84	15	Mountain City 2	6	22	Lafayette	D 6.13	Newport	1.87
Texas	3 Stations	93	15+	2 Stations	12	30	Forestburg 4S	10.22	24 Stations	.00
Utah	2 Stations	78	7	Panguitch	-20	17	Silver Lake Brighton	D 7.89	Partoun	.10
Vermont	do	71	14+	West Burke	-7	23	Union Village Dam	3.74	Bennington 2NNW	1.31
Virginia	do	83	16	2 Stations	5	22	Montebello 3NE	5.45	McDowell	.82
Washington	do	68	2+	Chesaw 4NNW	5	29+	Quinault River RS	23.35	Yakima WBAP	.70
West Virginia	do	80	3	2 Stations	3	22	Rowlesburg 1	5.07	Wardensville R M Farm	1.40
Wisconsin	Lone Rock FAA AP	78	3	Foxboro	-29	30	Big Saint Germain Dam	4.66	Lynxville Dam 9	.61
Wyoming	3 Stations	75	8	Bondurant 3NW	-23	15	Bondurant 3NW	3.22	Jay Em 2S	.00

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	996.1	1021.8	67	44	55.3	2.0	79	15	20	22	0	4	46	75	3.24	-0.29	2.01	6	1	0.0	0	6.5	9	34	SW	19	9	10	11	5.6	64
HUNTSVILLE	600	997.9	1021.4	63	41	52.0	1.2	77	15+	17	22	0	6	43	74	4.00	0.35	2.06	8	1	T	T	6.2	34	38*	22	19	9	11	10	5.3	
MOBILE	211	1017.9	1020.3	72	51	61.1	2.2	81	19+	29	30+	0	2	52	79	3.73	0.38	1.76	7	2	0.0	0	9.7	6	25*	2	30+	9	11	10	5.2	
MONTGOMERY	195	1013.0	1021.2	69	46	57.5	3.3	81	18	26	30	0	2	48	75	3.46	0.44	1.97	5	3	0.0	0	6.5	6	25	SW	19	10	13	7	5.2	59
ALASKA												B																				
ANCHORAGE	143	1001.1	1006.2	28	15	21.3		44	17	-14	27	0	30	13	71	2.71		1.66	8	0	25.8	15	8.7	1	26*	36	23	9	6	15	6.1	47
ANNETTE	110	1006.5	1010.6	40	33	36.4	-4.0	49	17	15	28	0	13	31	83	9.87	-4.78	2.27	22	1	1.6	1	10.2	11	32*	14	8	0	2	28	9.5	
BARROW	22	1018.3	1019.0	4	-7	-1.5	-0.8	28	19	-28	28	0	30	-8	74	0.29	0.06	0.04	13	0	3.3	11	15.1	8	40*	11	17	V1	V2	V15	8.7	
BARTER ISLAND	39	1016.2	1018.2	7	-5	.6	0.4	28	19	-24	27+	0	30	-5	75	0.28	-0.12	0.09	9	0	2.9	10	15.0	7	46*	26	24	X0	X2	X21	9.6	
BETHEL	125	1006.6	1008.1	19	5	11.9	-5.3	38	16	-12	28	0	29	8	83	0.66	-0.40	0.26	12	0	6.6	11	14.6	3	55*	18	14	8	3	19	6.8	
COLD BAY	94	999.4	1004.7	38	28	32.9	-1.5	50	7	11	29	0	20	27	78	3.71	-0.08	0.93	21	0	16.2	10	17.0	25	59*	11	16	6	6	18	6.7	
FAIRBANKS	436	995.3	1013.4	12	-7	2.4	-1.5	39	17	-43	27	0	30	-1	86	0.86	0.26	0.47	9	0	18.1	13	3.8	36	15*	20	14+	7	6	17	6.5	
JUNEAU	12	1009.4	1010.6	37	27	32.1	-2.2	52	15	1	29	0	18	26	81	4.89	-1.17	1.34	19	0	3.1	1	11.2	12	36*	12	5	3	2	25	8.5	22
KING SALMON	43	1005.1		28	14	21.3	-0.7	42	1	-6	28+	0	28	14	72	1.41	-0.05	0.53	8	0	7.2	3	12.8	36	54*	9	16	14	2	14	5.2	
KOTZEBUE	10	1012.3	1012.9	15	1	7.8	0.4	32	18+	-25	11+	0	30	3	76	0.58	0.22	0.18	10	0	17.1	21	12.7	10	43*	13	15	8	1	21	7.1	
MC GRATH	334	997.4	1010.9	14	-2	5.9	0.6	37	17+	-34	30	0	30	-0	73	0.77	-0.31	0.36	7	0	15.3	14	5.5	33	26*	16	15+	9	3	18	6.5	
NOME	13	1009.2	1010.0	21	8	14.7	-1.8	35	16	-13	28	0	30	9	78	0.42	-0.74	0.16	8	0	5.2	4	11.4	7	46*	6	29	7	1	22	7.4	19
ST. PAUL ISLAND	22	1004.6	1005.8	36	27	31.3	-1.6	42	7	18	29	0	25	28	84	3.84	1.34	1.49	19	0	27.3	18	20.8	6	82*	35	16	3	1	26	8.4	
SHEMYA	122	1006.0	1009.8	37	31	34.3	-1.5	47	6	22	15	0	16	29	81	4.24	1.52	1.74	23	0	6.7	2	25.1	12	62*	21	6	0	5	25	8.8	
YAKUTAT	28	1007.0	1008.2	35	24	29.2	-4.6	43	20+	1	27	0	24	24	82	16.58	0.55	2.67	19	0	41.2	11	6.7	9	29*	15	14	2	5	23	8.4	
ARIZONA																																
FLAGSTAFF	6993	789.9	1019.9	47	16	31.3	-4.8	68	6	-10	17	0	30	17	61	1.27	0.27	0.84	6	0	14.3	10	7.5	18	32*	2	3	12	13	5	5.0	
PHOENIX	1117	977.2	1016.9	69	42	55.5	-2.6	84	7	32	17	0	1	34	50	0.35	-0.14	0.21	2	0	0.0	0	5.8	12	30Y	SSE	15	14	10	6	4.1	81
PRESCOTT	5014	847.8	1019.0	55	27	41.1	-4.6	75	6	6	17	0	19	23	55	0.48	-0.02	0.41	3	0	8.0	8	7.5	19	56	SW	13	15	8	7	3.9	81
TUCSON	2584	927.3	1016.2	69	42	55.2	-2.9	85	7	31	20	0	2	32	48	0.68	0.06	0.44	5	0	0.1	T	8.8	12	30	SE	15	19	7	4	3.0	84
WINSLOW	4880	853.4	1020.9	54	25	39.4	-1.9	74	8+	10	16	0	25	21	56	0.33	-0.03	0.28	5	0	2.9	3	7.1	23	46*	22	13	12	8	10	4.4	
YUMA	194	1011.8	1017.1	72	46	58.9	-5.0	85	5	33	16	0	0	35	45	0.22	0.10	0.20	2	0	0.0	0	7.6	36	33	NW	23	17	4	9	3.5	86
ARKANSAS																																
FORT SMITH	449	1002.4	1019.7	68	41	54.1	4.1	82	15+	17	22	0	10	41	69	4.16	0.98	1.76	5	1	0.0	0	7.1	7	28	W	27	12	5	13	5.3	60
LITTLE ROCK	257	1007.3	1020.7	67	41	54.0	4.5	85	15	17	23+	0	8	45	74	3.70	-0.42	1.86	7	2	0.0	0	6.5	24	30	S	27	10	8	12	5.3	53
TEXARKANA	372	989.5	1020.1	70	47	58.4	4.7	83	15	22	22	0	5	46	69	3.51	-0.82	1.89	8	4	0.0	0	7.0	18								
CALIFORNIA																																
BAKERSFIELD	494	1002.0	1019.9	62	41	51.2	-4.7	77	4	30	15	0	3	40	70	0.46	-0.03	0.18	4	0	0.0	0	6.7	12	23*	30	10+	11	8	11	5.2	
BISHOP	4108	875.8		58	26	41.8	-4.0	70	29+	10	18	0	26			0.22	-0.31	0.20	3	0	3.9	4						10	13	7	4.9	
BLUE CANYON	5280	837.0		45	31	38.3	-7.4	65	29	18	14	0	18			13.91	7.16	2.76	15	0	38.2	26	9.0		38*	20	11	10	4	16	6.5	
BURBANK	724	991.5	1017.6	68	45	56.3	-4.1	85	30+	34	19+	0	0	39	59	1.74	0.69	1.07	6	0	T	T	6.3	36	22*	3	17	17	5	8	4.3	
EUREKA U	43	1016.2		56	44	50.0	-1.2	64	29	30	15	0	3			12.11	7.50	2.67	17	2	0.0	0	6.4	SE#	33	W	10	8	3	19	6.8	47
FRESNO	328	1007.8	1019.9	62	41	51.2	-2.6	74	7	29	20+	0	5	44	80	1.49	0.54	0.67	8	0	0.0	0	5.7	13	24	NW	12+	11	7	12	5.5	69
LONG BEACH	34	1016.6	1018.1	67	45	56.1	-5.1	84	29	35	19+	0	0	41	62	1.26	0.23	0.69	5	0	0.0	0	6.4	28	24*	34	14	12	8	10	4.6	
LOS ANGELES	97	1014.4	1018.2	68	49	58.9	-2.2	86	30	38	19	0	0	43	62	1.07	-0.02	0.49	6	0	0.0	0	8.6	26	41Y	S	9	12	10	8	4.4	
MT SHASTA R	3544	893.5		47	29	37.9	-3.9	66	6	15	17	0	18			6.10	2.13	2.48	14	0	17.5	11						8	5	17	6.4	
OAKLAND	6	1019.1	1019.5	59	48	53.4	-1.3	67	6	37	19+	0	0	44	72	3.23	1.50	0.99	13	0	0.0	0	8.4	18	26*	18	10+	8	11	11	6.0	
RED BLUFF	341	1006.2	1019.2	59	42	50.3	-4.2	77	5	29	19	0	6	40	71	4.82	2.53	1.76	11	0	0.0	0	8.4	35	42	S	10	10	3	17	6.3	57
SACRAMENTO	17	1018.6	1020.0	59	42	50.3	-2.6	71	5	30	20+	0	5	42	76	2.70	1.25	0.83	11	0	0.0	0	7.2	14	27	SE	11	7	8	15	6.7	58
SACRAMENTO U	19			59	44	51.6	-2.6	74	5	34	20+	0	0			2.64	1.10	0.74	12		0.0	0										
SAN DIEGO	13	1014.4	1017.7	69	49	59.1	-2.7	86	6	38	20+	0	0	44	63	1.01	0.11	0.35	7	0	0.0	0	5.9	30	23	NW	13	14	9	7	4.0	77
SAN FRANCISCO	8	1019.0	1019.8	58	45	51.6	-3.2	69	5	35	21+	0	0	43	76	3.32	1.75	1.38	12	0	0.0	0	8.5	30	37	S	10	8	8	14	6.2	
SAN FRANCISCO U	52			60	50	55.3	-2.1	74	5	44	20+	0	0			3.99	1.99	0.97	14	0	0.0	0	7.0	N#	34	SW	10					62
SANTA CATALINA	1568	961.8		63	52	57.4	-3.1	82	30	39	17	0	0			1.37	0.26	0.68	7	2	T							12	9	9	4.7	
SANTA MARIA	238	1010.6		64	39	51.6	-4.5	82	6	28	21+	0	6			2.43	1.41	1.10	8	0	0.0	0						13	10	7	4.1	
STOCKTON	22	1018.6	1020.1	58	41	49.6	-3.4	69	8	26	20	0	6	43	81	2.55	1.38	0.74	13	0	0.0	0	7.9	12	27*	35	15	5	8	17	7.0	
COLORADO																																
ALAMOSA	7536	771.0		43	9	25.9	-3.6	64	8+	-14	20	0	30			0.80	0.51	0.59	6	0	13.6	6						16	8	6	4.1	
COLORADO SPRINGS	6145	809.4	1017.5	50	26	38.4	0.9	74	8	14	19	0	22	17	49	0.46	0.06	0.37	4	0	4.9	5	10.9	2	41*	29	12	10	9	11	5.3	
DENVER	5283	836.1	1015.6	52	28	40.0	2.3	74	8	19	28+	0	24	19	50	0.88	0.19	0.47	8	0	6.0	5	8.2	19	28	NW	25+	10	8	12	5.5	65

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
GRAND JUNCTION	4855	861.1	1019.9	48	28	38.1	- 0.7	67	8	18	22+	0	24	23	61	1.05	0.47	0.42	9	1	12.1	2	6.3	13	36	S	13	10	6	14	5.7	53
PUEBLO	4684	856.2	1017.1	57	27	41.6	1.6	78	8	14	28	0	23	22	51	0.26	- 0.27	0.24	2	0	2.9	2	10.6	30	44	N	3	13	7	10	5.0	71
CONNECTICUT																																
BRIDGEPORT	7	1018.1	1019.0	55	38	46.0	1.5	67	13	21	22	0	7	36	69	1.90	- 2.12	0.80	8	0	0.0	0	12.6	29	58*	14	26	13	4	13	5.4	
HARTFORD	169	1011.9	1018.1	54	32	43.3	2.0	73	13	14	23	0	16	31	66	2.20	- 1.64	0.91	8	1	T	T	7.8	36	33	NW	17	11	6	13	6.1	61
NEW HAVEN	6	1018.1		54	35	44.8	1.4	67	13	18	23	0	13			2.21	- 1.84	0.88	8	0	0.0	0	7.7		31	E	26	12	5	13	5.5	65
DELAWARE																																
WILMINGTON	78	1015.9	1019.2	59	36	47.6	2.2	72	13	17	23+	0	6	36	66	1.62	- 1.91	1.22	6	0	T	T	8.6	29	28*	18	20	13	9	8	4.6	
DIST.OF COLUMBIA																																
WASHINGTON U	72			61	41	50.9		75	13+	24	22	0	5			1.40																
WASH NATL AP	14	1015.0	1019.3	62	40	51.0	3.3	77	13	22	22	0	5	36	61	1.42	- 1.42	1.01	6	0	0.2	T	7.7	32	31	NNW	30	11	10	9	5.2	55
FLORIDA																																
APALACHICOLA U	13	1018.1		72	57	64.6	3.3	80	17	38	30	0	0			2.18	- 0.40	1.18	6	2	0.0	0	6.7					14	10	6	3.8	53
DAYTONA BEACH	31	1018.2	1019.9	77	59	67.9	2.6	85	20	44	30	0	0	61	82	3.13	0.80	1.55	8	2	0.0	0	8.3	36	25*	36	3	11	9	10	5.2	
FORT MYERS	15	1017.8		82	62	72.2	3.0	87	15	51	30	0	0			0.22	- 0.98	0.12	4	1	0.0	0	7.8		23*	3	22+	6	15	9	5.7	
JACKSONVILLE	24	1017.9	1019.7	74	55	64.9	3.2	84	20	39	30	0	0	56	78	3.33	1.64	1.99	12	1	0.0	0	9.2	36	37	NW	30	9	8	13	5.6	51
KEY WEST	4	1016.7	1017.8	82	73	77.0	2.9	88	21	69	30+	0	0	69	79	1.09	- 1.71	0.51	8	1	0.0	0	12.0	5	28	N	30	8	12	10	5.5	60
LAKELAND U	214			79	61	69.6	2.7	86	28	42	30	0	0			0.34	- 1.25	0.30	3	1	0.0	0	6.9					10	11	9	5.3	63
MIAMI BEACH	9			79	71	75.2	1.4	82	18	60	30	0	0			0.80	- 1.73				0.0	0	12.6									
MIAMI	7	1016.8	1018.1	81	69	74.9	2.5	83	28+	58	30	0	0	66	76	3.00	0.17	1.42	7	2	0.0	0	8.5	8	25*	8	4	7	12	11	6.1	
ORLANDO	108	1015.1	1019.7	79	62	70.5	4.6	85	20+	46	30	0	0	61	76	0.45	- 1.12	0.35	3	1	0.0	0	8.5	36	25*	23	25	10	11	9	5.5	
PENSACOLA	112			71	53	62.3	0.0	81	4	31	30	0	1			4.19	0.95				0.0	0	7.7	36	37	NW	30					
TALLAHASSEE	58	1018.1	1020.7	74	47	60.6	1.4	83	17+	34	30	0	0	52	77	3.87	1.43	1.95	7	1	0.0	0	7.9	36	30*	36	30	12	11	7	4.9	
TAMPA	19	1017.3	1019.0	78	57	67.7	0.9	86	15+	41	30	0	0	59	78	0.38	- 1.08	0.17	4	0	0.0	0	10.8	36	30*	32	30	10	11	9	5.6	47
WEST PALM BEACH	15	1017.4	1018.5	81	65	72.7	0.2	85	20	56	30	0	0	65	79	5.76	2.90	4.51	9	2	0.0	0	8.7	7	32*	8	15	4	11	15	6.7	
GEORGIA																																
ATHENS	802	991.9	1021.2	68	44	56.0	4.5	80	17	22	30	0	4	44	70	2.52	- 0.41	1.74	6	0	0.0	0	7.9	5	24*	31	30	14	9	7	4.1	
ATLANTA	1005	978.9	1021.4	66	45	55.6	4.5	78	17	22	30+	0	4	44	71	3.11	0.15	1.86	7	1	0.0	0	7.8	6	35	NW	30	14	8	8	4.4	69
AUGUSTA	143	1013.4	1020.5	73	44	58.3	4.2	86	17	25	23	0	3	45	71	1.24	- 0.94	0.72	5	0	0.0	0	6.8	36	25*	32	30	13	7	10	4.6	
COLUMBUS	385	1006.7		71	46	58.4	4.3	83	18	29	30+	0	2			2.08	- 0.51	0.94	7	1	0.0	0	5.4		23*	30	19	10	8	12	5.1	
MACON	354	1007.4	1021.2	71	44	57.7	2.3	85	17	28	30	0	2	47	75	1.85	- 0.60	0.99	6	1	0.0	0	7.0	3	30	NW	30	14	6	10	4.6	65
ROME	637	998.2		67	39	52.9	3.7	79	14	18	22	0	7			3.14	- 0.28	2.12	7	0	0.0	0										
SAVANNAH	46	1018.0	1020.6	73	48	60.1	2.8	85	17	32	30	0	1	49	71	2.90	0.85	2.33	5	0	0.0	0	7.5	2	29	NW	30	12	8	10	4.9	69
HAWAII																																
HILO	31	1013.4	1015.4	81	65	72.7	- 0.5	86	26+	60	18	0	0	66	81	23.39	10.02	6.02	18	3	0.0	0	8.6	23	29*	12	24	7	11	12	6.1	36
HONOLULU	7	1014.3	1014.7	82	71	76.4	0.5	86	4	61	17	0	0	67	76	2.36	0.20	0.54	19	2	0.0	0	10.2	6	31	NE	8	5	14	11	6.1	59
KAHULUI	48	1011.7	1014.7											67	87	2.88	1.36	0.81	15	1	0.0	0	10.9	6	27	NW	2+	7	13	10	5.6	59
LIHUE	115	1010.2	1015.7	78	69	73.4	- 1.1	80	21	64	20+	0	0	67	83	9.76	5.23	4.54	21	1	0.0	0	10.8	6	28	E	8	5	9	16	7.1	
IDAHO																																
BOISE	2838	921.5	1019.5	45	29	36.9	- 1.7	66	4	11	16	0	20	30	80	2.33	1.13	0.65	14	0	7.3	4	7.6	13	31	SE	11	6	8	16	6.8	53
IDAHO FALLS 42NW R	4790			40	16	28.1	0.0	56	5	- 4	21	0	29			1.42	1.09						4.7		30Y	SW	26					
IDAHO FALLS 46W R	4933			40	16	28.0	- 1.8	58	5	- 5	15	0	29			1.53	1.12	0.56	11	0	12.3	6	7.0		36Y	SW	26					
LEWISTON	1413	965.5		45	33	39.0	- 0.8	60	4	21	16	0	12			1.35	0.12	0.53	13	0	4.6	3						3	5	22	8.3	
POCATELLO	4454	864.0	1019.9	44	26	35.0	0.0	62	5	10	15	0	24	26	72	0.85	- 0.14	0.26	10	0	3.7	2	10.4	21	37	S	12	6	6	18	7.1	31
ILLINOIS																																
CAIRO U	314	1007.3		61	42	51.5	3.6	79	15+	12	30	0	8			3.48	- 0.39	1.59	8	3	T	T	8.4	S#	38	SW	27	9	11	10	5.4	58
CHICAGO O HARE	658	993.1	1018.3	52	31	41.4	3.3	74	3	5	21	0	17	34	76	2.90	0.73	1.50	6	3	2.3	1	9.1	18	40*	21	12	10	8	12	5.5	
CHICAGO MIDWAY	607	995.2	1018.5	53	34	43.7	3.8	75	3	7	21	0	14	32	67	1.26	- 0.94	0.74	7	2	0.8	1	11.0	20	42	SW	12	11	8	11	5.2	60
MOLINE	582	996.1	1018.7	55	34	44.2	5.0	76	11+	3	30	0	12	33	67	3.40	1.45	1.30	8	5	2.1	1	11.0	20	50	W	29	11	9	10	5.4	59
PEORIA	652	996.4	1019.3	54	33	43.5	3.8	77	3	4	30	0	14	34	71	3.01	0.87	1.91	7	3	1.0	T	9.7	18	56	W	20	14	5	11	5.0	57
ROCKFORD	728	990.1	1017.8	52	31	41.1	4.0	74	3	3	21	0	16	34	76	4.51	2.14	2.09	8	4	2.8	2	10.9	18	35*	21	2	12	6	12	5.3	
SPRINGFIELD	588	995.8	1019.4	57	36	46.5	4.7	79	3	- 3	30	0	12	34	66	4.19	1.83	2.46	9	3	4.4	3	11.6	17	48	W	20	16	2	12	4.8	62

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 9-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
INDIANA																																
EVANSVILLE	381	1004.9	1021.1	61	34	47.5	2.7	78	2	7	30	0	11	37	70	2.34	- 0.82	0.88	11	0	1.2	1	5.8	32	31	NW	20	12	8	10	5.1	73
FORT WAYNE	791	987.7	1019.6	55	32	43.4	4.5	74	4+	10	22	0	16	35	75	1.17	- 1.38	0.45	5	1	2.7	2	10.1	20	45	SW	20	9	10	11	5.5	60
INDIANAPOLIS	793	989.6	1020.1	57	34	45.3	4.4	76	1	7	30	0	10	35	70	3.13	0.04	2.17	9	1	2.6	1	9.3	29	43	W	20	11	7	12	5.4	59
SOUTH BEND	773	989.9	1018.5	53	33	43.2	4.1	74	3	8	22	0	15	35	74	2.33	- 0.32	0.99	11	2	13.5	8	10.9	23	32*	27	20+	8	8	14	5.7	
IOWA																																
BURLINGTON	694	993.2	1019.4	56	34	44.9	5.5	78	11+	1	30	0	12	34	68	1.96	0.08	0.74	10	4	2.0	1	11.7	19	56	NW	20	13	6	11	5.1	66
DES MOINES	938	986.6	1018.8	51	31	41.2	3.8	76	2	- 3	30	0	14	33	74	0.95	- 0.81	0.58	5	5	0.5	T	12.2	20	54	NW	20	8	7	15	6.2	45
DUBUQUE	1065	992.0		49	30	39.6	4.8	73	3	- 2	30	0	15			1.99	- 0.60	0.92	7	2	3.4	3						10	7	13	5.7	
SIOUX CITY	1095	975.7	1018.1	48	27	37.5	1.4	71	14+	- 6	30	0	18	28	70	0.10	- 1.06	0.05	5	0	0.4	T	11.2	32	52	NW	20	5	11	14	6.4	64
WATERLOO	868	984.6	1017.4	49	27	37.9	3.2	72	14	- 7	30	0	16	31	78	1.11	- 0.72	0.46	6	2	2.1	2	10.9	32	43*	33	20	6	11	13	6.2	
KANSAS																																
CONCORDIA	1470	967.1	1018.0	54	33	43.4	1.9	77	2	4	30	0	14	33	71	1.50	0.52	0.68	7	3	1.2	1	12.1	18	34	NW	20+	10	9	11	5.5	63
DODGE CITY	2582	928.1	1017.8	55	33	43.8	1.0	81	2	12	30	0	16	33	75	1.89	1.25	0.93	9	0	2.5	2	14.4	2	38	N	3	7	11	12	6.0	59
GOODLAND	3645	887.9	1017.3	54	25	39.1	1.1	74	8+	6	29	0	22	21	57	0.26	- 0.23	0.20	4	0	2.8	3	12.7	36	41*	31	11	11	10	9	5.2	
TOPEKA	876	982.4	1018.7	55	37	46.2	3.6	82	2	6	30	0	13	37	71	6.27	4.77	4.66	9	2	1.3	1	10.0	18	34	SW	11+	11	4	15	5.8	54
WICHITA	1321	968.4	1017.9	55	39	47.2	2.8	77	2	10	30	0	11	40	77	5.88	4.39	4.33	9	3	0.1	T	13.3	18	51	N	20	10	6	14	6.1	51
KENTUCKY																																
COVINGTON	869	987.7	1020.0	60	34	47.1	4.4	78	4	6	30	0	11	35	66	2.69	- 0.32	0.72	9	0	1.7	1	7.7	21	35*	29	20	12	6	12	5.5	
LEXINGTON	979	984.6	1020.8	59	37	48.0	3.3	74	4	9	22	0	9	36	67	2.37	- 0.92	0.94	9	0	0.7	1	8.6	18	28*	18	28+	13	9	8	4.6	
LOUISVILLE	474	998.7	1020.5	60	36	48.0	3.3	74	4	10	22	0	10	38	71	3.32	0.12	1.11	11	2	0.9	1	6.7	18	47	S	28	14	5	11	5.1	66
LOUISIANA																																
ALEXANDRIA	92	1015.6	1020.3	70	46	58.1	1.5	82	5	29	30+	0	4	51	81	3.64	- 1.14	1.37	6	4	0.0	0	4.2	18	21*	32	19	9	10	11	5.7	
BATON ROUGE	64	1017.3	1020.5	73	51	62.1	3.2	85	12	29	22	0	2	52	75	4.70	0.61	1.73	7	3	0.0	0	6.8	12	23*	2	30	8	11	11	6.0	
LAKE CHARLES	14	1019.1	1020.1	74	53	63.6	4.0	85	16	33	30	0	0	54	76	2.06	- 2.16	0.91	6	2	0.0	0	8.4	18	23*	4	30+	7	15	8	5.4	
NEW ORLEANS	3	1018.1	1020.3	72	52	61.8	1.8	81	18+	35	30+	0	0	55	79	3.51	0.17	1.00	7	2	0.0	0	6.4	5	23*	36	30	9	8	13	5.9	
NEW ORLEANS AUDUBON	6	1013.2		73	54	63.6	2.6	83	17	34	30	0	0			3.26	- 0.25	1.27	9	2			4.3		16	NW	30	7	11	12	6.2	41
SHREVEPORT	252	1011.3	1020.7	70	48	59.3	3.6	83	16	26	22	0	5	48	71	1.65	- 2.56	0.76	8	2	0.0	0	9.2	18	29*	17	27	12	8	10	5.0	60
MAINE																																
CARIBOU	624	992.1		37	21	29.3	- 0.9	53	13	- 2	23	0	28			2.28	- 0.76	0.57	11	0	12.9	8						4	8	18	7.0	
PORTLAND	61	1013.3	1017.5	48	25	36.2	- 1.9	67	13	11	23	0	27	27	71	3.25	- 0.92	1.34	9	1	T	T	7.0	36	34	NW	18	10	5	15	5.9	60
MARYLAND																																
BALTIMORE	148	1014.7	1019.5	61	38	49.8	4.3	75	12	17	23	0	5	34	59	2.51	- 0.62	2.02	5	0	T		8.7	28	32	W	26	11	10	9	4.7	73
BALTIMORE U	14			62	44	53.3	4.5	76	13+	22	22	0	4			2.88	- 0.22	2.44	4													
MASSACHUSETTS																																
BLUE HILL OBS R	629	992.6		51	35	42.9	0.9	66	13	17	23	0	10			2.50	- 2.03	1.48	8	0	0.0	0	15.2	WNW								60
BOSTON	15	1013.2	1018.0	51	37	44.1	- 0.8	68	13	24	23	0	7	32	67	2.18	- 1.75	1.22	10	1	T	T	12.4	30	35*	SE	26	12	5	13	5.4	61
NANTUCKET	43	1017.4	1018.0	53	38	45.1	- 0.8	60	20+	28	23+	0	6	37	72	1.20	- 2.85	0.64	7	0	T		12.9	23	42	N	30	9	8	13	6.0	53
PITTSFIELD	1170			49	30	39.4	2.1	69	13	14	23	0	18			1.61	- 2.30	0.63	9		T	T										
WORCESTER	986	980.2	1017.6	50	33	41.2	2.0	67	13	17	23	0	14	29	65	3.17	- 1.09	1.78	10	0	T	T	9.8	29	35*	27	13	12	6	12	5.2	
MICHIGAN																																
ALPENA	689	993.3		48	30	38.9	4.3	75	4	5	30	0	20			2.34	- 0.03	1.10	16	1	7.0	4	7.7	30	30	SW	12	4	8	18	7.5	38
DETROIT	619	991.2	1018.5	53	37	44.9	4.5	72	4	15	30+	0	11	35	69	0.81	- 1.40	0.24	8	0	2.6	2	11.2	23	35	W	29	6	10	14	6.2	50
DETROIT M WAYNE CO	633	994.5	1019.1	52	31	41.2	0.8	72	4	9	30	0	18	32	71	0.80	- 1.47	0.30	8	1	4.3	4	10.3	22				9	7	14	6.2	
DETROIT WILLOW RUN	711	989.4	1018.3	52	33	42.4	2.4	71	4	15	30+	0	15	34	76	0.74	- 1.51	0.29	6	0	3.7	4	10.8	22	40*	23	20	7	11	12	6.0	
FLINT	766	989.9	1018.5	51	32	41.5	4.6	72	4	12	30	0	15	34	76	1.20	- 0.98	0.52	7	0	4.7	4	10.1	23	30*	24	12	6	6	18	6.7	
GRAND RAPIDS	784	991.5	1017.7	51	32	41.8	3.6	73	3	10	30	0	16	36	82	2.13	- 0.36	0.80	13	4	5.8	4	10.4	18	46	SW	12	4	12	14	7.1	39
LANSING	841	985.2	1017.9	53	32	42.3	4.4	74	2	11	30	0	19	36	80	1.92	- 0.29	1.07	10	2	4.2	4	10.7	25	47	SW	12	5	10	15	6.5	39
MARQUETTE U	677	988.1		43	30	36.5	2.7	67	8	10	30	0	13			2.65	- 0.63	0.55	14	2	14.9	9	8.3	NW#	30	NW	17	2	6	22	8.3	33
MUSKEGON	627	994.4	1017.9	51	35	42.9	3.3	67	3+	11	29	0	13	38	83	3.01	0.07	1.38	9	4	15.9	7	11.9	30	30*	28	21	5	7	18	7.4	
SAULT STE MARIE	721	992.4	1015.7	42	28	35.0	1.7	63	4	- 3	30	0	15	30	83	4.32	0.99	1.38	18	3	18.7	12	10.9	11	40*	30	17	2	5	23	8.6	28

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MINNESOTA																																
DULUTH	1428	974.0	1016.7	38	23	30.2	2.9	63	8	-23	30	0	21	23	75	1.84	0.06	0.77	9	1	8.6	7	11.0	31	39	E	14	6	6	18	7.2	45
INTERNATIONAL FALLS	1179	974.8	1016.9	35	19	26.7	2.9	61	7	-27	30	0	23	22	81	0.73	-0.73	0.38	10	0	4.4	4	11.0	30	29*	30	20	5	5	20	7.4	
MINNEAPOLIS	834	982.6	1017.0	44	26	35.0	3.8	69	2	-17	30	0	17	29	80	1.19	-0.21	0.35	10	3	4.3	4	9.0	13	29	NE	11	6	12	12	5.9	52
ROCHESTER	1297	979.6	1017.8	42	25	33.8	2.3	65	3	-12	30	0	16	29	81	2.36	0.79	1.29	10	4	4.8	4	13.2	31	32*	1	20	8	7	15	6.2	
ST CLOUD	1034	977.7		39	23	31.0	1.5	65	2	-20	30	0	21			0.98	-0.35	0.22	7	3	4.4	4						8	5	17	6.4	
MISSISSIPPI																																
JACKSON	310	1008.7	1021.0	72	47	59.4		85	15	24	22	0	4	49	72	6.44		4.21	6	3	T		7.7	14	29*	S	27	9	11	10	5.3	
MERIDIAN	290	1007.4	1021.5	70	43	56.5	2.4	85	13	23	30+	0	5	48	78	4.80	1.70	2.20	5	3	0.0	0	5.8	36	25*	1	30+	8	11	11	5.6	
VICKSBURG U	234	1010.8		68	51	59.6	3.4	83	16	23	22	0	4			4.24	-0.19	1.90	6	2	0.0	0	7.3		33	N	30	7	12	11	5.9	46
MISSOURI																																
COLUMBIA	778	989.5	1018.5	59	39	49.1	5.8	80	11+	1	30	0	10	36	65	3.12	0.85	1.65	9	2	1.0	1	11.1	18	43	NW	20	12	5	13	5.4	60
KANSAS CITY	742	982.8	1018.2	58	41	49.9	5.3	81	14+	7	30	0	8	35	61	4.73	2.93	3.69	7	2	2.1	T	9.7	18	34	NW	20	12	2	16	5.7	57
ST JOSEPH	811	983.3		55	36	45.6	4.2	82	2	4	30	0	13			3.07	1.39	2.10	7	2	1.3	1	10.1	16	35*	30	20	11	4	15	5.6	
ST LOUIS	535	999.0	1020.1	58	37	47.3	3.2	78	2	1	30	0	11	37	70	3.84	1.27	1.83	8	2	3.1	2	10.9	18	36	NW	20	13	5	12	5.2	66
ST LOUIS RFC	465			59	41	50.2	4.4	78	2	5	30	0	8			2.70	0.01	0.75	7		0.7	T										
SPRINGFIELD	1265	969.7	1019.4	61	39	49.9	4.9	78	15+	8	30	0	10	38	69	3.20	0.44	1.64	8	1	T	T	10.4	16	29	NW	20	11	6	13	5.4	55
MONTANA																																
BILLINGS	3567	890.1	1017.4	42	20	31.2	-3.9	65	7	-8	29	0	24	19	64	0.72	0.09	0.33	9	0	7.2	5	10.9	24	37	SW	24	6	5	19	7.4	32
GLASGOW	2277	941.0		39	15	27.1	-1.1	64	7	-17	28	0	28			0.26	-0.21	0.12	5	0	2.4	2						4	8	18	7.5	
GREAT FALLS	3662	887.1	1018.3	42	22	31.9	-2.4	67	4	-13	29	0	22	17	59	0.72	-0.03	0.35	8	0	7.9	7	11.5	23	32	SW	6	4	6	20	7.6	40
HAVRE	2582	925.9		40	14	27.1	-2.4	68	4	-23	29	0	30			0.45	-0.05	0.18	7	0	5.4	4	7.7	SW#	38	NW	24	5	4	21	7.6	36
HELENA	3828	872.5	1018.8	43	18	30.5	-1.1	64	1	-2	27	0	28	20	66	0.53	-0.04	0.33	7	0	6.3	5	6.3	28	29	S	24	4	8	18	7.3	38
KALISPELL	2965	911.7	1018.8	39	23	31.0	0.0	54	4+	0	29	0	28	28	88	2.13	0.70	0.70	16	0	10.5	6	5.4	36	18	14	24	1	6	23	8.4	
MILES CITY	2629		1018.7	37	14	25.6	-7.0	66	5	-20	29	0	29	18	75	1.33	0.90	0.82	11	0	14.4	8	8.0	15	38*	31	19					
MISSOULA	3190	902.3	1019.8	40	21	30.4	-0.1	58	1	9	16	0	30	26	85	0.56	-0.34	0.15	9	0	3.7	2	4.9	30	24	NW	2	2	5	23	8.2	25
NEBRASKA																																
GRAND ISLAND	1841	950.3	1018.3	51	24	37.7	0.5	72	8+	-5	30	0	19	25	64	0.14	-0.62	0.09	3	2	T	T	11.7	35	44*	31	20	10	8	12	5.4	
LINCOLN U	1150			52	32	42.2	1.4	78	2	-5	30	0	14			0.32	-0.94	0.25	5	2	0.5	1	10.5	NW#	47	NW	20	9	10	11	5.7	49
NORFOLK	1544	960.7		49	24	36.5	0.6	72	8	-15	30	0	20			0.19	-0.72	0.09	4	0	1.4	1						5	15	10	6.0	
NORTH PLATTE	2775	915.7	1017.2	53	19	35.8	0.3	77	2	-7	21	0	27	20	59	0.04	-0.46	0.04	1	0	T	T	9.3	36	40	NW	20	10	11	9	5.3	60
OMAHA	978	977.2	1018.1	53	32	42.2	3.3	80	2	-9	30	0	13	32	70	2.34	1.08	1.73	6	1	2.6	3	10.0	35	47	NW	20	7	8	15	6.3	51
OMAHA N OMAHA AP	1323	968.2		49	30	39.7	2.3	77	2	-11	30	0	14			0.84	-0.47	0.52	5	2	2.8	3						6	8	16	6.7	
SCOTTSBLUFF	3957	878.7	1017.5	53	22	37.0	1.2	72	8	8	21	0	27	20	56	0.01	-0.45	0.01	1	0	0.1	T	11.6	30	35*	25	27	8	6	16	6.2	
VALENTINE	2587	924.2		49	18	33.2	-0.4	78	8	-13	29	0	27			0.04	-0.45	0.03	2	0	1.0	1	9.9	W#	50	NW	19	8	13	9	5.4	56
NEVADA																																
ELKO	5050	845.8		45	16	30.5	-3.7	63	6+	-9	18	0	28			1.07	0.19	0.34	11	0	12.2	3	6.9		36*	24	1	8	6	16	6.5	
ELY	6253	809.0	1020.4	44	14	29.3	-4.4	67	6	-15	14	0	28	19	74	0.93	0.34	0.28	8	1	12.9	4	6.8	18	35	N	15	7	8	15	6.7	71
LAS VEGAS	2162	951.3	1018.3	61	39	50.0	-2.5	79	1	30	20+	0	6	26	44	0.63	0.32	0.62	3	0	4.0	3	9.3	24	39*	NW	13	13	12	5	4.3	76
RENO	4404	863.5	1020.2	52	24	38.0	-0.3	71	6	8	19+	0	24	26	69	0.63	0.06	0.28	7	0	5.2	3	6.2	18	40	SW	10	7	7	16	6.4	90
WINNEMUCCA	4299	869.3		48	21	34.5	-1.3	67	6	-4	18	0	25			0.81	0.01	0.42	10	0	6.3	5	8.0	18	36	W	12+	6	7	17	6.9	47
NEW HAMPSHIRE																																
CONCORD	339	1006.7	1017.9	49	26	37.1	-0.5	69	13	11	23	0	25	28	71	3.47	-0.25	1.64	10	0	T	T	7.0	31	31*	33	17	11	4	15	5.9	54
MT WASHINGTON OBS	6262	796.9		28	13	20.4	0.1	42	12	-9	23	0	30			5.88	-0.73	1.60	15	0	21.1	2	38.1	W#	107Y	W	13	3	8	19	7.7	36
NEW JERSEY																																
ATLANTIC CITY	58	1017.7	1019.9	60	34	47.0	0.3	74	13	11	23	0	13	37	71	1.18	-2.48	0.64	7	0	T	T	9.8	31	29*	15	25	15	6	9	4.3	67
ATLANTIC CITY U	11			58	43	50.6	2.3	72	13	21	22	0	4			1.21	-2.58	0.42	7				12.0		37*	NW	20+					
NEWARK	11	1017.8	1019.2	58	41	49.4	3.5	71	13	23	23+	0	5	35	61	2.08	-1.29	1.19	8	0	0.0	0	9.8	23	38*	31	16	13	6	11	5.0	
TRENTON U	56	1011.1		58	40	49.0	3.2	71	13	22	22	0	4			1.82	-1.34	1.10	8	1	0.1	T	8.0	NW#	30	SE	25	12	9	9	4.7	66
NEW MEXICO																																
ALBUQUERQUE	5310	848.9	1017.4	56	32	43.7	0.1	70	8	18	22	0	16	24	50	0.21	-0.17	0.15	3	1	T	T	6.5	36	44	E	15	20	4	6	3.3	79
CLAYTON	4969	845.7		55	30	42.5	0.8	75	8	17	30	0	20			0.80	0.47	0.59	7	3	1.4	1						14	5	11	4.9	
RATON	6379	805.2		53	24	38.7	1.2	73	8	9	20	0	27			0.74	0.35	0.31	7	1	5.4	2						12	9	9	4.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F. or above	Min. 32° F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ROSWELL	3617	894.3		65	31	48.1	2.2	82	2	18	30	0	18			0.33	-0.01	0.15	5	1	0.0	0	8.5		36	NW	15	17	6	7	3.7	66
SILVER CITY	5373	836.9		61	32	46.3	-1.2	73	8	18	22	0	17			0.10	-0.33	0.09	2	0	0.0	0						18	9	3	2.6	
NEW YORK																																
ALBANY	277	1015.0	1018.9	50	32	41.4	2.3	69	13	14	23	0	14	31	69	1.45	-1.25	0.50	9	0	T	T	9.3	18	39	W	18	7	7	16	6.8	38
BINGHAMTON	1590	958.6	1018.4	52	34	42.9	4.9	65	13+	14	22	0	13	33	72	1.90	-0.61	0.94	8	0	T	T	10.9	26	33	W	18	4	9	17	7.3	46
BUFFALO	705	989.1	1017.7	50	35	42.1	3.0	69	12	16	30+	0	10	35	78	2.09	-1.51	1.02	10	1	5.4	3	12.0	27	37	SW	21	4	7	19	7.6	42
NEW YORK U	132	1007.5		57	42	49.4	2.4	71	13	24	22	0	4			2.55	-0.84	1.62	8	0	0.0	0	8.3	W#	32	NW	17	15	7	8	4.4	61
NEW YORK LA GUARDIA	11	1017.1	1018.7	56	44	49.9	2.5	70	13	25	22	0	4	37	63	1.65	-1.94	0.89	8	0	0.0	0	11.0	27	38	SE	25	13	6	11	4.9	
ROCHESTER	547	998.7	1018.4	51	33	42.3	2.2	71	12	14	30	0	15	34	76	1.60	-0.91	0.46	10	0	5.1	4	10.3	25	37	W	21	5	8	17	7.2	47
SCHENECTADY	217			50	34	41.8	2.0	65	13	22	23	0	14			1.98	-0.70	0.77	7	0	T							14	5	11		
SYRACUSE	417	995.4	1017.8	53	34	43.6	3.4	71	12	17	30	0	14	34	72	2.20	-0.70	0.71	11	0	4.0	3	11.1	27	35	NW	13	4	9	17	7.4	37
NORTH CAROLINA																																
ASHEVILLE	2170	944.0	1021.3	64	36	49.6		75	13	16	30	0	10	39	73	2.68		2.46	5	0	T		7.9	35	39*	35	30	15	9	6	3.8	77
CAPE HATTERAS R	7	1018.9	1019.6	66	51	58.7	2.5	76	28+	38	30	0	0	51	76	2.08	-2.01	0.58	6	0	0.0	0	9.8	5	38	SE	25	10	12	8	4.9	65
CHARLOTTE	735	991.9	1020.4	67	43	54.8	4.4	79	17+	23	23	0	3	42	65	2.05	-0.48	1.73	5	0	T	T	7.0	36	25	N	30+	17	5	8	4.0	75
GREENSBORO	897	988.5	1020.8	66	39	52.5	4.6	78	16	20	30	0	5	41	69	1.57	-1.11	1.20	6	0	0.3	T	6.7	22	26	SW	19	15	7	8	4.0	72
RALEIGH	433	1006.2	1020.1	66	39	52.7	2.7	79	16	19	23	0	6	41	70	1.38	-1.39	0.60	4	1	0.4	T	7.9	36	26*	23	19	15	9	6	4.0	78
WILMINGTON	28	1017.7	1020.6	72	47	59.2	3.8	82	17	30	23	0	1	48	71	1.17	-1.92	1.07	3	0	T		6.7	2	31	SW	19	15	7	8	4.4	77
WINSTON SALEM	963	984.8	1020.4	66	43	54.2	5.3	79	16	21	30+	0	4	40	62	1.98	-0.80	1.43	6	0	1.4	1	6.9	23	18*	35	30+	15	7	8	3.9	
NORTH DAKOTA																																
BISMARCK	1647	955.5	1018.2	37	14	25.3	-3.6	66	7	-29	29	0	28	17	70	0.43	-0.16	0.23	5	0	6.7	5	10.8	30	30	NW	25	11	3	16	6.3	43
FARGO	896	982.0	1017.5	39	20	29.2	1.1	67	2	-22	30	0	21	22	76	0.72	-0.12	0.52	4	1	2.7	3	9.9	18	31	N	20	6	7	17	7.0	41
WILLISTON	1899	947.9		36	12	23.6	-4.0	65	5	-23	29	0	28			0.65	0.07	0.28	7	0	6.2	4	9.1	SW#	38	N	19	8	11	11	6.3	50
OHIO																																
AKRON	1208	981.0	1019.8	55	35	44.7	3.9	72	15+	10	22	0	8	33	66	1.90	-0.35	0.68	8	0	5.1	5	9.2	25	27*	18	28	9	9	12	5.6	
CINCINNATI OBS	761			58	38	47.8	3.2	75	4	13	22	0	8			2.61	-0.34	0.73	9	1	1.3	1	5.8	S#	26	W	20					73
CINCINNATI U	553	996.8		60	40	50.0	3.6	77	4+	16	30+	0	7			2.43	-0.50	0.70	9	1	1.4											
CLEVELAND	777	990.6	1018.9	53	35	44.2	3.8	70	15+	13	22+	0	9	35	72	0.92	-1.69	0.36	11	0	1.0	T	10.3	18	35	W	20	6	11	13	6.5	46
COLUMBUS	812	990.1	1020.5	57	34	45.1	3.9	74	3	11	22	0	10	33	66	1.81	-0.69	0.56	8	0	1.0	1	8.2	18	35	W	20	10	10	10	5.2	61
COLUMBUS U	724			57	38	47.6	4.3	75	3	14	22	0	7			1.85	-0.39	0.63	7	0	0.6	1										
DAYTON	1002	987.1	1020.1	57	35	46.1	4.3	75	3	8	22	0	9	35	68	1.95	-0.72	0.66	8	1	2.0	1	10.1	21	40	W	20	11	9	10	5.4	64
MANSFIELD	1297			53	34	43.9	4.5	72	4	10	22	0	12			1.49	-1.20	0.47	10	0	1.9	1						8	13	9	5.5	
TOLEDO	676	995.6	1019.1	53	31	42.3	3.7	73	4+	10	30	0	18	32	69	0.77	-1.27	0.27	6	0	3.6	1	9.0	24	33	SW	20	8	10	12	6.0	58
YOUNGSTOWN	1178	976.1	1019.4	54	36	44.6	5.3	71	4	11	22	0	9	32	63	1.76	-1.05	0.72	9	0	3.8	1	10.7	24	36*	26	20	8	11	11	6.0	
OKLAHOMA																																
OKLAHOMA CITY	1280	974.4	1018.4	60	40	49.9	1.5	80	2	15	30	0	12	41	77	5.46	3.90	1.54	8	5	T		13.1	16	38	SW	2	9	10	11	5.7	49
TULSA	650	994.0	1018.7	64	42	52.7	5.1	83	2	13	30	0	10	41	69	6.90	4.62	2.74	12	6	0.0	0	11.7	18	33	N	30	11	5	14	5.7	50
OREGON																																
ASTORIA	8	1015.2	1015.9	52	38	44.8	-1.5	60	29	28	20	0	8	39	80	11.15	-0.05	2.56	20	1	T		8.4	10	37*	17	23	5	5	20	7.5	
BURNS U	4151	872.6		45	23	33.6	-2.5	60	6	8	13	0	26			2.02	0.86	0.48	15	0	11.3	7						7	2	21	6.9	
EUGENE	359	1003.8	1017.5	48	38	43.2	-2.3	63	3	26	16	0	8	40	91	10.70	5.08	1.68	18	0	T		7.0	18	22*	18	30	1	3	26	8.9	
MEACHAM	4050			38	27	32.5	-1.9	54	6	15	16	0	25			5.96	1.81	1.68	18	0	22.9	10						6	4	20	7.5	
MEDFORD	1298	970.3	1019.0	49	33	41.1	-1.3	65	3	17	19	0	12	37	90	3.75	1.15	0.80	16	0	0.8	T	3.6	30	29*	15	11	5	3	22	7.8	
PENDLETON	1482	963.8	1018.4	46	34	40.1	-1.2	64	24	25	16	0	10	35	84	1.93	0.53	0.57	15	0	0.2	T	8.5	30	35*	25	26	3	4	23	8.5	
PORTLAND	21	1011.7	1017.3	48	34	41.0	-4.1	56	2	25	20+	0	10	37	85	6.78	1.45	1.33	19	0	T	T	9.5	12	30	SW	26	2	8	20	8.2	20
PORTLAND U	30			50	40	45.0	-2.2	59	2	28	20	0	4			10.12	4.08	1.98	19		T											
ROSEBURG	515	999.9		51	38	44.4	-1.7	70	3	27	17	0	7			8.06	3.60	1.04	19	0	T	T	3.6	N#	18	N	11	0	7	23	8.9	18
SALEM	196	1010.5	1017.8	49	35	42.0	-3.2	60	3+	22	19+	0	11	40	93	8.44	2.73	1.26	20	0	T		7.6	18	31*	18	30	3	3	24	8.3	
SEXTON SUMMIT R	3836	883.1		43	33	38.0	-4.8	60	6	21	14	0	13			8.18	3.80	1.45	19	0	32.2	15	14.3					9	3	18	6.8	
PACIFIC AREA																																
CANTON ISLAND	8	1007.7	1008.3	86	77	81.4	-2.2	87	24+	75	22	0	0	70	69	0.03	-1.58	0.01	3	0	0.0	0	13.6	7	22*	6	30+	8	13	9	5.7	
ENIWETOK	13	1009.9		87	77	81.8	-0.8	88	26+	73	15	0	0			7.29	0.99	2.46	23	0	0.0	0	13.5									
TAGUAC GUAM R	361	1008.9		86	73	79.2	-0.1	87	30+	68	29+	0	0			6.05	-4.24	2.86	18	3	0.0	0	6.4	E#								65

See footnotes at end of table

State and Station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)				
												No of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
JOHNSTON	7	1011.3	1012.3	82	74	78.3	- 1.3	84	14	70	8	0	0	71	79	1.63	- 0.43	0.62	14	0	0.0	0	12.9	9	31	E	8	4	15	11	6.6	47
KOROR R	94	1004.8	1007.3	87	75	81.0	- 0.2	91	2	72	22	1	0	76	99	13.75	0.82	4.28	22	2	0.0	0	7.2	18	59	SE	17	0	0	30	9.9	45
KWAJALEIN	8	1007.6	1008.4	86	76	80.7	- 0.6	88	3	72	7	0	0	75	84	9.27	- 2.86	2.26	20	3	0.0	0	12.3	6	30*	10	7+	1	9	20	8.0	
PONAPE R	123	1003.3	1007.9	87	73	80.0	0.1	90	20	69	23	1	0	74	87	12.66	- 4.19	4.19	24	0	0.0	0	5.3	14	21	SE	6	0	6	24	8.3	54
TRUK MOEN ISLAND	5	1008.0		87	76	81.4	0.6	90	20+	73	7	2	0	75	81	7.85	- 4.51	3.03	25	1	0.0	0	8.1	6	26	SW	7	1	6	23	8.4	59
WAKE	11	1012.1		84	75	79.9	- 0.5	86	28+	71	30	0	0	72	78	2.53	- 0.55	1.92	10	1	0.0	0	9.0	6	35*	35	30	7	18	5	5.0	
YAP R	55	1006.1	1006.9	87	76	81.6	0.1	89	30+	73	6	0	0	76	85	6.19	- 4.96	1.39	23	0	0.0	0	7.8	4	25	NE	14+	0	4	26	9.2	59
PENNSYLVANIA																																
ALLENTOWN	376	1004.9	1019.5	57	33	44.8	2.9	71	13	16	23	0	12	33	68	2.34	- 0.99	1.54	5	1	T	T	10.4	29	36*	32	16	13	8	9	4.9	
ERIE	732	992.0	1018.7	52	38	45.0	3.8	70	12+	16	22+	0	8	35	71	3.08	- 0.28	1.19	11	0	19.9	18	15.0	18	35*	24	21	5	6	19	7.3	
HARRISBURG	335	1005.9	1019.9	57	34	45.7	2.3	73	12	14	23	0	10	34	67	1.87	- 1.08	1.52	5	0	T	T	8.4	27	30	NW	16	12	6	12	5.2	71
PHILADELPHIA	5	1014.6	1019.5	59	35	47.1	2.8	72	13	17	22	0	8	36	66	1.64	- 1.76	1.07	7	0	T		8.3	22	37	S	20	14	8	8	4.9	64
PITTSBURGH	1137	988.7	1019.6	55	36	45.5	4.7	70	15+	11	22	0	7	34	66	2.74	0.50	1.05	8	0	1.6	2	9.1	26	30*	25	21	6	13	11	6.1	67
PITTSBURGH U	749			58	39	48.4	3.9	72	15	15	22	0	6			2.76	0.42				0.5											
READING U	266	1007.0		59	37	48.2	3.1	74	12	20	23+	0	6			2.31	- 1.09	1.54	7	0	T	T	10.5	NW#	45	E	25	13	10	7	4.6	63
SCRANTON	930	984.5	1019.2	54	34	44.1	4.5	70	12	17	30+	0	12	33	67	1.86	- 1.08	1.20	7	0	0.1	T	8.1	23	32	NW	16	10	5	15	5.9	59
WILLIAMSPORT	527	1000.6	1020.0	55	32	43.5	2.4	68	13+	14	23	0	17	33	71	2.24	- 1.21	1.62	6	0	T	T	6.9	27	23*	26	20	7	8	15	6.2	
RHODE ISLAND																																
BLOCK ISLAND	110	1013.3		53	40	46.3	1.1	60	13	24	23	0	3			1.29	- 2.42	0.81	7	0	0.0	0						9	9	12	5.7	
PROVIDENCE	51	1012.0	1018.0	55	34	44.6	1.6	70	13	18	23	0	11	31	61	2.43	- 1.68	1.26	7	0	T		9.8	27	41*	31	17	13	6	11	4.9	62
SOUTH CAROLINA																																
CHARLESTON	41	1018.3	1020.2	73	48	60.5	4.6	84	17	32	30	0	1	49	70	0.52	- 1.57	0.27	5	0	0.0	0	8.5	1	48Y	NW	30	12	8	10	4.9	59
CHARLESTON U	9			70	54	62.4	3.8	83	17	34	30	0	0			0.91	- 1.01	0.52	5		0.0	0	10.4		45	N	30					
COLUMBIA	217	1007.3	1020.4	72	45	58.2	4.5	82	17	26	23	0	3	45	69	1.36	- 1.00	0.81	3	0	0.0	0	6.7	25	28*	34	30	15	9	6	4.0	70
FLORENCE	146	1014.3	1020.1	71	46	58.7	4.1	84	17	26	23	0	3	46	68	0.48	- 1.83	0.33	4	0	T	T	8.0	2	28*	34	30	14	7	9	4.2	
GNVLE SPARTANBURG	957	983.3	1020.7	67	44	55.9	4.2	81	18	21	30	0	4	41	62	3.36	0.52	2.83	6	0	0.0	0	7.1	4	29	N	30	18	5	7	3.7	76
SOUTH DAKOTA																																
HURON	1282	969.1	1017.8	43	16	29.3	- 1.9	74	2	-21	30+	0	26	19	68	0.19	- 0.49	0.11	4	0	3.6	2	11.5	30	47	NW	20	12	7	11	5.0	68
RAPID CITY	3165	900.7	1017.8	46	21	33.7	- 1.4	75	8	- 6	29	0	24	18	58	0.30	- 0.11	0.14	9	0	2.6	1	11.1	34	50	N	19	8	12	10	5.6	61
SIOUX FALLS	1418	964.5	1017.6	45	20	32.7	0.1	70	2	-17	30	0	23	24	71	0.38	- 0.62	0.22	5	0	3.9	2	10.1	36	33*	35	20	10	10	10	5.6	
TENNESSEE																																
BRISTOL	1507	965.7	1021.0	62	38	50.2	4.3	74	15	15	22	0	7	40	73	1.88	- 0.63	0.79	10	0	0.7	1	5.4	25	22*	30	20	12	7	11	5.1	
CHATTANOOGA	670	993.6	1021.6	65	40	52.4	3.0	78	13	20	22	0	6	44	80	4.03	0.38	2.35	8	2	T	T	4.5	14	26	N	30	14	6	10	4.9	68
KNOXVILLE	980	985.6	1021.5	63	42	52.3	3.6	75	15	20	30+	0	4	43	72	2.80	- 0.44	1.23	11	0	T	T	6.4	23	27	SW	25	13	5	12	5.2	56
MEMPHIS	263	1006.0	1020.9	65	44	54.4	4.3	81	15	18	22	0	7	46	76	2.59	- 1.79	1.03	7	2	T	T	7.1	22	32	NW	19	12	8	10	5.2	57
MEMPHIS U	271			64	47	55.5	3.7	81	15	17	30	0	6			3.20	- 0.97	1.26	6		T											
NASHVILLE	577	1000.7	1020.8	64	40	51.7	3.2	79	15	15	30+	0	7	43	74	3.67	0.39	1.74	9	0	T	T	7.1	18	35	SE	28	12	9	9	5.0	60
OAK RIDGE	905	987.3		63	40	51.3	4.0	74	15+	20	30+	0	5			3.82	0.05	1.48	9	0	T	T	3.8		33Y		19	13	6	11	5.1	
TEXAS																																
ABILENE	1762	955.8	1017.7	67	46	56.7	3.7	83	14	24	22	0	5	41	61	2.19	1.08	1.60	6	2	0.0	0	11.6	18	37	SE	15	15	4	11	4.6	68
AMARILLO	3604	889.3	1016.5	60	35	47.5	1.5	79	9	17	30	0	12	32	63	1.53	0.87	0.57	7	2	T	T	14.3	22	40	N	4	13	8	9	4.7	59
AUSTIN	597	991.6	1019.4	72	53	62.5	3.7	83	14	31	22	0	1	51	71	2.45	0.33	1.98	3	3	0.0	0	8.8	18	32	NW	19	10	8	12	5.1	57
BROWNSVILLE	16	1015.2	1017.6	80	62	70.7	3.1	92	19	44	23+	2	0	62	77	0.60	- 0.72	0.42	5	0	0.0	0	12.7	14	35	S	27	8	12	10	5.7	55
CORPUS CHRISTI	41	1017.3	1018.6	79	57	67.8	3.7	87	26+	38	25	0	0	58	75	0.21	- 1.51	0.14	4	0	0.0	0	12.7	15	35	N	19	11	9	10	5.3	55
DALLAS	481	1000.5	1019.3	68	50	59.0	4.1	81	27	26	30	0	4	47	70	5.38	2.68	2.14	6	4	0.0	0	10.6	16	28	N	29	17	1	12	4.5	59
DEL RIO	1026	982.8	1017.6	74	51	62.4		83	14	37	25+	0	0	48	64	T		T	0	2	0.0	0	9.7	12	22	30	4	16	4	10	4.3	
EL PASO	3918	887.5	1016.4	66	37	51.8	0.6	76	9	23	22+	0	8	26	40	0.00	- 0.33	0.00	0	0	0.0	0	7.1	2	42	W	11	23	4	3	1.8	95
FORT WORTH	537	998.1	1019.2	68	47	57.6	2.8	81	2	25	22	0	5	47	72	6.23	3.77	2.83	7	4	0.0	0	9.2	18	25*	32	19	17	1	12	4.5	
GALVESTON U	7			71	61	65.8	2.8	79	17	38	22	0	0			1.49	- 2.07	0.58	7	0	0.0	0	9.8		26	NE	21+					70
HOUSTON U	41			74	59	66.3	4.7	83	17	36	23	0	0			3.42	- 0.62	1.96	8		0.0	0										
HOUSTON	50	1016.7	1019.3	75	55	65.0	4.2	85	17	34	23	0	0	55	76	4.28	0.42	2.80	9	3	0.0	0	9.2	14	29*	33	19	8	8	14	6.1	67
LAREDO	500	1002.4	1017.8	78	58	68.2	3.4	90	14	41	25	1	0	52	61	0.12	- 0.75	0.12	1	0	T	0	10.1	16	26*	36	19	12	5	13	5.0	
LUBBOCK	3243	904.7	1017.5	63	38	50.5	2.6	79	9+	19	30	0	7	36	66	0.57	0.03	0.32	4	2	0.0	0	13.7	23	45*	26	11	14	7	9	4.7	
MIDLAND	2851	916.8	1015.8	70	43	56.6	4.1	85	10	25	30+	0	5	39	61	0.20	- 0.27	0.15	3	1	0.0	0	11.3	18	29*	26	27	15	6	9	4.1	

See footnotes at end of table

CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90 F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
PORT ARTHUR	16	1017.9	1019.4	75	53	64.1	4.4	85	17+	32	23	0	1	56	80	4.19	0.73	1.89	7	3	0.0	0	9.1	18	31	SW	19	8	12	10	5.8	58
SAN ANGELO	1903	949.7	1017.2	69	45	56.9	2.1	83	13	26	22	0	5	43	65	1.14	0.36	0.72	5	1	0.0	0	7.9	18	28*	18	14	17	6	7	3.7	
SAN ANTONIO	788	994.3	1019.1	73	52	62.6	3.1	84	14	33	22	0	0	50	68	4.81	3.44	3.38	6	3	0.0	0	9.0	15	31	N	19	11	7	12	5.2	61
VICTORIA	104	1014.3		77	55	66.0	3.6	87	12	36	23	0	0			0.90	- 1.46	0.31	7	0	0.0	0	9.5		41Y		19	9	7	14	5.6	
WACO	500	997.8	1019.0	72	50	60.9	4.1	84	16+	28	22	0	4	49	71	3.67	1.48	2.02	7	3	0.0	0	10.7	17	28*	36	29	12	7	11	4.7	
WICHITA FALLS	994	981.0	1018.4	65	43	54.3	1.8	82	11+	22	30	0	10	43	72	2.74	1.32	0.98	8	5	0.0	0	11.4	16	32*	17	15	15	3	12	4.9	
UTAH																																
MILFORD	5028	845.2		46	17	31.6	- 4.5	70	7+	-10	17	0	27			1.38	0.86	0.83	7	0	12.6	10						10	7	13	5.6	
SALT LAKE CITY	4220	869.4	1020.4	48	28	37.8	1.1	65	8	13	17	0	23	26	66	1.42	0.12	0.68	11	1	6.7	2	7.9	14	33	NW	26+	6	6	18	7.0	57
WENDOVER	4237	872.1		46	28	36.8	- 0.8	63	8	16	17	0	23			0.16	- 0.13	0.11	2	0	T	T						10	6	14	5.6	
VERMONT																																
BURLINGTON	327	1002.5	1017.6	45	27	35.7	0.4	66	12	12	23	0	25	28	75	2.10	- 0.52	0.69	13	0	1.2	1	9.0	18	47	NW	18	4	8	18	7.3	46
VIRGINIA																																
LYNCHBURG	916	994.7		63	38	50.2	3.2	78	11	13	22	0	6			3.08	0.50	2.23	7	0	0.4	T	6.0		24	W	26	17	4	9	3.8	71
NORFOLK	26	1019.2	1020.5	65	44	54.6	3.2	80	16	26	23	0	3	44	69	1.14	- 1.91	0.62	5	0	T		10.7	21	36	SE	25	14	9	7	4.3	66
RICHMOND	162	1013.9	1020.2	66	37	51.5	3.0	81	16	18	22	0	6	38	67	1.98	- 1.06	0.97	5	0	0.4	T	6.7	36	28	SW	25	13	8	9	4.7	73
ROANOKE	1174	977.5	1020.2	63	39	51.1	4.4	77	16	17	22	0	6	36	61	3.09	0.39	2.24	8	0	0.5	T	6.6	32	25*	32	20	17	5	8	4.1	
WASHINGTON																																
OLYMPIA	195	1009.1	1016.3	47	35	41.0	- 2.8	57	2	25	15	0	11	39	92	9.18	1.51	2.38	18	0	1.3	T	7.2	18	30*	19	23	0	4	26	9.1	
SEATTLE TACOMA	400	1002.2	1016.4	47	37	42.1	- 1.8	56	29	30	28	0	7	38	87	9.65	4.30	2.23	19	0	3.3	1	7.6	2	25*	23	26	1	5	24	8.7	
SEATTLE U	14			49	42	45.2	- 1.7	57	2	34	26	0	0			8.11	3.11	1.85	19		1.8	T			34	SW	26+					20
SPOKANE	2356	947.7	1017.7	37	27	32.2	- 3.5	53	1	14	16+	0	25	30	91	2.89	0.65	0.64	17	0	15.2	5	8.6	21	30	S	24	1	5	24	8.8	12
STAMPEDE PASS R	3958	877.0		32	26	28.9	- 2.5	46	6	18	28	0	29			11.33	- 1.25	3.21	19	0	52.8	32						3	3	24	8.6	
TATOOSH ISLAND R	101			48	41	44.7	- 2.5	56	5	33	29+	0	0			7.79	- 2.72	2.07	17	0	T	T	16.2		5A	S	29	5	7	18	7.2	55
WALLA WALLA U	949	976.3		46	36	41.2	- 1.1	66	1	26	16	0	8			3.51	1.79	1.09	17	0	0.7		4.8		23	S	26	0	3	27	9.2	11
YAKIMA	1052	978.7	1018.3	45	32	38.2	0.8	60	2	25	17+	0	15	31	79	0.70	- 0.26	0.19	8	0	1.6	T	5.3	25	24*	18	25	3	4	23	8.4	
WEST INDIES																																
SAN JUAN P.R.	15	1012.5	1015.2	86	72	79.0	0.8	90	4+	67	30	2	0	70	75	3.39	- 3.10	0.96	19	1			8.4	7	27	NE	25+	5	19	6	5.4	59
SWAN ISLAND	28	1011.8		83	75	79.3	- 0.8	85	24+	70	20	0	0			17.84	10.45	3.13	24	7								0	12	18	7.9	
WEST VIRGINIA																																
BECKLEY	2504	930.9	1020.9	58	35	46.4		68	15+	5	22	0	8	33	64	2.35		1.00	10	0	3.3	3	9.1	24	37*	20	19	12	7	11	5.2	
CHARLESTON	939	984.8	1020.7	62	36	49.0	3.7	76	2	11	22	0	8	35	63	2.95	0.16	1.36	10	0	1.3	1	6.2	22	24*	32	19	10	10	10	5.6	
ELKINS	1970	950.4	1020.9	59	29	44.0	3.3	74	2	7	22	0	21	33	72	2.00	- 0.75	0.60	10	0	4.6	4	6.5	25	29*	26	20	9	8	13	5.8	
HUNTINGTON	827	990.0	1020.5	60	36	48.0	2.5	77	15	8	22	0	11	38	71	3.37	0.91	1.81	10	0	1.0	1	5.4	18	24*	30	19+	10	11	9	5.1	
PARKERSBURG U	615			59	36	47.5	2.7	73	15+	15	22	0	8			2.67	0.31	1.19	10	0	1.0	1	6.5		29	NW	20					58
WISCONSIN																																
GREEN BAY	682	993.3	1016.6	48	30	39.1	4.9	70	3	5	29	0	16	33	80	2.07	0.16	0.73	10	2	0.1	T	10.3	23	34	S	12	9	11	10	5.7	50
LA CROSSE	652	990.9	1017.8	47	29	37.9	3.7	74	3	- 5	30	0	15	31	78	1.09	- 0.85	0.33	6	2	4.7	4	10.2	18	30*	35	20+	10	10	10	5.5	
MADISON	858	981.4	1017.4	50	28	38.6	4.6	76	3	1	30	0	18	31	75	1.94	- 0.20	0.75	9	4	3.7	4	9.3	18	36	N	20	9	11	10	5.5	56
MILWAUKEE	672	992.1	1017.6	50	31	40.4	4.6	74	3	6	30+	0	17	32	73	2.29	0.11	1.12	9	3	1.4	1	10.7	21	47	SW	12	14	5	11	5.2	57
WYOMING																																
CASPER	5319	835.7	1017.3	43	20	31.3	- 2.3	64	5	- 4	16	0	26	17	59	0.66	- 0.05	0.20	8	0	12.9	6	14.8	23	36*	23	10	10	8	12	5.8	
CHEYENNE	6126	811.5	1016.9	47	24	35.4	1.2	68	8	14	15	0	26	15	50	0.14	- 0.48	0.07	6	0	2.0	1	14.7	29	57	NW	20	9	6	15	5.9	48
LANDER	5563	833.9	1017.3	45	20	32.6	1.6	64	8	4	16	0	27	17	58	0.40	- 0.52	0.27	4	0	8.4	6	6.9	24	47	W	26	7	11	12	6.0	65
SHERIDAN	3964	883.7	1018.7	41	15	28.0	- 5.4	67	7+	- 4	16	0	29	18	71	1.99	1.19	0.71	11	0	25.8	11	8.3	32	45	NW	19	9	4	17	6.7	46

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 70 F. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

V Sun below horizon November 19 - 30, inclusive.
X Sun below horizon November 24 - 30, inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station ∅	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	°C.	C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	189	996.1	1021.8	19.4	6.7	12.9	1.1	26.1	15	- 6.7	22	0	4	7.8	75	82	- 7	51	6	1	0	0	2.9	9	15.2	SW	19	9	10	11	5.6	64
HUNTSVILLE	183	997.9	1021.4	17.2	5.0	11.1	0.7	25.0	15+	- 8.3	22	0	6	6.1	74	102	9	52	8	1	T	T	2.8	34	17.0*	22	19	9	11	10	5.3	
MOBILE	64	1017.9	1020.3	22.2	10.6	16.2	1.2	27.2	19+	- 1.7	30+	0	2	11.1	79	95	10	45	7	2	0	0	4.3	6	11.2*	2	30+	9	11	10	5.2	
MONTGOMERY	59	1013.0	1021.2	20.6	7.8	14.2	1.8	27.2	18	- 3.3	30	0	2	8.9	75	88	11	50	5	3	0	0	2.9	6	11.2	SW	19	10	13	7	5.2	59
ALASKA																																
ANCHORAGE	44	1001.1	1006.2	- 2.2	- 9.4	- 5.9		6.7	17	-25.6	27	B 0	30	-10.6	71	69		42	8	0	655	381	3.9	1	11.6*	36	23	9	6	15	6.1	47
ANNETTE	34	1006.5	1010.6	4.4	0.6	2.4	-2.2	9.4	17	- 9.4	28	0	13	- 0.6	83	251	-121	58	22	1	41	25	4.6	11	14.3*	14	8	0	2	28	9.5	
BARROW	7	1018.3	1019.0	-15.6	-21.7	-18.6	-0.4	- 2.2	19	-33.3	28	0	30	-22.2	74	7	2	1	13	0	84	279	6.8	8	17.9*	11	17	V1	V2	V15	8.7	
BARTER ISLAND	12	1016.2	1018.2	-13.9	-20.6	-17.4	0.2	- 2.2	19	-31.1	27+	0	30	-20.6	75	7	- 3	2	9	0	74	254	6.7	7	20.6*	26	24	X0	X2	X21	9.6	
BETHEL	38	1006.6	1008.1	- 7.2	-15.0	-11.2	-2.9	3.3	16	-24.4	28	0	29	-13.3	83	17	- 10	7	12	0	168	279	6.5	3	24.6*	18	14	8	3	19	6.8	
COLD BAY	29	999.4	1004.7	3.3	- 2.2	0.5	-0.8	10.0	7	-11.7	29	0	20	- 2.8	78	94	- 2	24	21	0	411	254	7.6	25	26.4*	11	16	6	6	18	6.7	
FAIRBANKS	133	995.3	1013.4	-11.1	-21.7	-16.4	-0.8	3.9	17	-41.7	27	0	30	-18.3	86	22	7	12	9	0	460	330	1.7	36	6.7*	20	14+	7	6	17	6.5	
JUNEAU	4	1009.4	1010.6	2.8	- 2.8	0.1	-1.2	11.1	15	-17.2	29	0	18	- 3.3	81	124	- 30	34	19	0	79	25	5.0	12	16.1*	12	5	3	2	25	8.5	22
KING SALMON	13	1005.1		- 2.2	-10.0	- 5.9	-0.4	5.6	1	-21.1	28+	0	28	-10.0	72	36	- 1	13	8	0	183	76	5.7	36	24.1*	9	16	14	2	14	5.2	
KOTZEBUE	3	1012.3	1012.9	- 9.4	-17.2	-13.4	0.2	0.0	18+	-31.7	11+	0	30	-16.1	76	15	6	5	10	0	434	533	5.7	10	19.2*	13	15	8	1	21	7.1	
MC GRATH	102	997.4	1010.9	-10.0	-18.9	-14.5	0.3	2.8	17+	-36.7	30	0	30	-17.8	73	20	- 8	9	7	0	389	356	2.5	33	11.6*	16	15+	9	3	18	6.5	
NOME	4	1009.2	1010.0	- 6.1	-13.3	- 9.6	-1.0	1.7	16	-25.0	28	0	30	-12.8	78	11	- 19	4	8	0	132	102	5.1	7	20.6*	6	29	7	1	22	7.4	19
ST. PAUL ISLAND	7	1004.6	1005.8	2.2	- 2.8	- 0.4	-0.9	5.6	7	- 7.8	29	0	25	- 2.2	84	98	34	38	19	0	693	457	9.3	6	36.7*	35	16	3	1	26	8.4	
SHEMYA	37	1006.0	1009.8	2.8	- 0.6	1.3	-0.8	8.3	6	- 5.6	15	0	16	- 1.7	81	108	39	44	23	0	170	51	11.2	12	27.7*	21	6	0	5	25	8.8	
YAKUTAT	9	1007.0	1008.2	1.7	- 4.4	- 1.6	-2.6	6.1	20+	-17.2	27	0	24	- 4.4	82	421	14	68	19	0	1046	279	3.0	9	13.0*	15	14	2	5	23	8.4	
ARIZONA																																
FLAGSTAFF	2131	789.9	1019.9	8.3	- 8.9	- 0.4	-2.7	20.0	6	-23.3	17	0	30	- 8.3	61	32	7	21	6	0	363	254	3.4	18	14.3*	2	3	12	13	5	5.0	
PHOENIX	340	977.2	1016.9	20.6	5.6	13.1	-1.4	28.9	7	0.0	17	0	1	1.1	50	9	- 4	5	2	0	0	0	2.6	12	13.4Y	SSE	15	14	10	6	4.1	81
PRESCOTT	1528	847.8	1019.0	12.8	- 2.8	5.1	-2.6	23.9	6	-14.4	17	0	19	- 5.0	55	12	- 1	10	3	0	203	203	3.4	19	25.0	SW	13	15	8	7	3.9	81
TUCSON	788	927.3	1016.2	20.6	5.6	12.9	-1.6	29.4	7	- 0.6	20	0	2	0.0	48	17	2	11	5	0	3	T	3.9	12	13.4	SE	15	19	7	4	3.0	84
WINSLOW	1487	853.4	1020.9	12.2	- 3.9	4.1	-1.1	23.3	8+	-12.2	16	0	25	- 6.1	56	8	- 1	7	5	0	74	76	3.2	23	20.6*	22	13	12	8	10	4.4	
YUMA	59	1011.8	1017.1	22.2	7.8	14.9	-2.8	29.4	5	0.6	16	0	0	1.7	45	6	3	5	2	0	0	0	3.4	36	14.8	NW	23	17	4	9	3.5	86
ARKANSAS																																
FORT SMITH	137	1002.4	1019.7	20.0	5.0	12.3	2.3	27.8	15+	- 8.3	22	0	10	5.0	69	106	25	45	5	1	0	0	3.2	7	12.5	W	27	12	5	13	5.3	60
LITTLE ROCK	78	1007.3	1020.7	19.4	5.0	12.2	2.5	29.4	15	- 8.3	23+	0	8	7.2	74	94	- 11	47	7	2	0	0	2.9	24	13.4	S	27	10	8	12	5.3	53
TEXARKANA	113	989.5	1020.1	21.1	8.3	14.7	2.6	28.3	15	- 5.6	22	0	5	7.8	69	89	- 21	48	8	4	0	0	3.1	18								
CALIFORNIA																																
BAKERSFIELD	151	1002.0	1019.9	16.7	5.0	10.7	-2.6	25.0	4	- 1.1	15	0	3	4.4	70	12	- 1	5	4	0	0	0	3.0	12	10.3*	30	10+	11	8	11	5.2	
BISHOP	1252	875.8		14.4	- 3.3	5.4	-2.2	21.1	29+	-12.2	18	0	26			6	- 8	5	3	0	99	102						10	13	7	4.9	
BLUE CANYON	1609	837.0		7.2	- 0.6	3.5	-4.1	18.3	29	- 7.8	14	0	18			353	182	70	15	0	970	660	4.0		17.0*	20	11	10	4	16	6.5	
BURBANK	221	991.5	1017.6	20.0	7.2	13.5	-2.3	29.4	30+	1.1	19+	0	0	3.9	59	44	18	27	6	0	T	T	2.8	36	9.8*	3	17	17	5	8	4.3	
EUREKA U	13	1016.2		13.3	6.7	10.0	-0.7	17.8	29	- 1.1	15	0	3			308	191	68	17	2	0	0	2.9	SE#	14.8	W	10	8	3	19	6.8	47
FRESNO	100	1007.8	1019.9	16.7	5.0	10.7	-1.4	23.3	7	- 1.7	20+	0	5	6.7	80	38	14	17	8	0	0	0	2.5	13	10.7	NW	12+	11	7	12	5.5	69
LONG BEACH	10	1016.6	1018.1	19.4	7.2	13.4	-2.8	28.9	29	1.7	19+	0	0	5.0	62	32	6	18	5	0	0	0	2.9	28	10.7*	34	14	12	8	10	4.6	
LOS ANGELES	30	1014.4	1018.2	20.0	9.4	14.9	-1.2	30.0	30	3.3	19	0	0	6.1	62	27	- 1	12	6	0	0	0	3.8	26	18.3Y	S	9	12	10	8	4.4	
MT SHASTA R	1080	893.5		8.3	- 1.7	3.3	-2.2	18.9	6	- 9.4	17	0	18			155	54	63	14	0	445	279						8	5	17	6.4	
OAKLAND	2	1019.1	1019.5	15.0	8.9	11.9	-0.7	19.4	6	2.8	19+	0	0	6.7	72	82	38	25	13	0	0	0	3.8	18	11.6*	18	10+	8	11	11	6.0	
RED BLUFF	104	1006.2	1019.2	15.0	5.6	10.2	-2.3	25.0	5	- 1.7	19	0	6	4.4	71	122	64	45	11	0	0	0	3.8	35	18.8	S	10	10	3	17	6.3	57
SACRAMENTO	5	1018.6	1020.0	15.0	5.6	10.2	-1.4	21.7	5	- 1.1	20+	0	5	5.6	76	69	32	21	11	0	0	0	3.2	14	12.1	SE	11	7	8	15	6.7	58
SACRAMENTO U	6			15.0	6.7	10.9	-1.4	23.3	5	1.1	20+	0	0			67	28	19	12		0	0										
SAN DIEGO	4	1014.4	1017.7	20.6	9.4	15.1	-1.5	30.0	6	3.3	20+	0	0	6.7	63	26	3	9	7	0	0	0	2.6	30	10.3	NW	13	14	9	7	4.0	77
SAN FRANCISCO	2	1019.0	1019.8	14.4	7.2	10.9	-1.8	20.6	5	1.7	21+	0	0	6.1	76	84	44	35	12	0	0	0	3.8	30	16.5	S	10	8	8	14	6.2	
SAN FRANCISCO U	16			15.6	10.0	12.9	-1.2	23.3	5	6.7	20+	0	0			101	51	25	14	0	0	0	3.1	N#	15.2	SW	10					62
SANTA CATALINA	478	961.8		17.2	11.1	14.1	-1.7	27.8	30	3.9	17	0	0			35	7	17	7	2	T	0						12	9	9	4.7	
SANTA MARIA	73	1010.6		17.8	3.9	10.9	-2.5	27.8	6	- 2.2	21+	0	6			62	36	28	8	0	0	0						13	10	7	4.1	
STOCKTON	7	1018.6	1020.1	14.4	5.0	9.8	-1.9	20.6	8	- 3.3	20	0	6	6.1	81	65	35	19	13	0	0	0	3.5	12	12.1*	35	15	5	8	17	7.0	
COLORADO																																
ALAMOSA	2297	771.0		6.1	-12.8	- 3.4	-2.0	17.8	8+	-25.6	20	0	30			20	13	15	6	0	345	152						16	8	6	4.1	
COLORADO SPRINGS	1873	809.4	1017.5	10.0	- 3.3	3.6	0.5	23.3	8	-10.0	19	0	22	- 8.3	49	12	2	9	4	0	124	127	4.9	2	18.3*	29	12	10	9	11	5.3	
DENVER	1610	836.1	1015.6	11.1	- 2.2	4.4	1.3	23.3	8	- 7.2	28+	0	24	- 7.2	50	22	5	12	8	0	152	127	3.7	19	12.5	NW	25+	10	8	12	5.5	65
GRAND JUNCTION	1480	861.1	1019.9	8.9	- 2.2	3.4	-0.4	19.4	8	- 7.8	22+	0	24	- 5.0	61	27	12	11	9	1	307	51	2.8	13	16.1	S	13	10	6	14	5.7	53
PUEBLO	1428	856.2	1017.1	13.9	- 2.8	5.3	0.9	25.6	8	-10.0	28	0	23	- 5.6	51	7	- 7	6	2	0	74	51	4.7	30	19.7	N	3	13	7	10	5.0	71

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
CONNECTICUT																																
BRIDGEPORT	2	1018.1	1019.0	12.8	3.3	7.8	0.8	19.4	13	- 6.1	22	0	7	2.2	69	48	- 54	20	8	0	0	0	5.6	29	25.9*	14	26	13	4	13	5.4	
HARTFORD	52	1011.9	1018.1	12.2	0.0	6.3	1.1	22.8	13	-10.0	23	0	16	- 0.6	66	56	- 42	23	8	1	T	T	3.5	36	14.8	Nw	17	11	6	13	6.1	61
NEW HAVEN	2	1018.1		12.2	1.7	7.1	0.8	19.4	13	- 7.8	23	0	13			56	- 47	22	8	0	0	0	3.4		13.9	E	26	12	5	13	5.5	65
DELAWARE																																
WILMINGTON	24	1015.9	1019.2	15.0	2.2	8.7	1.2	22.2	13	- 8.3	23+	0	6	2.2	66	41	- 49	31	6	0	T	T	3.8	29	12.5*	18	20	13	9	8	4.6	
DIST.OF COLUMBIA																																
WASHINGTON U	22			16.1	5.0	10.5		23.9	13+	- 4.4	22	0	5			36																
WASH NATL AP	4	1015.0	1019.3	16.7	4.4	10.6	1.8	25.0	13	- 5.6	22	0	5	2.2	61	36	- 36	26	6	0	5	T	3.4	32	13.9	NNw	30	11	10	9	5.2	55
FLORIDA																																
APALACHICOLA U	4	1018.1		22.2	13.9	18.1	1.8	26.7	17	3.3	30	0	0			55	- 10	30	6	2	0	0	3.0					14	10	6	3.8	53
DAYTONA BEACH	9	1018.2	1019.9	25.0	15.0	19.9	1.4	29.4	20	6.7	30	0	0	16.1	82	80	20	39	8	2	0	0	3.7	36	11.2*	36	3	11	9	10	5.2	
FORT MYERS	5	1017.8		27.8	16.7	22.3	1.7	30.6	15	10.6	30	0	0			6	- 25	3	4	1	0	0	3.5		10.3*	3	22+	6	15	9	5.7	
JACKSONVILLE	7	1017.9	1019.7	23.3	12.8	18.3	1.8	28.9	20	3.9	30	0	0	13.3	78	85	42	51	12	1	0	0	4.1	36	16.5	Nw	30	9	8	13	5.6	51
KEY WEST	1	1016.7	1017.8	27.8	22.8	25.0	1.6	31.1	21	20.6	30+	0	0	20.6	79	28	- 43	13	8	1	0	0	5.4	5	12.5	N	30	8	12	10	5.5	60
LAKELAND U	65			26.1	16.1	20.9	1.5	30.0	28	5.6	30	0	0			9	- 32	8	3	1	0	0	3.1					10	11	9	5.3	63
MIAMI BEACH	3			26.1	21.7	24.0	0.8	27.8	18	15.6	30	0	0			20	- 44				0	0	5.6									
MIAMI	2	1016.8	1018.1	27.2	20.6	23.8	1.4	28.3	28+	14.4	30	0	0	18.9	76	76	4	36	7	2	0	0	3.8	8	11.2*	8	4	7	12	11	6.1	
ORLANDO	33	1015.1	1019.7	26.1	16.7	21.4	2.6	29.4	20+	7.8	30	0	0	16.1	76	11	- 28	9	3	1	0	0	3.8	36	11.2*	23	25	10	11	9	5.5	
PENSACOLA	34			21.7	11.7	16.8	0.0	27.2	4	- 0.6	30	0	1			106	24				0	0	3.4	36	16.5	Nw	30					
TALLAHASSEE	18	1018.1	1020.7	23.3	8.3	15.9	0.8	28.3	17+	1.1	30	0	0	11.1	77	98	36	50	7	1	0	0	3.5	36	13.4*	36	30	12	11	7	4.9	
TAMPA	6	1017.3	1019.0	25.6	13.9	19.8	0.5	30.0	15+	5.0	30	0	0	15.0	78	10	- 27	4	4	0	0	0	4.8	36	13.4*	32	30	10	11	9	5.6	47
WEST PALM BEACH	5	1017.4	1018.5	27.2	18.3	22.6	0.1	29.4	20	13.3	30	0	0	18.3	79	146	74	115	9	2	0	0	3.9	7	14.3*	8	15	4	11	15	6.7	
GEORGIA																																
ATHENS	244	991.9	1021.2	20.0	6.7	13.3	2.5	26.7	17	- 5.6	30	0	4	6.7	70	64	- 10	44	6	0	0	0	3.5	5	10.7*	31	30	14	9	7	4.1	
ATLANTA	306	978.9	1021.4	18.9	7.2	13.1	2.5	25.6	17	- 5.6	30+	0	4	6.7	71	79	4	47	7	1	0	0	3.5	6	15.6	NW	30	14	8	8	4.4	69
AUGUSTA	44	1013.4	1020.5	22.8	6.7	14.6	2.3	30.0	17	- 3.9	23	0	3	7.2	71	31	- 24	18	5	0	0	0	3.0	36	11.2*	32	30	13	7	10	4.6	
COLUMBUS	117	1006.7		21.7	7.8	14.7	2.4	28.3	18	- 1.7	30+	0	2			53	- 13	24	7	1	0	0	2.4		10.3*	30	19	10	8	12	5.1	
MACON	108	1007.4	1021.2	21.7	6.7	14.3	1.3	29.4	17	- 2.2	30	0	2	8.3	75	47	- 15	25	6	1	0	0	3.1	3	13.4	NW	30	14	6	10	4.6	65
ROME	194	998.2		19.4	3.9	11.6	2.1	26.1	14	- 7.8	22	0	7			80	- 7	54	7	0	0	0										
SAVANNAH	14	1018.0	1020.6	22.8	8.9	15.6	1.6	29.4	17	0.0	30	0	1	9.4	71	74	22	59	5	0	0	0	3.4	2	13.0	Nw	30	12	8	10	4.9	69
HAWAII																																
HILO	9	1013.4	1015.4	27.2	18.3	22.6	-0.3	30.0	26+	15.6	18	0	0	18.9	81	594	255	153	18	3	0	0	3.8	23	13.0*	12	24	7	11	12	6.1	36
HONOLULU	2	1014.3	1014.7	27.8	21.7	24.7	0.3	30.0	4	16.1	17	0	0	19.4	76	60	5	14	19	2	0	0	4.6	6	13.9	NE	8	5	14	11	6.1	39
KAHULUI	15	1011.7	1014.7	25.6	18.9	22.3	-1.6	28.9	13	15.0	17	0	0	19.4	87	73	35	21	15	1	0	0	4.9	6	12.1	Nw	2+	7	13	10	5.6	59
LIHUE	35	1010.2	1015.7	25.6	20.6	23.0	-0.6	26.7	21	17.8	20+	0	0	19.4	83	248	133	115	21	1	0	0	4.8	6	12.5	E	8	5	9	16	7.1	
IDAHO																																
BOISE	865	921.5	1019.5	7.2	- 1.7	2.7	-0.9	18.9	4	-11.7	16	0	20	- 1.1	80	59	29	17	14	0	185	102	3.4	13	13.9	SE	11	6	8	16	6.8	53
IDAHO FALLS 42NW R	1460			4.4	- 8.9	- 2.2	0.0	13.3	5	-20.0	21	0	29			36	28						2.1		13.4A	Sw	26					
IDAHO FALLS 46W R	1504			4.4	- 8.9	- 2.2	-1.0	14.4	5	-20.6	15	0	29			39	28	14	11	0	312	152	3.1		16.1A	Sw	26					
LEWISTON	431	965.5		7.2	0.6	3.9	-0.4	15.6	4	- 6.1	16	0	12			34	3	13	13	0	117	76						3	5	22	8.3	
POCATELLO	1358	864.0	1019.9	6.7	- 3.3	1.7	0.0	16.7	5	-12.2	15	0	24	- 3.3	72	22	- 4	7	10	0	94	51	4.6	21	16.5	S	12	6	6	18	7.1	31
ILLINOIS																																
CAIRO U	96	1007.3		16.1	5.6	10.8	2.0	26.1	15+	-11.1	30	0	8			88	- 10	40	8	3	T	T	3.8	S#	17.0	Sw	27	9	11	10	5.4	58
CHICAGO O HARE	201	993.1	1018.3	11.1	- 0.6	5.2	1.8	23.3	3	-15.0	21	0	17	1.1	76	74	19	38	6	3	58	25	4.1	18	17.9*	21	12	10	8	12	5.5	
CHICAGO MIDWAY	185	995.2	1018.5	11.7	1.1	6.5	2.1	23.9	3	-13.9	21	0	14	0.0	67	32	- 24	19	7	2	20	25	4.9	20	18.8	Sw	12	11	8	11	5.2	60
MOLINE	177	996.1	1018.7	12.8	1.1	6.8	2.8	24.4	11+	-16.1	30	0	12	0.6	67	86	37	33	8	5	53	25	4.9	20	22.4	W	29	11	9	10	5.4	59
PEORIA	199	996.4	1019.3	12.2	0.6	6.4	2.1	25.0	3	-15.6	30	0	14	1.1	71	76	22	49	7	3	25	T	4.3	18	25.0	w	20	14	5	11	5.0	57
ROCKFORD	222	990.1	1017.8	11.1	- 0.6	5.1	2.2	23.3	3	-16.1	21	0	16	1.1	76	115	54	53	8	4	71	51	4.9	18	15.6*	21	2	12	6	12	5.3	
SPRINGFIELD	179	995.8	1019.4	13.9	2.2	8.1	2.6	26.1	3	-19.4	30	0	12	1.1	66	106	46	62	9	3	112	76	5.2	17	21.5	w	20	16	2	12	4.8	62
INDIANA																																
EVANSVILLE	116	1004.9	1021.1	16.1	1.1	8.6	1.5	25.6	2	-13.9	30	0	11	2.8	70	59	- 21	22	11	0	30	25	2.6	32	13.9	Nw	20	12	8	10	5.1	73
FORT WAYNE	241	987.7	1019.6	12.8	0.0	6.3	2.5	23.3	4+	-12.2	22	0	16	1.7	75	30	- 35	11	5	1	69	51	4.5	20	20.1	Sw	20	9	10	11	5.5	60
INDIANAPOLIS	242	989.6	1020.1	13.9	1.1	7.4	2.4	24.4	1	-13.9	30	0	10	1.7	70	80	1	55	9	1	66	25	4.2	29	19.2	w	20	11	7	12	5.4	59
SOUTH BEND	236	989.9	1018.5	11.7	0.6	6.2	2.3	23.3	3	-13.3	22	0	15	1.7	74	59	- 8	25	11	2	343	203	4.9	23	14.3*	27	20+	8	8	14	5.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
IOWA																																
BURLINGTON	212	993.2	1019.4	13.3	1.1	7.2	3.1	25.6	11+	-17.2	30	0	12	1.1	68	50	2	19	10	4	51	25	5.2	19	25.0	NW	20	13	6	11	5.1	66
DES MOINES	286	986.6	1018.8	10.6	- 0.6	5.1	2.1	24.4	2	-19.4	30	0	14	0.6	74	24	- 21	15	5	5	13	T	5.5	20	24.1	NW	20	8	7	15	6.2	45
DUBUQUE	325	992.0		9.4	- 1.1	4.2	2.7	22.8	3	-18.9	30	0	15			51	- 15	23	7	2	86	76						10	7	13	5.7	
SIOUX CITY	334	975.7	1018.1	8.9	- 2.8	3.1	0.8	21.7	14+	-21.1	30	0	18	- 2.2	70	3	- 27	1	5	0	10	T	5.0	32	23.2	NW	20	5	11	14	6.4	64
WATERLOO	265	984.6	1017.4	9.4	- 2.8	3.3	1.8	22.2	14	-21.7	30	0	16	- 0.6	78	28	- 18	12	6	2	53	51	4.9	32	19.2*	33	20	6	11	13	6.2	
KANSAS																																
CONCORDIA	448	967.1	1018.0	12.2	0.6	6.3	1.1	25.0	2	-15.6	30	0	14	0.6	71	38	13	17	7	3	30	25	5.4	18	15.2	NW	20+	10	9	11	5.5	63
DODGE CITY	787	928.1	1017.8	12.8	0.6	6.6	0.6	27.2	2	-11.1	30	0	16	0.6	75	48	32	24	9	0	64	51	6.4	2	17.0	N	3	7	11	12	6.0	59
GOODLAND	1111	887.9	1017.3	12.2	- 3.9	3.9	0.6	23.3	8+	-14.4	29	0	22	- 6.1	57	7	- 6	5	4	0	71	76	5.7	36	18.3*	31	11	11	10	9	5.2	
TOPEKA	267	982.4	1018.7	12.8	2.8	7.9	2.0	27.8	2	-14.4	30	0	13	2.8	71	159	121	118	9	2	33	25	4.5	18	15.2	SW	11+	11	4	15	5.8	54
WICHITA	403	968.4	1017.9	12.8	3.9	8.4	1.6	25.0	2	-12.2	30	0	11	4.4	77	149	112	110	9	3	3	T	5.9	18	22.8	N	20	10	6	14	6.1	51
KENTUCKY																																
COVINGTON	265	987.7	1020.0	15.6	1.1	8.4	2.4	25.6	4	-14.4	30	0	11	1.7	66	68	- 8	18	9	0	43	25	3.4	21	15.6*	29	20	12	6	12	5.5	
LEXINGTON	298	984.6	1020.8	15.0	2.8	8.9	1.8	23.3	4	-12.8	22	0	9	2.2	67	60	- 23	24	9	0	18	25	3.8	18	12.5*	18	28+	13	9	8	4.6	
LOUISVILLE	144	998.7	1020.5	15.6	2.2	8.9	1.8	23.3	4	-12.2	22	0	10	3.3	71	84	3	28	11	2	23	25	3.0	18	21.0	S	28	14	5	11	5.1	66
LOUISIANA																																
ALEXANDRIA	28	1015.6	1020.3	21.1	7.8	14.5	0.8	27.8	5	- 1.7	30+	0	4	10.6	81	92	- 29	35	6	4	0	0	1.9	18	9.4*	32	19	9	10	11	5.7	
BATON ROUGE	20	1017.3	1020.5	22.8	10.6	16.7	1.8	29.4	12	- 1.7	22	0	2	11.1	75	119	15	44	7	3	0	0	3.0	12	10.3*	2	30	8	11	11	6.0	
LAKE CHARLES	4	1019.1	1020.1	23.3	11.7	17.6	2.2	29.4	16	0.6	30	0	0	12.2	76	52	- 55	23	6	2	0	0	3.8	18	10.3*	4	30+	7	15	8	5.4	
NEW ORLEANS	1	1018.1	1020.3	22.2	11.1	16.6	1.0	27.2	18+	1.7	30+	0	0	12.8	79	89	4	25	7	2	0	0	2.9	5	10.3*	36	30	9	8	13	5.9	
NEW ORLEANS AUDUBON	2	1013.2		22.8	12.2	17.6	1.4	28.3	17	1.1	30	0	0			83	- 6	32	9	2			1.9		7.2	NW	30	7	11	12	6.2	41
SHREVEPORT	77	1011.3	1020.7	21.1	8.9	15.2	2.0	28.3	16	- 3.3	22	0	5	8.9	71	42	- 65	19	8	2	0	0	4.1	18	13.0*	17	27	12	8	10	5.0	60
MAINE																																
CARIBOU	190	992.1		2.8	- 6.1	- 1.5	-0.5	11.7	13	-18.9	23	0	28			58	- 19	14	11	0	328	203						4	8	18	7.0	
PORTLAND	19	1013.3	1017.5	8.9	- 3.9	2.3	-1.1	19.4	13	-11.7	23	0	27	- 2.8	71	83	- 23	34	9	1	T	T	3.1	36	15.2	NW	18	10	5	15	5.9	60
MARYLAND																																
BALTIMORE	45	1014.7	1019.5	16.1	3.3	9.9	2.4	23.9	12	- 8.3	23	0	5	1.1	59	64	- 16	51	5	0	T	0	3.9	28	14.3	W	26	11	10	9	4.7	73
BALTIMORE U	4			16.7	6.7	11.8	2.5	24.4	13+	- 5.6	22	0	4			73	- 6	62	4													
MASSACHUSETTS																																
BLUE HILL OBS R	192	992.6		10.6	1.7	6.1	0.5	18.9	13	- 8.3	23	0	10			64	- 52	38	8	0	0	0	6.8	WNW								60
BOSTON	5	1013.2	1018.0	10.6	2.8	6.7	-0.4	20.0	13	- 4.4	23	0	7	0.0	67	55	- 44	31	10	1	T	T	5.5	30	15.6*	SE	26	12	5	13	5.4	61
NANTUCKET	13	1017.4	1018.0	11.7	3.3	7.3	-0.4	15.6	20+	- 2.2	23+	0	6	2.8	72	30	- 72	16	7	0	T	0	5.8	23	18.8	N	30	9	8	13	6.0	53
PITTSFIELD	357			9.4	- 1.1	4.1	1.2	20.6	13	-10.0	23	0	18			41	- 58	16	9		T	T										
WORCESTER	301	980.2	1017.6	10.0	0.6	5.1	1.1	19.4	13	- 8.3	23	0	14	- 1.7	65	81	- 28	45	10	0	T	T	4.4	29	15.6*	27	13	12	6	12	5.2	
MICHIGAN																																
ALPENA	210	993.3		8.9	- 1.1	3.8	2.4	23.9	4	-15.0	30	0	20			59	- 1	28	16	1	178	102	3.4	30	13.4	SW	12	4	8	18	7.5	38
DETROIT	189	991.2	1018.5	11.7	2.8	7.2	2.5	22.2	4	- 9.4	30+	0	11	1.7	69	21	- 36	6	8	0	66	51	5.0	23	15.6	W	29	6	10	14	6.2	50
DETROIT M WAYNE CO	193	994.5	1019.1	11.1	- 0.6	5.1	0.4	22.2	4	-12.8	30	0	18	0.0	71	20	- 37	8	8	1	109	102	4.6	22				9	7	14	6.2	
DETROIT WILLOW RUN	217	989.4	1018.3	11.1	0.6	5.8	1.3	21.7	4	- 9.4	30+	0	15	1.1	76	19	- 38	7	6	0	94	102	4.8	22	17.9*	23	20	7	11	12	6.0	
FLINT	233	989.9	1018.5	10.6	0.0	5.3	2.6	22.2	4	-11.1	30	0	15	1.1	76	30	- 25	13	7	0	119	102	4.5	23	13.4*	24	12	6	6	18	6.7	
GRAND RAPIDS	239	991.5	1017.7	10.6	0.0	5.4	2.0	22.8	3	-12.2	30	0	16	2.2	82	54	- 9	20	13	4	147	102	4.6	18	20.6	SW	12	4	12	14	7.1	39
LANSING	256	985.2	1017.9	11.7	0.0	5.7	2.4	23.3	2	-11.7	30	0	19	2.2	80	49	- 7	27	10	2	107	102	4.8	25	21.0	SW	12	5	10	15	6.5	39
MARQUETTE U	206	988.1		6.1	- 1.1	2.5	1.5	19.4	8	-12.2	30	0	13			67	- 16	14	14	2	378	229	3.7	NW#	13.4	NW	17	2	6	22	8.3	33
MUSKEGON	191	994.4	1017.9	10.6	1.7	6.1	1.8	19.4	3+	-11.7	29	0	13	3.3	83	76	2	35	9	4	404	178	5.3	30	13.4*	28	21	5	7	18	7.4	
SAULT STE MARIE	220	992.4	1015.7	5.6	- 2.2	1.7	0.9	17.2	4	-19.4	30	0	15	- 1.1	83	110	25	35	18	3	475	305	4.9	11	17.9*	30	17	2	5	23	8.6	28
MINNESOTA																																
DULUTH	435	974.0	1016.7	3.3	- 5.0	- 1.0	1.6	17.2	8	-30.6	30	0	21	- 5.0	75	47	2	20	9	1	218	178	4.9	31	17.4	E	14	6	6	18	7.2	45
INTERNATIONAL FALLS	359	974.8	1016.9	1.7	- 7.2	- 2.9	1.6	16.1	7	-32.8	30	0	23	- 5.6	81	19	- 19	10	10	0	112	102	4.9	30	13.0*	30	20	5	5	20	7.4	
MINNEAPOLIS	254	982.6	1017.0	6.7	- 3.3	1.7	2.1	20.6	2	-27.2	30	0	17	- 1.7	80	30	- 5	9	10	3	109	102	4.0	13	13.0	NE	11	6	12	12	5.9	52
ROCHESTER	395	979.6	1017.8	5.6	- 3.9	1.0	1.3	18.3	3	-24.4	30	0	16	- 1.7	81	60	20	33	10	4	122	102	5.9	31	14.3*	1	20	8	7	15	6.2	
ST CLOUD	315	977.7		3.9	- 5.0	- 0.6	0.8	18.3	2	-28.9	30	0	21			25	- 9	6	7	3	112	102						8	5	17	6.4	
MISSISSIPPI																																
JACKSON	94	1008.7	1021.0	22.2	8.3	15.2		29.4	15	- 4.4	22	0	4	9.4	72	164		107	6	3	T	0	3.4	14	13.0*	S	27	9	11	10	5.3	
MERIDIAN	88	1007.4	1021.5	21.1	6.1	13.6	1.3	29.4	13	- 5.0	30+	0	5	8.9	78	122	43	56	5	3	0	0	2.6	36	11.2*	1	30+	8	11	11	5.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
VICKSBURG U	71	1010.8		20.0	10.6	15.3	1.9	28.3	16	- 5.0	22	0	4			108	- 5	48	6	2	0	0	3.3		14.8	N	30	7	12	11	5.9	46
MISSOURI																																
COLUMBIA	237	989.5	1018.5	15.0	3.9	9.5	3.2	26.7	11+	-17.2	30	0	10	2.2	65	79	22	42	9	2	25	25	5.0	18	19.2	NW	20	12	5	13	5.4	60
KANSAS CITY	226	982.8	1018.2	14.4	5.0	9.9	2.9	27.2	14+	-13.9	30	0	8	1.7	61	120	74	94	7	2	53	T	4.3	18	15.2	NW	20	12	2	16	5.7	57
ST JOSEPH	247	983.3		12.8	2.2	7.6	2.3	27.8	2	-15.6	30	0	13			78	35	53	7	2	33	25	4.5	16	15.6*	30	20	11	4	15	5.6	
ST LOUIS	163	999.0	1020.1	14.4	2.8	8.5	1.8	25.6	2	-17.2	30	0	11	2.8	70	98	32	46	8	2	79	51	4.9	18	16.1	NW	20	13	5	12	5.2	66
ST LOUIS RFC	142			15.0	5.0	10.1	2.4	25.6	2	-15.0	30	0	8			69	0	19	7		18	T										
SPRINGFIELD	386	969.7	1019.4	16.1	3.9	9.9	2.7	25.6	15+	-13.3	30	0	10	3.3	69	81	11	42	8	1	T	T	4.6	16	13.0	NW	20	11	6	13	5.4	55
MONTANA																																
BILLINGS	1087	890.1	1017.4	5.6	- 6.7	- 0.4	-2.2	18.3	7	-22.2	29	0	24	- 7.2	64	18	2	8	9	0	183	127	4.9	24	16.5	SW	24	6	5	19	7.4	32
GLASGOW	694	941.0		3.9	- 9.4	- 2.7	-0.6	17.8	7	-27.2	28	0	28			7	- 5	3	5	0	61	51						4	8	18	7.5	
GREAT FALLS	1116	887.1	1018.3	5.6	- 5.6	- 0.1	-1.3	19.4	4	-25.0	29	0	22	- 8.3	59	18	- 1	9	8	0	201	178	5.1	23	14.3	SW	6	4	6	20	7.6	40
HAVRE	787	925.9		4.4	-10.0	- 2.7	-1.3	20.0	4	-30.6	29	0	30			11	- 1	5	7	0	137	102	3.4	SW#	17.0	NW	24	5	4	21	7.6	36
HELENA	1167	872.5	1018.8	6.1	- 7.8	- 0.8	-0.6	17.8	1	-18.9	27	0	28	- 6.7	66	13	- 1	8	7	0	160	127	2.8	28	13.0	S	24	4	8	18	7.3	38
KALISPELL	904	911.7	1018.8	3.9	- 5.0	- 0.6	0.0	12.2	4+	-17.8	29	0	28	- 2.2	88	54	18	18	16	0	267	152	2.4	36	8.0	14	24	1	6	23	8.4	
MILES CITY	801		1018.7	2.8	-10.0	- 3.6	-3.9	18.9	5	-28.9	29	0	29	- 7.8	75	34	23	21	11	0	366	203	3.6	15	17.0*	31	19					
MISSOULA	972	902.3	1019.8	4.4	- 6.1	- 0.9	-0.1	14.4	1	-12.8	16	0	30	- 3.3	85	14	- 9	4	9	0	94	51	2.2	30	10.7	NW	2	2	5	23	8.2	25
NEBRASKA																																
GRAND ISLAND	561	950.3	1018.3	10.6	- 4.4	3.2	0.3	22.2	8+	-20.6	30	0	19	- 3.9	64	4	- 16	2	3	2	T	T	5.2	35	19.7*	31	20	10	8	12	5.4	
LINCOLN U	351			11.1	0.0	5.7	0.8	25.6	2	-20.6	30	0	14			8	- 24	6	5	2	13	25	4.7	NW#	21.0	NW	20	9	10	11	5.7	49
NORFOLK	471	960.7		9.4	- 4.4	2.5	0.3	22.2	8	-26.1	30	0	20			5	- 18	2	4	0	36	25						5	15	10	6.0	
NORTH PLATTE	846	915.7	1017.2	11.7	- 7.2	2.1	0.2	25.0	2	-21.7	21	0	27	- 6.7	59	1	- 12	1	1	0	T	T	4.2	36	17.9	NW	20	10	11	9	5.3	60
OMAHA	298	977.2	1018.1	11.7	0.0	5.7	1.8	26.7	2	-22.8	30	0	13	0.0	70	59	27	44	6	1	66	76	4.5	35	21.0	NW	20	7	8	15	6.3	51
OMAHA N OMAHA AP	403	968.2		9.4	- 1.1	4.3	1.3	25.0	2	-23.9	30	0	14			21	- 12	13	5	2	71	76						6	8	16	6.7	
SCOTTSBLUFF	1206	878.7	1017.5	11.7	- 5.6	2.8	0.7	22.2	8	-13.3	21	0	27	- 6.7	56	T	- 11	T	1	0	3	T	5.2	30	15.6*	25	27	8	6	16	6.2	
VALENTINE	789	924.2		9.4	- 7.8	0.7	-0.2	25.6	8	-25.0	29	0	27			1	- 11	1	2	0	25	25	4.4	W#	22.4	NW	19	8	13	9	5.4	56
NEVADA																																
ELKO	1539	845.8		7.2	- 8.9	- 0.8	-2.1	17.2	6+	-22.8	18	0	28			27	5	9	11	0	310	76	3.1		16.1*	24	1	8	6	16	6.5	
ELY	1906	809.0	1020.4	6.7	-10.0	- 1.5	-2.4	19.4	6	-26.1	14	0	28	- 7.2	74	24	9	7	8	1	328	102	3.0	18	15.6	N	15	7	8	15	6.7	71
LAS VEGAS	659	951.3	1018.3	16.1	3.9	10.0	-1.4	26.1	1	- 1.1	20+	0	6	- 3.3	44	16	8	16	3	0	102	76	4.2	24	17.4*	NW	13	13	12	5	4.3	76
RENO	1342	863.5	1020.2	11.1	- 4.4	3.3	-0.2	21.7	6	-13.3	19+	0	24	- 3.3	69	16	2	7	7	0	132	76	2.8	18	17.9	SW	10	7	7	16	6.4	90
WINNEMUCCA	1310	869.3		8.9	- 6.1	1.4	-0.7	19.4	6	-20.0	18	0	25			21	0	11	10	0	160	127	3.6	18	16.1	W	12+	6	7	17	6.9	47
NEW HAMPSHIRE																																
CONCORD	103	1006.7	1017.9	9.4	- 3.3	2.8	-0.3	20.6	13	-11.7	23	0	25	- 2.2	71	88	- 6	42	10	0	T	T	3.1	31	13.9*	33	17	11	4	15	5.9	54
MT WASHINGTON OBS	1909	796.9		- 2.2	-10.6	- 6.4	0.1	5.6	12	-22.8	23	0	30			149	- 19	41	15	0	536	51	17.0	W#	47.8Y	W	13	3	8	19	7.7	36
NEW JERSEY																																
ATLANTIC CITY	18	1017.7	1019.9	15.6	1.1	8.3	0.2	23.3	13	-11.7	23	0	13	2.8	71	30	- 63	16	7	0	T	T	4.4	31	13.0*	15	25	15	6	9	4.3	67
ATLANTIC CITY U	3			14.4	6.1	10.3	1.3	22.2	13	- 6.1	22	0	4			31	- 66	11	7				5.4		16.5*	NW	20+					
NEWARK	3	1017.8	1019.2	14.4	5.0	9.7	1.9	21.7	13	- 5.0	23+	0	5	1.7	61	53	- 33	30	8	0	0	0	4.4	23	17.0*	31	16	13	6	11	5.0	
TRENTON U	17	1011.1		14.4	4.4	9.4	1.8	21.7	13	- 5.6	22	0	4			46	- 34	28	8	1	3	T	3.6	NW#	13.4	SE	25	12	9	9	4.7	66
NEW MEXICO																																
ALBUQUERQUE	1618	848.9	1017.4	13.3	0.0	6.5	0.1	21.1	8	- 7.8	22	0	16	- 4.4	50	5	- 4	4	3	1	T	T	2.9	36	19.7	E	15	20	4	6	3.3	79
CLAYTON	1515	845.7		12.8	- 1.1	5.8	0.4	23.9	8	- 8.3	30	0	20			20	12	15	7	3	36	25						14	5	11	4.9	
RATON	1944	805.2		11.7	- 4.4	3.7	0.7	22.8	8	-12.8	20	0	27			19	9	8	7	1	137	51						12	9	9	4.8	
ROSWELL	1102	894.3		18.3	- 0.6	8.9	1.2	27.8	2	- 7.8	30	0	18			8		4	5	1	0	0	3.8		16.1	NW	15	17	6	7	3.7	66
SILVER CITY	1638	836.9		16.1	0.0	7.9	-0.7	22.8	8	- 7.8	22	0	17			3	- 8	2	2	0	0	0						18	9	3	2.6	
NEW YORK																																
ALBANY	84	1015.0	1018.9	10.0	0.0	5.2	1.3	20.6	13	-10.0	23	0	14	- 0.6	69	37	- 32	13	9	0	T	T	4.2	18	17.4	W	18	7	7	16	6.8	38
BINGHAMTON	485	958.6	1018.4	11.1	1.1	6.1	2.7	18.3	13+	-10.0	22	0	13	0.6	72	48	- 15	24	8	0	T	T	4.9	26	14.8	W	18	4	9	17	7.3	46
BUFFALO	215	989.1	1017.7	10.0	1.7	5.6	1.7	20.6	12	- 8.9	30+	0	10	1.7	78	53	- 38	26	10	1	137	76	5.4	27	16.5	SW	21	4	7	19	7.6	42
NEW YORK U	40	1007.5		13.9	5.6	9.7	1.3	21.7	13	- 4.4	22	0	4			65	- 21	41	8	0	0	0	3.7	W#	14.3	NW	17	15	7	8	4.4	61
NEW YORK LA GUARDIA	3	1017.1	1018.7	13.3	6.7	9.9	1.4	21.1	13	- 3.9	22	0	4	2.8	63	42	- 49	23	8	0	0	0	4.9	27	17.0	SE	25	13	6	11	4.9	
ROCHESTER	167	998.7	1018.4	10.6	0.6	5.7	1.2	21.7	12	-10.0	30	0	15	1.1	76	41	- 23	12	10	0	130	102	4.6	25	16.5	W	21	5	8	17	7.2	47
SCHENECTADY	66			10.0	1.1	5.4	1.1	18.3	13	- 5.6	23	0	14			50	- 18	20	7	0	T	0						14	5	11		
SYRACUSE	127	995.4	1017.8	11.7	1.1	6.4	1.9	21.7	12	- 8.3	30	0	14	1.1	72	56	- 18	18	11	0	102	76	5.0	27	15.6	NW	13	4	9	17	7.4	37

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NORTH CAROLINA																																
ASHEVILLE	661	944.0	1021.3	17.8	2.2	9.8		23.9	13	- 8.9	30	0	10	3.9	73	68		62	5	0	T	0	3.5	35	17.4*	35	30	15	9	6	3.8	77
CAPE HATTERAS R	2	1018.9	1019.6	18.9	10.6	14.8	1.4	24.4	28+	3.3	30	0	0	10.6	76	53	- 51	15	6	0	0	0	4.4	5	17.0	SE	25	10	12	8	4.9	65
CHARLOTTE	224	991.9	1020.4	19.4	6.1	12.7	2.4	26.1	17+	- 5.0	23	0	3	5.6	65	52	- 12	44	5	0	T	T	3.1	36	11.2	N	30+	17	5	8	4.0	75
GREENSBORO	273	988.5	1020.8	18.9	3.9	11.4	2.6	25.6	16	- 6.7	30	0	5	5.0	69	40	- 28	30	6	0	8	T	3.0	22	11.6	SW	19	15	7	8	4.0	72
RALEIGH	132	1006.2	1020.1	18.9	3.9	11.5	1.5	26.1	16	- 7.2	23	0	6	5.0	70	35	- 35	15	4	1	10	T	3.5	36	11.6*	23	19	15	9	6	4.0	78
WILMINGTON	9	1017.7	1020.6	22.2	8.3	15.1	2.1	27.8	17	- 1.1	23	0	1	8.9	71	30	- 49	27	3	0	T	0	3.0	2	13.9	SW	19	15	7	8	4.4	77
WINSTON SALEM	294	984.8	1020.4	18.9	6.1	12.3	2.9	26.1	16	- 6.1	30+	0	4	4.4	62	50	- 20	36	6	0	36	25	3.1	23	8.0*	35	30+	15	7	8	3.9	
NORTH DAKOTA																																
BISMARCK	502	955.5	1018.2	2.8	-10.0	- 3.7	-2.0	18.9	7	-33.9	29	0	28	- 8.3	70	11	- 4	6	5	0	170	127	4.8	30	13.4	NW	25	11	3	16	6.3	43
FARGO	273	982.0	1017.5	3.9	- 6.7	- 1.6	0.6	19.4	2	-30.0	30	0	21	- 5.6	76	18	- 3	13	4	1	69	76	4.4	18	13.9	N	20	6	7	17	7.0	41
WILLISTON	579	947.9		2.2	-11.1	- 4.7	-2.2	18.3	5	-30.6	29	0	28			17	2	7	7	0	157	102	4.1	SW#	17.0	N	19	8	11	11	6.3	50
OHIO																																
AKRON	368	981.0	1019.8	12.8	1.7	7.1	2.2	22.2	15+	-12.2	22	0	8	0.6	66	48	- 9	17	8	0	130	127	4.1	25	12.1*	18	28	9	9	12	5.6	
CINCINNATI OBS	232			14.4	3.3	8.8	1.8	23.9	4	-10.6	22	0	8			66	- 9	19	9	1	33	25	2.6	S#	11.6	W	20					73
CINCINNATI U	169	996.8		15.6	4.4	10.0	2.0	25.0	4+	- 8.9	30+	0	7			62	- 13	18	9	1	36											
CLEVELAND	237	990.6	1018.9	11.7	1.7	6.8	2.1	21.1	15+	-10.6	22+	0	9	1.7	72	23	- 43	9	11	0	25	T	4.6	18	15.6	W	20	6	11	13	6.5	46
COLUMBUS	247	990.1	1020.5	13.9	1.1	7.3	2.2	23.3	3	-11.7	22	0	10	0.6	66	46	- 18	14	8	0	25	25	3.7	18	15.6	W	20	10	10	10	5.2	61
COLUMBUS U	221			13.9	3.3	8.7	2.4	23.9	3	-10.0	22	0	7			47	- 10	16	7	0	15	25										
DAYTON	305	987.1	1020.1	13.9	1.7	7.8	2.4	23.9	3	-13.3	22	0	9	1.7	68	50	- 18	17	8	1	51	25	4.5	21	17.9	W	20	11	9	10	5.4	64
MANSFIELD	395			11.7	1.1	6.6	2.5	22.2	4	-12.2	22	0	12			38	- 30	12	10	0	48	25						8	13	9	5.5	
TOLEDO	206	995.6	1019.1	11.7	- 0.6	5.7	2.1	22.8	4+	-12.2	30	0	18	0.0	69	20	- 32	7	6	0	91	25	4.0	24	14.8	SW	20	8	10	12	6.0	58
YOUNGSTOWN	359	976.1	1019.4	12.2	2.2	7.0	2.9	21.7	4	-11.7	22	0	9	0.0	63	45	- 27	18	9	0	97	25	4.8	24	16.1*	26	20	8	11	11	6.0	
OKLAHOMA																																
OKLAHOMA CITY	390	974.4	1018.4	15.6	4.4	9.9	0.8	26.7	2	- 9.4	30	0	12	5.0	77	139	99	39	8	5	T	0	5.9	16	17.0	SW	2	9	10	11	5.7	49
TULSA	198	994.0	1018.7	17.8	5.6	11.5	2.8	28.3	2	-10.6	30	0	10	5.0	69	175	117	70	12	6	0	0	5.2	18	14.8	N	30	11	5	14	5.7	50
OREGON																																
ASTORIA	2	1015.2	1015.9	11.1	3.3	7.1	-0.8	15.6	29	- 2.2	20	0	8	3.9	80	283	- 1	65	20	1	T	0	3.8	10	16.5*	17	23	5	5	20	7.5	
BURNS U	1265	872.6		7.2	- 5.0	0.9	-1.4	15.6	6	-13.3	13	0	26			51	22	12	15	0	287	178						7	2	21	6.9	
EUGENE	109	1003.8	1017.5	8.9	3.3	6.2	-1.3	17.2	3	- 3.3	16	0	8	4.4	91	272	129	43	18	0	T	0	3.1	18	9.8*	18	30	1	3	26	8.9	
MEACHAM	1234			3.3	- 2.8	0.3	-1.1	12.2	6	- 9.4	16	0	25			151	46	43	18	0	582	254						6	4	20	7.5	
MEDFORD	396	970.3	1019.0	9.4	0.6	5.1	-0.7	18.3	3	- 8.3	19	0	12	2.8	90	95	29	20	16	0	20	T	1.6	30	13.0*	15	11	5	3	22	7.8	
PENDLETON	452	963.8	1018.4	7.8	1.1	4.5	-0.7	17.8	24	- 3.9	16	0	10	1.7	84	49	13	14	15	0	5	T	3.8	30	15.6*	25	26	3	4	23	8.5	
PORTLAND	6	1011.7	1017.3	8.9	1.1	5.0	-2.3	13.3	2	- 3.9	20+	0	10	2.8	85	172	37	34	19	0	T	T	4.2	12	13.4	SW	26	2	8	20	8.2	20
PORTLAND U	9			10.0	4.4	7.2	-1.2	15.0	2	- 2.2	20	0	4			257	104	50	19		T	0										
ROSEBURG	157	999.9		10.6	3.3	6.9	-0.9	21.1	3	- 2.8	17	0	7			205	91	26	19	0	T	T	1.6	N#	8.0	N	11	0	7	23	8.9	18
SALEM	60	1010.5	1017.8	9.4	1.7	5.6	-1.8	15.6	3+	- 5.6	19+	0	11	4.4	93	214	69	32	20	0	T	0	3.4	18	13.9*	18	30	3	3	24	8.3	
SEXTON SUMMIT R	1169	883.1		6.1	0.6	3.3	-2.7	15.6	6	- 6.1	14	0	13			208	97	37	19	0	818	381	6.4					9	3	18	6.8	
PACIFIC AREA																																
CANTON ISLAND	2	1007.7	1008.3	30.0	25.0	27.4	-1.2	30.6	24+	23.9	22	0	0	21.1	69	1	- 40	T	3	0	0	0	6.1	7	9.8*	6	30+	8	13	9	5.7	
ENIWETOK	4	1009.9		30.6	25.0	27.7	-0.4	31.1	26+	22.8	15	0	0			185	25	62	23	0	0	0	6.0									
TAGUAC GUAM R	110	1008.9		30.0	22.8	26.2	-0.1	30.6	30+	20.0	29+	0	0			154	-108	73	18	3	0	0	2.9	E#								65
JOHNSTON	2	1011.3	1012.3	27.8	23.3	25.7	-0.7	28.9	14	21.1	8	0	0	21.7	79	41	- 11	16	14	0	0	0	5.8	9	13.9	E	8	4	15	11	6.6	47
KOROR R	29	1004.8	1007.3	30.6	23.9	27.2	-0.1	32.8	2	22.2	22	1	0	24.4	89	349	21	109	22	2	0	0	3.2	18	26.4	SE	17	0	0	30	9.9	45
KWAJALEIN	2	1007.6	1008.4	30.0	24.4	27.1	-0.3	31.1	3	22.2	7	0	0	23.9	84	235	- 73	57	20	3	0	0	5.5	6	13.4*	10	7+	1	9	20	8.0	
PONAPE R	37	1003.3	1007.9	30.6	22.8	26.7	0.1	32.2	20	20.6	23	1	0	23.3	87	322	-106	106	24	0	0	0	2.4	14	9.4	SE	6	0	6	24	8.3	54
TRUK MOEN ISLAND	2	1008.0		30.6	24.4	27.4	0.3	32.2	20+	22.8	7	2	0	23.9	81	199	-115	77	25	1	0	0	3.6	6	11.6	SW	7	1	6	23	8.4	59
WAKE	3	1012.1		28.9	23.9	26.6	-0.3	30.0	28+	21.7	30	0	0	22.2	78	64	- 14	49	10	1	0	0	4.0	6	15.6*	35	30	7	18	5	5.0	
YAP R	17	1006.1	1006.9	30.6	24.4	27.6	0.1	31.7	30+	22.8	6	0	0	24.4	85	157	-126	35	23	0	0	0	3.5	4	11.2	NE	14+	0	4	26	9.2	59
PENNSYLVANIA																																
ALLENTOWN	115	1004.9	1019.5	13.9	0.6	7.1	1.6	21.7	13	- 8.9	23	0	12	0.6	68	59	- 25	39	5	1	T	T	4.6	29	16.1*	32	16	13	8	9	4.9	
ERIE	223	992.0	1018.7	11.1	3.3	7.2	2.1	21.1	12+	- 8.9	22+	0	8	1.7	71	78	- 7	30	11	0	505	457	6.7	18	15.6*	24	21	5	6	19	7.3	
HARRISBURG	102	1005.9	1019.9	13.9	1.1	7.6	1.3	22.8	12	-10.0	23	0	10	1.1	67	47	- 27	39	5	0	T	T	3.8	27	13.4	NW	16	12	6	12	5.2	71
PHILADELPHIA	2	1014.6	1019.5	15.0	1.7	8.4	1.6	22.2	13	- 8.3	22	0	8	2.2	66	42	- 45	27	7	0	T	0	3.7	22	16.5	S	20	14	8	8	4.9	64
PITTSBURGH	347	988.7	1019.6	12.8	2.2	7.5	2.6	21.1	15+	-11.7	22	0	7	1.1	66	70	13	27	8	0	41	51	4.1	26	13.4*	25	21	6	13	11	6.1	67
PITTSBURGH U	228			14.4	3.9	9.1	2.2	22.2	15	- 8.9	22	0	6			70	11				13											
READING U	81	1007.0		15.0	2.8	9.0	1.7	23.3	12	- 6.7	23+	0	6			59	- 28	39	7	0	T	T	4.7	NW#	20.1	E	25	13	10	7	4.6	63
SCRANTON	283	984.5	1019.2	12.2	1.1	6.7	2.5	21.1	12	- 8.3	30+	0	12	0.6	67	47	- 27	30	7	0	3	T	3.6	23	14.3	NW	16	10	5	15	5.9	59

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	C.	C.	C.	°C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
WILLIAMSPORT	161	1000.6	1020.0	12.8	0.0	6.4	1.3	20.0	13+	-10.0	23	0	17	0.6	71	57	- 31	41	6	0	T	T	3.1	27	10.3*	26	20	7	8	15	6.2	
RHODE ISLAND																																
BLOCK ISLAND	34	1013.3		11.7	4.4	7.9	0.6	15.6	13	- 4.4	23	0	3			33	- 61	21	7	0	0	0						9	9	12	5.7	
PROVIDENCE	16	1012.0	1018.0	12.8	1.1	7.0	0.9	21.1	13	- 7.8	23	0	11	- 0.6	61	62	- 43	32	7	0	T	0	4.4	27	18.3*	31	17	13	6	11	4.9	62
SOUTH CAROLINA																																
CHARLESTON	12	1018.3	1020.2	22.8	8.9	15.8	2.6	28.9	17	0.0	30	0	1	9.4	70	13	- 40	7	5	0	0	0	3.8	1	21.5Y	NW	30	12	8	10	4.9	59
CHARLESTON U	3			21.1	12.2	16.9	2.1	28.3	17	1.1	30	0	0			23	- 26	13	5		0	0	4.6		20.1	N	30					
COLUMBIA	66	1007.3	1020.4	22.2	7.2	14.6	2.5	27.8	17	- 3.3	23	0	3	7.2	69	35	- 25	21	3	0	0	0	3.0	25	12.5*	34	30	15	9	6	4.0	70
FLORENCE	45	1014.3	1020.1	21.7	7.8	14.8	2.3	28.9	17	- 3.3	23	0	3	7.8	68	12	- 46	8	4	0	T	T	3.6	2	12.5*	34	30	14	7	9	4.2	
GNVLE SPARTANBURG	292	983.3	1020.7	19.4	6.7	13.3	2.3	27.2	18	- 6.1	30	0	4	5.0	62	85	13	72	6	0	0	0	3.2	4	13.0	N	30	18	5	7	3.7	76
SOUTH DAKOTA																																
HURON	391	969.1	1017.8	6.1	- 8.9	- 1.5	-1.1	23.3	2	-29.4	30+	0	26	- 7.2	68	5	- 12	3	4	0	91	51	5.1	30	21.0	NW	20	12	7	11	5.0	68
RAPID CITY	965	900.7	1017.8	7.8	- 6.1	0.9	-0.8	23.9	8	-21.1	29	0	24	- 7.8	58	8	- 3	4	9	0	66	25	5.0	34	22.4	N	19	8	12	10	5.6	61
SIOUX FALLS	432	964.5	1017.6	7.2	- 6.7	0.4	0.1	21.1	2	-27.2	30	0	23	- 4.4	71	10	- 16	6	5	0	99	51	4.5	36	14.8*	35	20	10	10	10	5.6	
TENNESSEE																																
BRISTOL	459	965.7	1021.0	16.7	3.3	10.1	2.4	23.3	15	- 9.4	22	0	7	4.4	73	48	- 16	20	10	0	18	25	2.4	25	9.8*	30	20	12	7	11	5.1	
CHATTANOOGA	204	993.6	1021.6	18.3	4.4	11.5	1.7	25.6	13	- 6.7	22	0	6	6.7	80	102	10	60	8	2	T	T	2.0	14	11.6	N	30	14	6	10	4.9	68
KNOXVILLE	299	985.6	1021.5	17.2	5.6	11.3	2.0	23.9	15	- 6.7	30+	0	4	6.1	72	71	- 11	31	11	0	T	T	2.9	23	12.1	SW	25	13	5	12	5.2	56
MEMPHIS	80	1006.0	1020.9	18.3	6.7	12.4	2.4	27.2	15	- 7.8	22	0	7	7.8	76	66	- 45	26	7	2	T	T	3.2	22	14.3	NW	19	12	8	10	5.2	57
MEMPHIS U	83			17.8	8.3	13.1	2.1	27.2	15	- 8.3	30	0	6			81	- 25	32	6		T											
NASHVILLE	176	1000.7	1020.8	17.8	4.4	10.9	1.8	26.1	15	- 9.4	30+	0	7	6.1	74	93	10	44	9	0	T	T	3.2	18	15.6	SE	28	12	9	9	5.0	60
OAK RIDGE	276	987.3		17.2	4.4	10.7	2.2	23.3	15+	- 6.7	30+	0	5			97	1	38	9	0	T	T	1.7		14.8Y		19	13	6	11	5.1	
TEXAS																																
ABILENE	537	955.8	1017.7	19.4	7.8	13.7	2.1	28.3	14	- 4.4	22	0	5	5.0	61	56	27	41	6	2	0	0	5.2	18	16.5	SE	15	15	4	11	4.6	68
AMARILLO	1098	889.3	1016.5	15.6	1.7	8.6	0.8	26.1	9	- 8.3	30	0	12	0.0	63	39	22	14	7	2	T	T	6.4	22	17.9	N	4	13	8	9	4.7	59
AUSTIN	182	991.6	1019.4	22.2	11.7	16.9	2.1	28.3	14	- 0.6	22	0	1	10.6	71	62	8	50	3	3	0	0	3.9	18	14.3	NW	19	10	8	12	5.1	57
BROWNSVILLE	5	1015.2	1017.6	26.7	16.7	21.5	1.7	33.3	19	6.7	23+	2	0	16.7	77	15	- 18	11	5	0	0	0	5.7	14	15.6	S	27	8	12	10	5.7	55
CORPUS CHRISTI	12	1017.3	1018.6	26.1	13.9	19.9	2.1	30.6	26+	3.3	25	0	0	14.4	75	5	- 38	4	4	0	0	0	5.7	15	15.6	N	19	11	9	10	5.3	55
DALLAS	147	1000.5	1019.3	20.0	10.0	15.0	2.3	27.2	27	- 3.3	30	0	4	8.3	70	137	68	54	6	4	0	0	4.7	16	12.5	N	29	17	1	12	4.5	59
DEL RIO	313	982.8	1017.6	23.3	10.6	16.9		28.3	14	2.8	25+	0	0	8.9	64	T		T	0	2	0	0	4.3	12	9.8	30	4	16	4	10	4.3	
EL PASO	1194	887.5	1016.4	13.9	2.8	11.0	0.3	24.4	9	- 5.0	22+	0	8	- 3.3	40	0	- 8	0	0	0	0	0	3.2	2	18.8	W	11	23	4	3	1.8	95
FORT WORTH	164	998.1	1019.2	20.0	8.3	14.2	1.6	27.2	2	- 3.9	22	0	5	8.3	72	158	96	72	7	4	0	0	4.1	18	11.2*	32	19	17	1	12	4.5	
GALVESTON U	2			21.7	16.1	18.8	1.6	26.1	17	3.3	22	0	0			38	- 53	15	7	0	0	0	4.4		11.6	NE	21+					70
HOUSTON U	12			23.3	15.0	19.1	2.6	28.3	17	2.2	23	0	0			87	- 16	50	8		0	0										
HOUSTON	15	1016.7	1019.3	23.9	12.8	18.3	2.3	29.4	17	1.1	23	0	0	12.8	76	109	11	71	9	3	0	0	4.1	14	13.0*	33	19	8	8	14	6.1	67
LAREDO	152	1002.4	1017.8	25.6	14.4	20.1	1.9	32.2	14	5.0	25	1	0	11.1	61	3	- 19	3	1	0	T	0	4.5	16	11.6*	36	19	12	5	13	5.0	
LUBBOCK	988	904.7	1017.5	17.2	3.3	10.3	1.4	26.1	9+	- 7.2	30	0	7	2.2	66	14	1	8	4	2	0	0	6.1	23	20.1*	26	11	14	7	9	4.7	
MIDLAND	869	916.8	1015.8	21.1	6.1	13.7	2.3	29.4	10	- 3.9	30+	0	5	3.9	61	5	- 7	4	3	1	0	0	5.1	18	13.0*	26	27	15	6	9	4.1	
PORT ARTHUR	5	1017.9	1019.4	23.9	11.7	17.8	2.4	29.4	17+	0.0	23	0	1	13.3	80	106	19	48	7	3	0	0	4.1	18	13.9	SW	19	8	12	10	5.8	58
SAN ANGELO	580	949.7	1017.2	20.6	7.2	13.8	1.2	28.3	13	- 3.3	22	0	5	6.1	65	29	9	18	5	1	0	0	3.5	18	12.5*	18	14	17	6	7	3.7	
SAN ANTONIO	240	994.3	1019.1	22.8	11.1	17.0	1.7	28.9	14	0.6	22	0	0	10.0	68	122	87	86	6	3	0	0	4.0	15	13.9	N	19	11	7	12	5.2	61
VICTORIA	32	1014.3		25.0	12.8	18.9	2.0	30.6	12	2.2	23	0	0			23	- 37	8	7	0	0	0	4.2		18.3Y		19	9	7	14	5.6	
WACO	152	997.8	1019.0	22.2	10.0	16.1	2.3	28.9	16+	- 2.2	22	0	4	9.4	71	93	38	51	7	3	0	0	4.8	17	12.5*	36	29	12	7	11	4.7	
WICHITA FALLS	303	981.0	1018.4	18.3	6.1	12.4	1.0	27.8	11+	- 5.6	30	0	10	6.1	72	70	34	25	8	5	0	0	5.1	16	14.3*	17	15	15	3	12	4.9	
UTAH																																
MILFORD	1533	845.2		7.8	- 8.3	- 0.2	-2.5	21.1	7+	-23.3	17	0	27			35	22	21	7	0	320	254						10	7	13	5.6	
SALT LAKE CITY	1286	869.4	1020.4	8.9	- 2.2	3.2	0.6	18.3	8	-10.6	17	0	23	- 3.3	66	36	3	17	11	1	170	51	3.5	14	14.8	NW	26+	6	6	18	7.0	57
WENDOVER	1291	872.1		7.8	- 2.2	2.7	-0.4	17.2	8	- 8.9	17	0	23			4	- 3	3	2	0	T	T						10	6	14	5.6	
VERMONT																																
BURLINGTON	100	1002.5	1017.6	7.2	- 2.8	2.1	0.2	18.9	12	-11.1	23	0	25	- 2.2	75	53	- 13	18	13	0	30	25	4.0	18	21.0	NW	18	4	8	18	7.3	46
VIRGINIA																																
LYNCHBURG	279	994.7		17.2	3.3	10.1	1.8	25.6	11	-10.6	22	0	6			78	13	57	7	0	10	T	2.7		10.7	W	26	17	4	9	3.8	71
NORFOLK	8	1019.2	1020.5	18.3	6.7	12.6	1.8	26.7	16	- 3.3	23	0	3	6.7	69	29	- 49	16	5	0	T	0	4.8	21	16.1	SE	25	14	9	7	4.3	66
RICHMOND	49	1013.9	1020.2	18.9	2.8	10.8	1.7	27.2	16	- 7.8	22	0	6	3.3	67	50	- 27	25	5	0	10	T	3.0	36	12.5	SW	25	13	8	9	4.7	73
ROANOKE	358	977.5	1020.2	17.2	3.9	10.6	2.4	25.0	16	- 8.3	22	0	6	2.2	61	78	10	57	8	0	13	T	3.0	32	11.2*	32	20	17	5	8	4.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
WASHINGTON																																
OLYMPIA	59	1009.1	1016.3	8.3	1.7	5.0	-1.6	13.9	2	- 3.9	15	0	11	3.9	92	233	38	60	18	0	33	T	3.2	18	13.4*	19	23	0	4	26	9.1	
SEATTLE TACOMA	122	1002.2	1016.4	8.3	2.8	5.6	-1.0	13.3	29	- 1.1	28	0	7	3.3	87	245	109	57	19	0	84	25	3.4	2	11.2*	23	26	1	5	24	8.7	
SEATTLE U	4			9.4	5.6	7.3	-0.9	13.9	2	1.1	26	0	0			206	79	47	19		46	T			15.2	SW	26+					20
SPOKANE	718	947.7	1017.7	2.8	- 2.8	0.1	-1.9	11.7	1	-10.0	16+	0	25	- 1.1	91	73	17	16	17	0	386	127	3.8	21	13.4	S	24	1	5	24	8.8	12
STAMPEDE PASS R	1206	877.0		0.0	- 3.3	- 1.7	-1.4	7.8	6	- 7.8	28	0	29			288	- 32	82	19	0	1341	813						3	3	24	8.6	
TATOOSH ISLAND R	31			8.9	5.0	7.1	-1.4	13.3	5	0.6	29+	0	0			198	- 69	53	17	0	T	T	7.2		2.2	S	29	5	7	18	7.2	55
WALLA WALLA U	289	976.3		7.8	2.2	5.1	-0.6	18.9	1	- 3.3	16	0	8			89	45	28	17	0	18	0	2.1		10.3	S	26	0	3	27	9.2	11
YAKIMA	321	978.7	1018.3	7.2	0.0	3.4	0.4	15.6	2	- 3.9	17+	0	15	- 0.6	79	18	- 7	5	8	0	41	T	2.4	25	10.7*	18	25	3	4	23	8.4	
WEST INDIES																																
SAN JUAN P.R.	5	1012.5	1015.2	30.0	22.2	26.1	0.4	32.2	4+	19.4	30	2	0	21.1	75	86	- 79	24	19	1	0	0	3.8	7	12.1	NE	25+	5	19	6	5.4	59
SWAN ISLAND	9	1011.8		28.3	23.9	26.3	-0.4	29.4	24+	21.1	20	0	0			453	265	80	24	7	0	0						0	12	18	7.9	
WEST VIRGINIA																																
BECKLEY	763	930.9	1020.9	14.4	1.7	8.0		20.0	15+	-15.0	22	0	8	0.6	64	60		25	10	0	84	76	4.1	24	16.5*	20	19	12	7	11	5.2	
CHARLESTON	286	984.8	1020.7	16.7	2.2	9.4	2.1	24.4	2	-11.7	22	0	8	1.7	63	75	4	35	10	0	33	25	2.8	22	10.7*	32	19	10	10	10	5.6	
ELKINS	600	950.4	1020.9	15.0	- 1.7	6.7	1.8	23.3	2	-13.9	22	0	21	0.6	72	51	- 19	15	10	0	117	102	2.9	25	13.0*	26	20	9	8	13	5.8	
HUNTINGTON	252	990.0	1020.5	15.6	2.2	8.9	1.4	25.0	15	-13.3	22	0	11	3.3	71	86	23	46	10	0	25	25	2.4	18	10.7*	30	19+	10	11	9	5.1	
PARKERSBURG U	187			15.0	2.2	8.6	1.5	22.8	15+	- 9.4	22	0	8			68	8	30	10	0	25	25	2.9		13.0	NW	20					58
WISCONSIN																																
GREEN BAY	208	993.3	1016.6	8.9	- 1.1	3.9	2.7	21.1	3	-15.0	29	0	16	0.6	80	53	4	19	10	2	3	T	4.6	23	15.2	S	12	9	11	10	5.7	50
LA CROSSE	199	990.9	1017.8	8.3	- 1.7	3.3	2.1	23.3	3	-20.6	30	0	15	- 0.6	78	28	- 22	8	6	2	119	102	4.6	18	13.4*	35	20+	10	10	10	5.5	
MADISON	262	981.4	1017.4	10.0	- 2.2	3.7	2.6	24.4	3	-17.2	30	0	18	- 0.6	75	49	- 5	19	9	4	94	102	4.2	18	16.1	N	20	9	11	10	5.5	56
MILWAUKEE	205	992.1	1017.6	10.0	- 0.6	4.7	2.6	23.3	3	-14.4	30+	0	17	0.0	73	58	3	28	9	3	36	25	4.8	21	21.0	SW	12	14	5	11	5.2	57
WYOMING																																
CASPER	1621	835.7	1017.3	6.1	- 6.7	- 0.4	-1.3	17.8	5	-20.0	16	0	26	- 8.3	59	17	- 1	5	8	0	328	152	6.6	23	16.1*	23	10	10	8	12	5.8	
CHEYENNE	1867	811.5	1016.9	8.3	- 4.4	1.9	0.7	20.0	8	-10.0	15	0	26	- 9.4	50	4	- 12	2	6	0	51	25	6.6	29	25.5	NW	20	9	6	15	5.9	48
LANDER	1696	833.9	1017.3	7.2	- 6.7	0.3	0.9	17.8	8	-15.6	16	0	27	- 8.3	58	10	- 13	7	4	0	213	152	3.1	24	21.0	W	26	7	11	12	6.0	65
SHERIDAN	1208	883.7	1018.7	5.0	- 9.4	- 2.2	-3.0	19.4	7+	-20.0	16	0	29	- 7.8	71	51	30	18	11	0	655	279	3.7	32	20.1	NW	19	9	4	17	6.7	46

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

V Sun below horizon November 19 - 30, inclusive.
X Sun below horizon November 24 - 30, inclusive.

HEATING DEGREE DAYS

(Base 65°F.)

NOVEMBER 1964

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	305	501	462
Huntsville	389	648	565
Mobile	167	245	235
Montgomery	242	393	398
ALASKA			
Anchorage	1303	3266	3266
Annette	855	2356	2082
Barrow	1993	6491	6149
Barter Island	1929	6156	5923
Bethel	1589	3782	3801
Cold Bay	957	3287	3114
Cordova FAA AP	1029	3001	3077
Fairbanks	1876	4025	4181
Juneau	980	2718	2768
King Salmon	1303	3423	3346
Kotzebue	1715	4410	4527
McGrath	1772	3956	4154
Nome	1504	3975	4219
St. Paul Is.	1004	3688	3581
Shemya	914	3456	3213
Yakutat	1068	3068	2811
ARIZONA			
Flagstaff	1001	1744	1740
Phoenix (U)	231	231	
Phoenix	281	281	256
Prescott	711	860	851
Tucson	293	298	256
Winslow	761	946	962
Yuma	199	199	108
ARKANSAS			
Ft. Smith	338	534	589
Little Rock	336	525	601
Texarkana	237	370	423
CALIFORNIA			
Bakersfield	407	425	319
Bishop	688	848	866
Blue Canyon	791	1234	1130
Burbank	262	281	226
Eureka (U)	444	1537	1528
Fresno	410	457	417
Long Beach	264	296	208
Los Angeles (U)	186	191	169
Los Angeles	197	235	292
Mt. Shasta (R)	804	1389	1284
Oakland	340	628	584
Red Bluff	434	498	371
Sacramento (U)	397	455	456
Sacramento	436	499	414
Sandberg (R)	686	855	712
San Diego	187	195	181
San Francisco (U)	284	861	817
San Francisco	393	744	668
San Jose (U)	386	500	
Santa Catalina	256	322	240
Santa Maria	398	906	704
Stockton	457	521	
COLORADO			
Alamosa	1166	2191	2147
Colorado Springs	790	1348	1472
Denver	743	1257	1291
Grand Junction	800	1060	1129
Pueblo	693	1071	1130
CONNECTICUT			
Bridgeport	562	1024	988
Hartford	644	1209	1188
Middletown	641	1339	
New Haven	601	1104	1094
DELAWARE			
Wilmington	514	944	909
DIST. OF COLUMBIA			
Washington (U)	417	761	
Washington	415	744	769
FLORIDA			
Apalachicola (U)	79	122	169
Daytona Beach	22	40	75
Fort Myers	0	0	24
Jacksonville	66	105	156
Key West	0	0	0
Lakeland (U)	17	32	57
Miami	0	0	0
Miami Beach	0	0	0
Orlando	14	21	72
Pensacola	142	214	214
Tallahassee	151	239	226
Tampa	24	46	60
West Palm Beach	0	0	6
GEORGIA			
Athens	273	488	532
Atlanta	288	491	559
Augusta	216	387	411
Columbus	219	362	420
Macon	238	415	368
Rome	367	639	659
Savannah	157	273	293
IDAHO			
Boise	835	1433	1339
Idaho Falls 46W (R)	1104	2173	1999
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	1099	2192	2093
Lewiston	775	1323	1282
Pocatello	894	1663	1565
ILLINOIS			
Cairo (U)	407	636	713
Chicago (Midway)	633	1175	1160
Chicago (O'Hare)	699	1430	1317
Moline	624	1188	1217
Peoria	637	1190	1178
Rockford	713	1437	1366
Springfield	554	986	1059
INDIANA			
Evansville	518	945	892
Ft. Wayne	642	1263	1275
Indianapolis	581	1077	1129
South Bend	648	1341	1266
IOWA			
Burlington	601	1091	1183
Des Moines	707	1292	1293
Dubuque	756	1480	1555
Sioux City	818	1399	1353
Waterloo	809	1569	1506
KANSAS			
Concordia	645	1009	1038
Dodge City	632	970	950
Goodland	770	1289	1278
Topeka	572	964	999
Wichita	531	766	880
KENTUCKY			
Lexington	502	949	902
Louisville	502	900	911
LOUISIANA			
Alexandria	233	392	329
Baton Rouge	155	230	247
Lake Charles	139	199	229
New Orleans (Audubon Park)	120	171	177
New Orleans	163	236	211
Shreveport	216	315	344
MAINE			
Caribou	1063	2464	2255
Greenville (U)	1030	2439	
Portland	857	1861	1575
MARYLAND			
Baltimore (U)	347	598	702
Baltimore	448	847	897
MASSACHUSETTS			
Blue Hill Obs. (R)	654	1303	1201
Boston	620	1180	988
Nantucket	586	1126	1084
Pittsfield	760	1710	1658
Worcester	704	1481	1411
MICHIGAN			
Alpena	778	1850	1938
Detroit (City AP)	594	1140	1185
Detroit (M. Wayne Co.)	710	1537	1187
Detroit (Willow Run)	670	1420	1197
Escanaba (U)	858	1896	1852
Flint	698	1580	1523
Grand Rapids	690	1480	1410
Lansing	672	1508	1410
Marquette (U)	850	1838	1843
Muskegon	656	1410	1322
S. Ste. Marie	894	2097	2011
MINNESOTA			
Duluth	1037	2310	2273
Internat. Falls	1144	2460	2483
Minneapolis	894	1696	1761
Rochester	930	1845	1724
St. Cloud	1014	1909	1914
MISSISSIPPI			
Jackson	219	343	380
Meridian	277	462	420
Vicksburg (U)	223	334	332
MISSOURI			
Columbia	488	808	956
Kansas City	473	759	871
St. Joseph	582	983	1059
St. Louis (RFC)	446	689	814
St. Louis	526	916	938
Springfield	457	793	868
MONTANA			
Billings	1009	1744	1591
Butte	1107	2507	
Glasgow	1135	1967	2060
Great Falls	990	1795	1803
Havre	1129	2106	2047
Helena	1028	2004	1987
Kalispell	1011	2418	2144
Miles City	1176	1943	1660
Missoula	1031	2321	2097
NEBRASKA			
Grand Island	810	1412	1329
Lincoln (U)	684	1111	1108
Norfolk	484	1094	1390
North Platte	870	1506	1454
Omaha	676	1146	1205
Omaha N. Omaha AP	753	1295	1302
Scottsbluff	831	1526	1473
Valentine	947	1678	1621
NEVADA			
Elko	1029	1919	1753
Ely	1064	1939	1836
Las Vegas	444	456	465
Reno	802	1335	1625
Tonopah	892	1235	
Winnemucca	907	1634	1656
NEW HAMPSHIRE			
Concord	831	1730	1560
Mt. Washington Obs. (R)	1330	4397	4147
NEW JERSEY			
Atlantic City	532	926	839
Atlantic City (U)	426	715	
Newark	461	780	851
Trenton (U)	474	879	897
NEW MEXICO			
Albuquerque	632	827	883
Clayton	670	1048	1081
Raton	783	1357	1419
Roswell	501	667	793
Silver City	555	744	714
NEW YORK			
Albany	702	1404	1374
Binghamton	657	1402	1569
Buffalo	680	1447	1414
New York (U)	461	835	803
New York (LaGuardia)	444	788	778
Rochester	674	1394	1328
Schenectady	692	1390	1323
Syracuse	636	1297	1325
NORTH CAROLINA			
Asheville	456	923	
Cape Hatteras (R)	194	333	351
Charlotte	307	613	568
Greensboro	369	728	738
Raleigh	365	695	635
Wilmington	184	329	365
Winston-Salem	325	617	675
NORTH DAKOTA			
Bismarck	1180	2177	1944
Devils Lake (U)	1132	2242	2199
Fargo	1065	2072	1965
Grand Forks FAA	1105	2086	
Pembina	1116	2159	
Williston	1236	2238	2058
OHIO			
Akron	602	1229	1212
Cincinnati (U)	445	777	805
Cincinnati	529	987	1035
Cincinnati Obs.	510	921	914
Cleveland	617	1266	1261
Columbus	589	1131	1151
Columbus (U)	518	940	993
Dayton	559	1044	1090
Mansfield	627	1255	1310
Toledo	676	1417	1331
Youngstown	603	1298	1328
OKLAHOMA			
Oklahoma City	454	628	677
Tulsa	385	565	698
OREGON			
Astoria	598	1518	1422
Burns (U)	934	1838	1641
Eugene	646	1133	1148
Meacham	968	2192	1994
Medford	710	1145	1128
Pendleton	742	1267	1172
Portland (U)	593	972	904
Portland	711	1408	1099
Roseburg	610	1032	1039
Salem	684	1342	1111
Sexton Summit (R)	804	1675	1442
PENNSYLVANIA			
Allentown	599	1129	1136
Erie	596	1253	1232
Harrisburg	570	1044	1009
Philadelphia (U)	390	686	748
Philadelphia	532	962	972
Pittsburgh (U)	491	934	966
Pittsburgh	577	1175	1215
Reading (U)	498	897	908
Scranton	621	1237	1347
Williamsport	639	1165	1212
RHODE ISLAND			
Block Island	555	1036	980
Providence	605	1140	1144
SOUTH CAROLINA			
Charleston (U)	109	191	244
Charleston	153	288	341
Columbia	216	423	429
Florence	205	406	393
Greenville-Spartanburg	281	520	526
SOUTH DAKOTA			
Huron	1068	1766	1708
Pierre	1014	1607	
Rapid City	931	1603	1577
Soux Falls	965	1729	1646
TENNESSEE			
Bristol	436	823	860
Chattanooga	378	639	629
Knoxville	374	699	690
Memphis (U)	304	470	510
Memphis	335	550	595
Nashville	398	684	683
Oak Ridge	405	750	762
TEXAS			
Abilene	293	339	465
Amarillo	517	714	793
Austin	158	175	256
Brownsville	52	57	66
Corpus Christi	70	88	120
Dallas	225	288	383
Del Rio	152	173	
El Paso	391	467	498
Fort Worth	260	347	389
Galveston (U)	102	107	138
Houston (U)	99	110	165
Houston	114	145	189
Laredo	82	94	105
Lubbock	433	579	705
Midland	283	323	468
Port Arthur	135	187	229
San Angelo	277	344	386
San Antonio	155	196	235
Victoria	102	124	156
Waco	196	241	313
Wichita Falls	352	450	480
UTAH			
Milford	996	1527	1409
Salt Lake City	808	1351	1349
Wendover	837	1322	1242
VERMONT			
Burlington	872	1867	1584
VIRGINIA			
Lynchburg	438	865	814
Norfolk	312	548	544
Richmond	402	786	745
Roanoke	409	797	829
WASHINGTON			
Olympia	715	1711	1395
Seattle (U)	586	1081	1098
Seattle	609	1140	1229
Seattle-Tacoma	679	1384	1304
Spokane	976	1939	1574
Stampede Pass (R)	1077	3020	2666
Tatoosh Island (R)	601	1901	1820
Walla Walla	722	1304	
Walla Walla (U)	710	1172	1078
Yakima	798	1609	1434
WEST VIRGINIA			
Beckley	550	1208	
Charleston	474	891	908
Elkins	624	1379	1298
Huntington	504	986	905
Parkersburg (U)	517	976	930
WISCONSIN			
Green Bay	771	1620	1660
La Crosse	806	1491	1545
Madison	789	1642	1643
Milwaukee	730	1476	1611
WYOMING			
Casper	1004	1922	1680
Cheyenne	883	1719	1727
Lander	965	1784	1804
Sheridan	1103	2016	1762

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

NOVEMBER 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROP-ERTY	†DAMAGE CROPS
Alabama *																													
Alaska *																													
Arizona *																													
Arkansas	2	2	0	0	3					0	0	?	0																
California	3	3	0	0	3																					1	1	5	0
Colorado *																													
Connecticut *																													
Delaware *																													
Florida	1	1	0	0	3																								
Georgia *																													
Hawaii *																													
Idaho *																													
Illinois										0	0	5	0	0	0	3	0												
Indiana										0	2	4	0																
Iowa										0	1	6	0																
Kansas	2	2	0	0	5									0	0	4	0									0	0	4	0
Kentucky *																													
Louisiana	2	1	0	1	4					0	1	2	0	1	0	4	0												
Maine										0	0	3	0													0	0	R 3	0
Maryland *																													
Massachusetts										0	0	4	0													0	0	R 2	0
Michigan										0	4	5	0	0	0	4	0												
Minnesota						0	0	3	0																				
Mississippi	3	1	0	0	4	0	0	3	0																	0	0	4	0
Missouri						0	0	4	0	0	0	4	0																
Montana *																													
Nebraska										0	0	5	0																
Nevada *																													
New Hampshire										0	0	4	0																
New Jersey *																													
New Mexico *																													
New York											1	4																	
North Carolina *																													
North Dakota *																													
Ohio *																													
Oklahoma	2	2	0	0	3									0	1	?	0									0	0	4	4
Oregon *																													
Pacific Area																										1	4	‘5	C
Pennsylvania *																													
Puerto Rico *																													
Rhode Island										0	0	4	0																
South Carolina *																													
South Dakota *																													
Tennessee										0	0	?	?	0	0	4	0												
Texas	3	1	0	0	5																					2	0	0	0
Utah										0	3	6	0																
Vermont										0	0	4	0																
U. S. Virgin Is. *																													
Virginia *																													
Washington *																													
West Virginia *																													
Wisconsin *																													
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
‘ Includes crop damage
C Crop damage
R Rain

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

NOVEMBER 1964

A near record crest occurred on the Chikaskia River at Blackwell, Okla., during November. The crest on the Arkansas River at Ralston, Okla., was the third highest of record. Flooding reported elsewhere was mostly minor except for some heavy local floods and mud slides in southwestern California and Texas.

ATLANTIC SLOPE DRAINAGE

Minor flooding occurred on the Broad River at Blair, S. C., on the 26th and 27th. There was also some light flooding on the Congaree below Columbia, S. C. These overflows were due to heavy general rains (2 to 4.5 inches) on the 25th and 26th. Dry soil conditions restricted the runoff. There was some damage to hay and pasture land. There was very little loss due to interruption of lumbering, since activity in this industry had not been fully resumed following the October flooding.

The flooding on the Edisto at Givhans, S. C., was a continuation of the flooding in October and lasted through the first 2 days of November.

The Savannah River continued in flood at Millhaven, Ga., from October 12 to November 3. It crested 1.5 feet above flood stage on October 21. Flooding continued in the reach below at Clyo, Ga., from October 5 through November 19. The crest was 3.9 feet above flood stage on October 24. Minor flooding occurred again at Clyo on the 29th and 30th.

The Satilla River continued in flood at Atkinson, Ga., from October 18 to November 1. The crest was 1.9 feet above flood stage on October 28.

EAST GULF OF MEXICO DRAINAGE

Very heavy rains over the Pearl River basin on the 27th and 28th caused heavy local runoff on the Pearl River in Mississippi. The Pearl rose sharply to above flood stage at Jackson and Monticello, Miss., on the 29th and 30th, respectively. The minor flooding continued into December.

MISSISSIPPI SYSTEM

Missouri Basin.--Flood stages were reached in the lower Marais Des Cygnes Valley with slight overflows at La Cygne, Kans., on the main channel on the 17th and on Pottawatomie Creek at Garnett, Kans., on the 16th. Stages near the mouth of Pottawatomie Creek at Lane, Kans., rose to about bankfull. This was the wettest November in over 30 years for east-central Kansas. Rainfall totals of 2 to 5 inches which were reported over northeast and east-central Kansas, on November 15-17 caused considerable local surface water accumulation, especially in the Topeka area. Record rainfall intensities for periods of 10 minutes to 24 hours for November were established on the 15th at Topeka, Kans. Losses due to the slight overflows were negligible.

The minor flooding on the Osage River at Schell City, Mo., from the 19th to the 21st was due to heavy rains on the 15th. No damages resulted from the flooding.

White Basin.--The Cache River at Patterson, Ark., went above flood stage on the 24th and continued through the end of the month. Damages from flooding were insignificant.

Arkansas Basin.--Locally heavy rains of up to 2.6 inches reported on the morning of the 4th caused minor flooding on the Chikaskia at Blackwell, Okla., on the 4th and 5th. More general heavy rains from the 14th to the 17th resulted in heavier flooding on the Chikaskia from the 16th to the 18th. The crest of 33.1 feet on the 17th approached within 0.2 foot of the record flood of 33.3 feet in June 1942. Other tributaries of the Chikaskia overflowed, causing some towns in Grant, Kay, Garfield, and Noble Counties in Oklahoma to close schools since many roads were impassable. The Salt Fork at Tonkawa, Okla., crested 4.9 feet above flood stage which is the highest since November 1961. The Ninnescah River at Peck , Kans., crested 2.0 feet above flood stage on the 16th. The Arkansas River in the reach from Augusta, Kans., to Ralston, Okla., exceeded flood stage by 4 to 7 feet. The crest of 22.7 feet at Ralston, Okla., was the third highest on record. The extent of damages will not be known for a couple of months. Many bridges were destroyed and roads damaged. Many families had to be evacuated from their homes.

Red Basin.--Rains of 3 to 5 inches over the Washita Basin above Carnegie, Okla., from the 3d to the 5th caused sharp rises in the reach from Clinton to Carnegie with minor overflows. Rural soft-surface roads were temporarily closed due to flooding of small creeks. No significant damages resulted.

The flooding in the Sulphur River basin in Texas from the 25th to the 29th was due to 3 to 5 inches of rain during the period from the 18th to the 19th. No significant damages were reported.

WEST GULF OF MEXICO DRAINAGE

Flash flooding developed in the upper portion of the Trinity River basin in Texas during the early morning hours of the 18th. The flooding was confined mostly to minor streams and drainage areas. The runoff was contained in reservoirs to a great extent. There was about a foot of overflow along Big Fossil Creek at Richland Hills, Tex. Big Bear Creek, which drains from the eastern portion of Tarrant County into the Trinity West Fork above Dallas, Tex., flooded some minor road crossings. A drowning resulted on this creek when an automobile crossing was attempted near Greater Southwest Airport. Another drowning occurred in an automobile at Duck Creek which empties into Garza-Little Elm Reservoir. The main stem of the Trinity overflowed in the reach from Dallas to Rosser, Tex., from the 19th to the 22d. Overflow of 2 to 3 feet occurred on the East Fork. This flooding was due to general rain which began during the night of the 16-17th. The rain became locally heavy during the daylight hours of the 17th. Very heavy rain occurred over the upper portions during the early morning hours of the 18th. The total rainfall during this period ranged up to 7 inches above the reservoirs, but diminished sharply southeastward to less than an inch. There was no appreciable damage by any of the major streams. Flood waters reached into streets of lower Richland Hills, causing some evacuation of homes, but no residences were flooded.

PACIFIC SLOPE DRAINAGE

California Coast Drainage.--Foothill slopes in the vicinity of Santa Barbara, Burbank, and Glendale, Calif., denuded by fires earlier in the year, experienced local flooding and mud slides during periods of intense rain on November 9. A number of homes were destroyed and one life was lost as a Burbank woman was swept by a mud slide into a flood control channel.

Oregon Coastal Drainage.--Heavy precipitation with 24-hour amounts ranging up to 2 inches on the 27th caused minor flooding on the North Fork of the Coquille near Myrtle Point, Oreg., on the 28th. Some minor flooding of farmland occurred along the North Fork.

Minor flooding occurred along the Coquille downstream from the junction of the north and south forks.

Columbia Basin.--The light flooding on the Santiam River at Jefferson, Oreg., on the 25th was due to precipitation from the 21st to the 24th. Generally 2 inches of precipitation occurred in the Willamette Basin and southwestern Washington during the 24-hour period ending the morning of the 24th. Continued rainfall during the day brought better than an inch or more to all stations. This 3- to 4-inch deluge in combination with snowmelt, as freezing levels soared above 10,000 feet, sent most tributaries to near bankfull stages. Recurring precipitation accompanied by lower freezing levels late on the 25th and on the 26th did little more than add slight volume to the falling side of tributary hydrographs and main stem Willamette flow.

Only scattered heavy shower activity was reported on the 27th and 28th as the next active storm approached the Oregon coast and freezing levels again began to rise. Inch-and-a-quarter rains were reported from coastal mountain stations on the morning of the 30th, and another three-quarters inch was received during the day. This rainfall caused tributaries to again experience sharp rises late the night of the 30th. The Santiam River at Jefferson, Oreg., crested at flood stage on December 1. The Green Peter Project Cofferdam was again overtopped as flows approached 20,000 c.f.s. on the middle Santiam River.

Grays Harbor and Puget Sound.--November 1964 was almost as wet as the record-breaking month of November 1963. The only dry period was from the 13th to the 21st.

Rains of 2 to 3 inches on the 29th and 30th caused rapid rises in all streams on November 30 and December 1. Only the Snohomish and the Stillaguamish reached flood stages on the 30th. Secondary and higher crests occurred on the Chehalis, Snohomish, and Snoqualmie on the morning of December 2. Some livestock along the Snoqualmie and the lower Snohomish were moved to higher ground. A portion of the unfinished French Creek levee east of the town of Snohomish, Wash., was overtopped. The extent of loss, if any, is not known at this time.

FLOOD STAGE DATA

(All dates in November unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Broad: Blair, S. C.	14	26	27	17.4	27
Edisto: Givhans, S. C.	10	Oct. 2	2	(14.5 (15.2	Oct. 7-8 Oct. 21
Savannah: Millhaven, Ga.	15	Oct. 12	3	16.5	Oct. 21
Clyo, Ga.	11	Oct. 5 29	19 30	14.9 11.1	Oct. 24 30
Satilla: Atkinson, Ga.	13	Oct. 18	1	14.9	Oct. 28
EAST GULF OF MEXICO DRAINAGE					
Pearl: Jackson, Miss.	18	29	1/		
Monticello, Miss.	19	30	Dec. 1	20.0	30
MISSISSIPPI SYSTEM					
Missouri Basin					
Pottawatomie Creek: Garnett,Kans.	26	16	16	26.2	16
Lane, Kans.		17	17	25.3	17
Marais des Cygnes: La Cygne,Kans.	25	17	18	26.45	17
Osage: Schell City, Mo.	25	19	21	25.6	20
White Basin					
Cache: Patterson, Ark.	7	24	1/	8.2	28-29
Arkansas Basin					
Ninnescah: Peck, Kans.	17	16	16	18.0	16
Walnut: Augusta, Kans.	23	15	18	28.9	18
Winfield, Kans.	30	16	18	34.0	17
Arkansas City, Kans.	20	16	19	26.6	18
Chikaskia: Blackwell, Okla.	26	(4 (16	5 18	27.3 33.1	4 17
Salt Fork: Tonkawa, Okla.	17	16	20	21.9	18

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Arkansas Basin (Cont'd.)					
Arkansas: Augusta, Kans.	23	15	18	28.9	18
Winfield, Kans.	30	16	18	34.0	17
Arkansas City, Kans.	20	16	19	26.6	18
Ponca City, Okla.	14	17	20	18.9	18
Ralston, Okla.	16	17	20	22.7	18
Red Basin					
Washita: Carnegie, Okla.	18	7	7	18.1	7
Sulphur: Naples, Tex.	22	25	29	24.1	27
WEST GULF OF MEXICO DRAINAGE					
Trinity: Dallas, Tex.	30	19	20	32.6	19
Rosser, Tex.	26	20	22	27.9	22
PACIFIC SLOPE DRAINAGE					
Oregon Coastal Drainage					
North Fork Coquille: Myrtle Point (nr), Oreg.	28	28	28	29.8	28
Columbia Basin					
Santiam: Jefferson, Oreg.	15	25 Dec. 1	25 Dec. 1	16.1 15.0	25 Dec. 1
Grays Harbor and Puget Sound					
Chehalis: Centralia, Wash.	63	Dec. 2	Dec. 2	63.4	Dec. 2
Snoqualmie: Carnation, Wash.	54	Dec. 1	Dec. 2	56.1	Dec. 2
Snohomish: Snohomish, Wash.	25	30	Dec. 3	29.2	Dec. 2
Stillaquamish: Arlington, Wash.	16	30	Dec. 1	16.35	Dec. 1

* Provisional

1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y.
1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	86	2.7	77	270	3.7
1000	30	15			268	3.7
950	30	567	3.1	67	277	9.9
900	30	1,004	1.6	68	285	14.8
850	30	1,464	.4	65	292	19.4
800	30	1,950	- .6	53	291	23.3
750	30	2,462	- 2.6	48	288	25.3
700	30	3,009	- 5.2	51	288	30.5
650	30	3,588	- 7.5	46	280	33.4
600	30	4,209	-10.2	38	277	37.5
550	30	4,873	-14.3	35	275	38.7
500	30	5,589	-18.8	35	284	40.0
450	30	6,359	-24.8		278	43.5
400	30	7,212	-30.6		277	42.2
350	30	8,148	-37.1		284	42.3
300	30	9,196	-44.8		282	48.4
250	30	10,395	-52.5		289	53.2
200	30	11,815	-58.3		290	53.2
175	30	12,654	-58.9		286	51.3
150	30	13,620	-59.7		289	46.4
125	30	14,754	-61.8		293	41.4
100	28	16,140	-62.5		292	37.3
80	28	17,520	-62.2		292	31.1
70	28	18,343	-62.3		290	26.4
60	28	19,298	-61.6		289	22.1
50	27	20,433	-60.9		285	16.9
40	26	21,824	-60.0		285	17.5
30	25	23,640	-58.5		288	17.7
25	25	24,789	-57.2		281	20.6
20	24	26,203	-56.1		282	29.5
15	19	28,074	-53.6		293	25.4
10	12	30,683	-51.6			
7						

ALBUQUERQUE, N. MEX.
839 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,619	2.6	61	90	1.0
1000	30	173				
950	30	593				
900	30	1,040				
850	30	1,511				
800	30	2,004	4.3	48	236	4.3
750	30	2,525	1.7	48	261	9.3
700	30	3,082	- 1.0	46	265	13.0
650	30	3,665	- 4.1	45	265	15.9
600	30	4,297	- 7.8	40	263	17.7
550	30	4,961	-11.9	38	268	21.2
500	30	5,692	-16.4		265	29.1
450	30	6,471	-22.1		266	28.2
400	30	7,331	-28.6		270	27.8
350	30	8,275	-35.0		274	30.7
300	30	9,333	-41.8		281	31.5
250	30	10,544	-50.6		290	35.9
200	30	11,975	-57.4		288	40.2
175	30	12,814	-59.6		287	38.9
150	30	13,772	-62.3		279	35.5
125	30	14,891	-64.9		276	35.2
100	30	16,247	-66.2		275	29.3
80	29	17,598	-66.0		276	22.0
70	28	18,406	-65.2		274	16.7
60	28	19,352	-63.2		269	11.5
50	28	20,474	-62.8		272	12.8
40	28	21,855	-61.3		274	13.0
30	26	23,645	-58.9		261	17.1
25	25	24,797	-57.8		258	20.4
20	24	26,209	-55.7		262	27.8
15	17	28,089	-51.9		262	42.2
10	6	30,755	-47.1			
7						

AMARILLO, TEXAS
892 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,095	3.7	77	287	3.9
1000	30	159				
950	30	582				
900	30	1,032				
850	30	1,493	7.4	55	276	6.6
800	30	1,992	6.7	47	260	7.8
750	30	2,516	4.0	46	246	13.4
700	30	3,077	.7	44	251	18.3
650	30	3,664	- 2.3	40	256	20.8
600	29	4,300	- 6.4	37	257	23.1
550	29	4,969	-11.0		258	25.4
500	29	5,700	-15.9		257	28.7
450	29	6,478	-21.3		257	31.9
400	29	7,343	-28.0		257	34.8
350	29	8,287	-34.9		259	37.5
300	29	9,345	-42.6		255	40.8
250	29	10,554	-50.4		252	50.1
200	29	11,982	-58.2		252	53.4
175	29	12,814	-60.8		253	51.9
150	29	13,769	-62.7		256	48.4
125	28	14,884	-64.5		255	39.4
100	28	16,238	-67.2		256	35.4
80	28	17,582	-66.5		262	28.0
70	27	18,386	-65.2		269	22.7
60	27	19,325	-64.5		270	18.1
50	27	20,443	-63.2		273	15.7
40	25	21,830	-61.3		282	14.6
30	23	23,628	-58.8		273	17.5
25	23	24,777	-57.3		273	20.8
20	22	26,192	-54.7		269	26.8
15	15	28,024	-52.2		268	35.9
10	7	30,715	-48.6			
7						

ANCHORAGE, ALASKA
1001 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	29	- 6.3	73	356	4.7
1000	30	49			1	6.4
950	30	457	- 4.7	55	17	9.5
900	30	879	- 4.8	55	37	5.8
850	30	1,326	- 7.0	59	89	6.4
800	30	1,797	- 9.7	63	120	10.3
750	30	2,292	-12.4	65	136	10.9
700	30	2,817	-15.1	64	158	10.1
650	30	3,372	-18.3	62	171	9.9
600	30	3,966	-22.3	59	175	8.7
550	30	4,597	-26.7	55	188	9.5
500	30	5,281	-31.3	51	216	7.8
450	30	6,015	-35.8	47	245	6.8
400	30	6,829	-41.7		254	9.5
350	30	7,724	-46.8		258	13.2
300	30	8,735	-50.6		255	17.3
250	30	9,917	-52.3		254	23.7
200	30	11,361	-51.0		259	25.4
175	30	12,231	-50.5		254	23.7
150	30	13,236	-50.7		256	21.8
125	30	14,422	-51.2		255	22.3
100	30	15,875	-50.4		256	22.0
80	30	17,330	-50.6		265	22.5
70	30	18,199	-50.8		271	22.5
60	30	19,202	-51.1		277	21.6
50	30	20,387	-51.0		280	24.7
40	30	21,840	-50.8		282	23.9
30	29	23,713	-51.0		294	26.4
25	25	24,917	-50.7		292	27.2
20	24	26,357	-50.9		288	22.7
15	21	28,253	-50.3		304	28.7
10	5	30,961	-44.8			
7						

* ANNETTE, ALASKA
1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	37	2.4	81	125	4.9
1000	30	92			140	5.6
950	30	503	.5	78	152	11.1
900	30	937	- 2.2	84	166	12.4
850	30	1,390	- 4.3	80	183	12.8
800	30	1,866	- 6.5	73	203	14.2
750	30	2,368	- 9.1	72	210	16.3
700	30	2,900	-11.6	62	222	17.5
650	30	3,463	-14.9	58	226	17.7
600	30	4,065	-19.0	54	234	19.0
550	30	4,702	-23.4	56	237	18.8
500	30	5,399	-28.4	56	242	20.4
450	30	6,142	-33.7	60	236	21.4
400	30	6,964	-39.4		247	23.3
350	30	7,867	-44.6		249	22.7
300	30	8,889	-49.0		256	27.4
250	30	10,077	-51.8		259	31.3
200	29	11,523	-53.6		269	31.1
175	29	12,381	-53.9		273	31.7
150	29	13,370	-54.3		273	28.2
125	29	14,537	-55.1		277	25.3
100	29	15,960	-55.2		285	23.3
80	28	17,386	-55.5		291	21.8
70	28	18,236	-55.7		302	22.5
60	28	19,219	-55.4		307	21.6
50	28	20,382	-55.5		317	19.2
40	28	21,803	-55.6		327	22.1
30	26	23,657	-54.8		344	26.6
25	24	24,822	-54.7		346	31.3
20	22	26,249	-54.6		348	37.1
15	20	28,119	-53.3		356	38.1
10	14	30,741	-51.1		4	34.0
7	7	33,206	-49.1			

ATHENS, GA.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	8.2	85	323	3.1
1000	30	178				
950	30	608	12.3	62	313	5.4
900	30	1,059	10.9	59	266	7.2
850	30	1,534	8.7	56	250	8.7
800	30	2,035	7.1	46	250	12.6
750	30	2,567	5.4	37	254	16.7
700	30	3,126	3.2		255	18.1
650	30	3,721	.1		256	21.8
600	30	4,360	- 3.8		259	27.4
550	30	5,034	- 8.1		260	28.4
500	30	5,776	-12.8		261	35.0
450	30	6,565	-18.3		261	39.4
400	30	7,442	-24.3		262	45.3
350	30	8,402	-31.4		265	48.0
300	30	9,475	-39.5		263	50.1
250	30	10,698	-48.5		265	56.7
200	30	12,134	-57.9		270	57.9
175	30	12,967	-62.3		271	51.9
150	30	13,911	-65.5		272	51.9
125	30	15,014	-67.3		272	46.0
100	30	16,351	-69.4		278	31.5
80	30	17,683	-69.0		276	20.6
70	30	18,483	-67.3		270	17.3
60	29	19,416	-65.4		288	12.2
50	28	20,530	-63.4		291	11.5
40	27	21,912	-59.9		285	9.5
30	27	23,725	-56.2		275	19.0
25	26	24,889	-53.8		270	23.1
20	26	26,329	-51.9		267	31.3
15	24	28,207	-49.6		262	40.0
10	17	30,865	-46.9		265	49.5
7	6	33,236	-46.1			

* BARROW, ALASKA
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	-19.1	74	86	5.4
1000	30	140	-17.5	76	91	6.2
950	30	529	-15.4	83	82	9.1
900	30	934	-14.9	77	77	5.8
850	30	1,366	-15.2	71	80	4.5
800	30	1,824	-16.4	67	87	4.3
750	30	2,308	-18.4	67	75	3.5
700	30	2,820	-20.8	63	45	2.5
650	30	3,362	-23.6	58	332	1.7
600	30	3,945	-27.4	61	300	2.7
550	30	4,562	-31.2	56	298	3.9
500	30	5,237	-35.5	56	300	6.0
450	30	5,959	-39.6		293	10.1
400	30	6,762	-45.0		295	11.8
350	30	7,643	-50.5		294	11.7
300	30	8,637	-55.2		294	14.4
250	30	9,797	-56.6		292	15.2
200	30	11,217	-54.7		277	14.4
175	30	12,073	-54.0		265	17.5
150	30	13,064	-53.4		269	17.5
125	30	14,238	-53.4		263	19.6
100	30	15,674	-53.4		261	22.7
80	30	17,110	-53.5		261	26.6
70	30	17,968	-53.6		261	29.1
60	29	18,957	-53.6		258	32.8
50	27	20,125	-53.5		262	35.7
40	27	21,560	-53.8		258	39.2
30	26	23,412	-54.0		259	40.4
25	25	24,592	-53.7		253	39.6
20	24	26,030	-53.9		257	42.7
15	20	27,965	-51.5		255	45.1
10	17	30,629	-50.6		248	49.7
7	9	33,113	-47.2			

BARTER IS., ALASKA
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	15	-17.4	75	9	1.2
1000	29	137	-16.8	64	319	2.3
950	29	524	-16.2	68	318	2.3
900	29	931	-14.5	67	327	2.5
850	29	1,364	-15.0	66	336	2.7
800	29	1,822	-16.5	65	359	2.1
750	29	2,301	-18.7	61	322	1.9
700	29	2,817	-21.1	54	329	4.1
650	29	3,358	-24.3	52	322	4.7
600	29	3,941	-27.7	48	310	4.7
550	29	4,557	-31.5	46	313	5.4
500	29	5,231	-35.4	44	328	6.8
450	29	5,954	-39.8		319	7.4
400	29	6,755	-45.0		295	6.0
350	29	7,636	-50.3		282	8.2
300	29	8,631	-54.8		270	8.9
250	29	9,797	-54.0		269	13.2
200	29	11,234	-52.4		266	16.3
175	29	12,098	-51.9		264	19.0
150	27	13,089	-51.7		266	20.2
125	26	14,274	-51.8		254	22.3
100	26	15,720	-51.8		261	23.1
80	23	17,164	-52.4		267	27.6
70	23	18,026	-52.9		269	30.5
60	23	19,017	-53.5		271	31.9
50	22	20,184	-53.8		275	36.9
40	19	21,624	-53.6		284	38.7
30	17	23,504	-53.4		283	45.5
25	12	24,738	-51.8		257	42.9
20	10	26,205	-50.5			
15	7	28,122	-47.8			
10						
7						

BETHEL, ALASKA
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	-10.9	81	26	4.1
1000	30	58			13	12.0
950	30	463	- 4.8	61	39	11.1
900	30	884	- 5.6	53	42	8.0
850	30	1,330	- 7.6	53	33	6.0
800	30	1,799	-10.5	53	19	4.3
750	30	2,294	-13.2	51	358	3.7
700	30	2,816	-16.2	49	359	4.1
650	30	3,370	-19.6	47	338	3.3
600	30	3,960	-23.1	41	319	4.7
550	30	4,591	-27.1	41	308	5.8
500	30	5,272	-31.5	43	303	5.2
450	30	6,010	-36.3		270	5.2
400	30	6,818	-41.9		279	6.2
350	30	7,711	-47.5		262	5.8
300	30	8,719	-51.4		250	8.0
250	30	9,901	-52.0		260	11.8
200	30	11,347	-50.8		254	18.5
175	30	12,217	-50.4		250	20.0
150	29	13,223	-50.5		253	22.7
125	28	14,412	-50.0		244	23.3
100	28	15,872	-49.5		241	24.3
80	28	17,336	-49.0		247	25.3
70	28	18,211	-48.9		249	24.3
60	28	19,224	-49.1		249	23.7
50	28	20,420	-49.2		256	23.9
40	28	21,885	-49.0		259	25.3
30	27	23,780	-49.2		265	27.0
25	27	24,974	-49.8		272	25.6
20	22	26,440	-50.4		274	23.9
15	14	28,368	-48.3			
10						
7						

BISMARCK, N. DAK.
957 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	505	- 6.5	78	337	3.1
1000	30	155				
950	30	561			325	4.9
900	30	986	- 2.4	63	316	8.5
850	30	1,440	- 2.0	53	312	10.1
800	30	1,921	- 3.4	44	309	13.0
750	30	2,424	- 5.5	44	300	15.2
700	30	2,969	- 7.7	39	296	17.3
650	30	3,535	-10.4	39	291	20.0
600	30	4,155	-14.2	41	284	21.8
550	30	4,806	-17.9	40	284	25.6
500	30	5,517	-22.9	38	284	27.8
450	30	6,272	-28.5		286	29.7
400	30	7,117	-34.1		284	35.0
350	30	8,039	-40.4		273	38.3
300	30	9,074	-47.0		269	43.7
250	30	10,264	-52.6		264	51.1
200	30	11,693	-55.5		265	50.3
175	30	12,542	-56.4		266	47.6
150	30	13,519	-57.2		266	44.1
125	30	14,668	-58.8		272	38.9
100	30	16,065	-59.4		273	35.5
80	30	17,460	-60.0		273	29.5
70	30	18,292	-60.6		276	26.6
60	30	19,253	-61.1		280	23.3
50	30	20,385	-61.3		283	21.0
40	29	21,764	-60.7		297	20.2
30	25	23,586	-59.6		301	16.9
25	25	24,729	-58.7		304	15.3
20	23	26,131	-58.3		311	9.7
15	12	28,066	-55.7			
10						
7						

BOISE, IDAHO
918 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	868	.4	89	131	4.1
1000	30	171				
950	30	585				
900	30	1,023	3.4	66	154	4.1
850	30	1,487	2.5	55	221	4.1
800	30	1,976	.2	56	256	9.7
750	30	2,489	- 2.5	55	269	13.8
700	30	3,036	- 5.4	52	273	14.8
650	30	3,611	- 9.3	50	272	15.9
600	30	4,228	-13.1	48	270	17.5
550	30	4,880	-17.4	42	267	19.0
500	30	5,593	-22.2	38	265	20.8
450	30	6,353	-27.8	36	272	21.4
400	30	7,196	-34.0	37	272	21.8
350	30	8,120	-40.2		278	24.9
300	30	9,158	-46.3		291	27.4
250	30	10,352	-52.8		282	34.4
200	30	11,778	-56.1		282	32.8
175	30	12,625	-56.9		287	32.4
150	30	13,599	-57.9		291	24.7
125	30	14,744	-59.4		285	24.1
100	30	16,138	-60.3		283	21.0
80	30	17,529	-60.1		280	17.7
70	29	18,367	-59.6		28[illegible]	14.2
60	26	19,340	-60.0		296	7.6
50	24	20,487	-59.8		313	6.2
40	22	21,883	-59.7		357	5.6
30	20	23,692	-58.5		8	9.3
25	19	24,855	-57.8		13	10.9
20	16	26,277	-57.1		25	14.0
15	12	28,129	-54.8			
10						
7						

* BROWNSVILLE, TEXAS
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	18.0	88	162	.8
1000	30	147	19.7	80	128	3.3
950	30	588	17.9	77	151	11.7
900	30	1,051	15.6	67	162	10.3
850	30	1,535	13.9	55	170	8.2
800	30	2,045	12.2	50	201	5.8
750	30	2,583	9.9	45	211	7.4
700	30	3,155	7.0	40	231	8.2
650	30	3,755	3.1	41	244	10.1
600	30	4,405	- .9	38	240	12.6
550	30	5,087	- 5.1	30	241	14.6
500	30	5,838	- 9.9	24	241	16.9
450	30	6,635	-15.5	24	242	21.2
400	30	7,522	-21.9	24	242	25.6
350	30	8,490	-29.3	27	242	31.7
300	30	9,570	-37.6	31	242	37.7
250	30	10,807	-47.0		241	44.3
200	30	12,248	-57.9		240	50.5
175	30	13,079	-63.4		239	50.5
150	30	14,014	-68.2		239	45.1
125	30	15,097	-72.0		240	39.8
100	30	16,404	-74.1		244	27.4
80	30	17,703	-73.8		243	16.1
70	30	18,487	-71.1		240	9.9
60	30	19,408	-67.2		232	4.7
50	30	20,517	-63.4		250	3.9
40	30	21,902	-59.6		271	4.5
30	29	23,721	-55.0		260	7.0
25	29	24,893	-52.4		261	10.9
20	29	26,344	-49.9		259	15.0
15	29	28,237	-47.0		256	20.2
10	25	30,945	-43.3		253	32.8
7	8	33,332	-42.9			

BUFFALO, N. Y.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	218	3.6	84	233	6.6
1000	30	150				
950	30	566	4.7	70	240	15.3
900	30	1,007	2.7	67	259	19.8
850	30	1,469	1.8	62	268	19.2
800	30	1,956	- .3	57	268	22.0
750	30	2,470	- 2.6	54	271	24.3
700	30	3,015	- 5.3	51	273	27.6
650	30	3,591	- 8.3	50	274	32.2
600	30	4,212	-11.4	39	273	35.2
550	30	4,868	-15.3	34	270	39.8
500	30	5,589	-19.9	35	269	42.7
450	30	6,356	-25.3		271	44.7
400	30	7,209	-30.8		276	47.6
350	30	8,143	-37.4		273	55.4
300	30	9,190	-44.4		273	57.3
250	30	10,390	-51.8		279	60.4
200	30	11,817	-57.1		285	64.1
175	30	12,658	-58.9		281	59.6
150	30	13,623	-59.7		282	48.6
125	30	14,757	-61.1		287	46.6
100	30	16,140	-61.9		284	39.0
80	30	17,519	-62.2		289	27.0
70	30	18,344	-62.1		287	27.8
60	29	19,293	-61.9		290	24.3
50	29	20,425	-61.0		285	19.6
40	28	21,810	-59.7		282	21.4
30	27	23,620	-57.9		274	22.1
25	27	24,773	-56.6		269	22.7
20	24	26,192	-55.5		269	24.9
15	22	28,037	-53.1		267	34.6
10	13	30,691	-48.8			
7						

* BURRWOOD, LA.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	3	18.8	86	40	3.3
1000	28	166	18.7	78	67	5.2
950	28	604	16.2	71	116	5.2
900	28	1,063	13.5	67	180	4.1
850	28	1,543	11.7	59	231	6.4
800	28	2,049	10.3	49	251	8.7
750	28	2,584	9.5	32	260	10.5
700	28	3,155	7.0	31	258	12.0
650	28	3,754	3.3	32	267	12.6
600	28	4,405	- .7	32	264	16.3
550	28	5,088	- 5.1	27	263	18.5
500	28	5,837	-10.0	26	262	22.5
450	28	6,635	-15.7	25	261	28.4
400	28	7,520	-22.1	24	256	31.9
350	28	8,488	-29.3	25	251	35.9
300	28	9,570	-37.4	27	253	43.7
250	28	10,805	-46.3		253	54.2
200	28	12,252	-57.0		251	61.6
175	28	13,086	-62.1		251	62.5
150	28	14,027	-66.8		253	56.7
125	28	15,120	-69.9		255	49.1
100	28	16,438	-72.4		255	35.5
80	28	17,750	-71.9		251	21.6
70	28	18,541	-69.1		245	15.5
60	28	19,469	-65.3		259	8.9
50	28	20,586	-62.5		274	7.4
40	28	21,975	-58.9		254	9.1
30	28	23,800	-53.8		257	17.7
25	28	24,978	-51.3		259	21.2
20	28	26,435	-48.8		261	26.8
15	28	28,336	-46.4		263	31.9
10	24	31,053	-42.9		261	40.2
7	10	33,541	-40.7			

*CANTON IS., PACIFIC AREA
+ 1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	29.0	63	65	12.2
1000	30	75	27.4	62	67	13.6
950	30	522	22.0	66	76	14.2
900	30	994	18.9	61	83	14.2
850	30	1,483	16.7	51	89	12.8
800	30	1,999	16.0	34	81	7.4
750	30	2,544	13.8	30	74	5.8
700	30	3,123	10.8	29	57	5.1
650	30	3,737	7.5	27	36	2.1
600	30	4,392	3.9	26	73	2.5
550	30	5,084	- .2	25	58	2.5
500	30	5,851	- 4.5	25	4	2.1
450	30	6,664	- 9.6	25	290	4.5
400	30	7,574	-15.5	25	284	8.7
350	30	8,568	-22.5	24	280	10.9
300	30	9,680	-31.1	24	275	8.2
250	30	10,945	-41.5		241	11.3
200	30	12,419	-53.5		237	14.6
175	30	13,264	-60.4		246	14.8
150	30	14,208	-67.8		244	15.9
125	30	15,283	-75.2		256	16.1
100	30	16,554	-81.8		260	15.2
80	30	17,818	-75.8		266	14.0
70	30	18,599	-70.1		268	21.4
60	30	19,525	-66.2		271	28.4
50	30	20,638	-63.5		271	33.2
40	29	22,015	-60.8		270	31.5
30	28	23,817	-57.6		230	3.5
25	28	24,975	-55.5		87	26.2
20	28	26,406	-52.4		88	50.7
15	23	28,302	-44.8		91	65.5
10	16	31,058	-37.2		88	70.5
7	5	33,519	-32.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

CAPE HATTERAS, N. C.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	13.8	83	15	2.7
1000	30	161	14.8	71	14	6.2
950	30	591	13.2	61	347	6.0
900	30	1,048	11.1	54	300	5.2
850	30	1,524	9.2	48	260	9.5
800	30	2,025	7.7	41	257	12.8
750	30	2,554	5.3	40	263	17.9
700	30	3,116	2.9	33	269	20.8
650	30	3,706	-.4		271	24.1
600	30	4,349	-3.9		273	27.6
550	30	5,022	-7.9		271	30.5
500	30	5,765	-12.8		271	33.0
450	30	6,552	-18.5		273	37.9
400	30	7,428	-24.8		274	42.9
350	30	8,387	-31.6		276	49.1
300	30	9,459	-39.5		280	55.9
250	30	10,683	-48.3		280	63.1
200	30	12,121	-57.5		280	65.3
175	30	12,957	-61.0		280	66.2
150	30	13,908	-63.7		282	58.3
125	30	15,020	-66.1		281	47.8
100	29	16,368	-67.3		281	40.8
80	29	17,715	-66.8		281	24.1
70	29	18,523	-65.5		283	21.2
60	29	19,464	-63.6		284	17.7
50	29	20,590	-61.0		280	13.0
40	28	21,983	-58.1		271	14.0
30	28	23,812	-54.2		269	18.8
25	28	24,986	-52.3		268	23.7
20	28	26,436	-50.2		266	28.7
15	26	28,324	-48.1		262	38.9
10	22	31,006	-44.0		258	61.2
7	10	33,462	-38.8			

CARIBOU, ME.
993 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	191	-3.8	85	275	5.2
1000	30	130				
950	30	535	-3.0	72	286	9.5
900	30	963	-4.3	67	298	12.6
850	30	1,413	-5.4	62	298	16.3
800	30	1,888	-6.1	51	294	18.8
750	30	2,393	-7.8	50	291	23.1
700	30	2,926	-10.1	51	288	26.4
650	30	3,493	-12.8	52	287	30.5
600	30	4,103	-15.6	48	286	35.9
550	30	4,752	-19.5	42	286	39.6
500	30	5,458	-23.7	38	284	43.5
450	30	6,219	-28.8	37	276	45.6
400	30	7,053	-34.6		278	51.3
350	30	7,973	-40.8		278	54.6
300	30	9,007	-47.0		282	62.0
250	30	10,200	-52.2		280	62.7
200	30	11,634	-54.9		282	55.2
175	30	12,485	-55.4		281	55.2
150	30	13,468	-56.0		279	47.8
125	30	14,623	-57.5		276	39.4
100	30	16,027	-58.9		274	32.6
80	29	17,421	-59.9		273	27.6
70	29	18,255	-59.3		275	25.3
60	29	19,222	-59.5		274	21.8
50	29	20,364	-59.5		270	18.5
40	28	21,759	-59.7		266	19.2
30	28	23,559	-59.0		278	19.6
25	28	24,706	-58.0		272	22.9
20	28	26,116	-57.1		268	26.0
15	23	27,950	-53.8		271	32.2
10	14	30,549	-50.3			

CHARLESTON, S. C.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	13	11.1	81	343	2.7
1000	30	169	14.5	75	15	4.3
950	30	603	14.4	67	359	1.7
900	30	1,060	12.5	60	267	3.9
850	30	1,538	10.6	53	262	7.8
800	30	2,041	8.4	48	264	10.3
750	30	2,571	6.7	38	262	14.8
700	30	3,137	4.0		264	15.7
650	30	3,733	.8		267	18.1
600	30	4,375	-2.8		268	22.3
550	30	5,053	-7.2		265	25.3
500	30	5,796	-11.8		268	28.2
450	30	6,585	-17.2		267	31.7
400	29	7,470	-23.8		268	36.9
350	29	8,431	-31.0		268	39.6
300	29	9,507	-39.0		269	44.9
250	29	10,732	-48.4		268	49.7
200	29	12,168	-58.2		270	60.4
175	29	12,999	-62.8		272	58.5
150	28	13,940	-66.0		274	52.6
125	28	15,041	-67.9		276	45.6
100	28	16,373	-70.3		275	33.8
80	27	17,699	-69.4		273	24.5
70	27	18,498	-67.3		273	18.5
60	27	19,433	-64.8		275	15.3
50	27	20,551	-62.4		285	11.8
40	27	21,939	-59.0		262	15.2
30	24	23,761	-54.5		263	18.3
25	24	24,936	-51.6		263	23.7
20	23	26,393	-49.9		263	28.7
15	15	28,287	-47.3		259	36.5

*** COLD BAY, ALASKA**
1001 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	.3	77	262	5.2
1000	30	39			354	9.7
950	30	452	-.7	69	298	9.1
900	30	881	-3.3	75	306	9.3
850	30	1,332	-5.5	71	306	5.6
800	30	1,806	-7.9	68	287	4.9
750	30	2,305	-10.6	65	296	8.7
700	30	2,833	-13.8	59	289	12.2
650	30	3,391	-17.3	57	287	14.0
600	30	3,988	-21.2	57	279	16.3
550	30	4,621	-25.5	55	278	19.2
500	30	5,310	-30.0	49	272	19.6
450	30	6,050	-34.8	45	269	26.8
400	30	6,868	-39.6	41	266	29.5
350	30	7,771	-44.2		266	25.3
300	30	8,796	-47.6		262	29.1
250	30	9,992	-49.8		259	33.2
200	30	11,448	-50.3		259	22.3
175	29	12,317	-50.7		257	20.2
150	29	13,320	-50.9		251	23.9
125	29	14,505	-51.0		251	22.3
100	29	15,959	-50.8		247	18.3
80	29	17,412	-50.6		258	17.1
70	29	18,282	-50.4		263	15.7
60	28	19,288	-49.9		273	11.7
50	28	20,481	-49.8		275	12.8
40	28	21,941	-50.1		301	9.1
30	27	23,829	-49.9		302	8.5
25	24	25,032	-50.2		330	6.0
20	24	26,489	-50.2		309	8.2
15	22	28,389	-50.0		335	9.1
10	16	31,038	-49.0		286	1.9
7	9	33,296	-48.8			

COLUMBIA, MO.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	238	5.9	74	181	3.1
1000	30	152				
950	30	574	7.5	65	229	10.5
900	30	1,019	6.9	60	248	14.8
850	30	1,488	5.1	55	255	16.1
800	30	1,981	3.5	50	256	17.7
750	30	2,501	.9	49	259	19.6
700	30	3,055	-1.9	45	256	22.5
650	30	3,635	-4.7	41	258	24.7
600	30	4,268	-8.3		258	25.4
550	30	4,931	-12.2		261	30.5
500	30	5,661	-16.9		261	33.8
450	30	6,438	-22.6		262	39.2
400	30	7,299	-28.7		266	43.1
350	30	8,242	-35.7		259	44.3
300	30	9,296	-43.5		259	46.6
250	30	10,500	-51.5		257	49.0
200	30	11,926	-58.1		257	57.3
175	30	12,762	-60.8		258	55.2
150	30	13,717	-62.2		261	49.7
125	30	14,840	-63.7		262	41.8
100	30	16,204	-65.6		265	33.4
80	30	17,558	-65.8		264	24.7
70	30	18,370	-64.9		267	21.0
60	28	19,322	-64.3		270	14.8
50	27	20,437	-63.2		273	13.2
40	26	21,820	-61.3		276	11.8
30	24	23,601	-59.9		272	12.8
25	20	24,763	-58.0		269	14.6
20	18	26,188	-55.9		276	10.3
15	16	28,037	-53.8		294	8.4
10	8	30,696	-50.1			

CORPUS CHRISTI, TEXAS
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	22	6	19.4	83	108	2.1
1000	22	144	19.2	81	124	5.4
950	22	584	17.0	78	141	11.7
900	22	1,045	15.3	61	156	10.3
850	22	1,528	13.4	58	170	7.8
800	22	2,037	11.4	55	191	4.7
750	22	2,571	9.1	50	214	6.2
700	22	3,143	6.5	40	224	9.5
650	22	3,743	2.9	38	241	10.5
600	22	4,391	-1.1	41	240	13.0
550	22	5,073	-5.6	38	236	16.3
500	22	5,821	-10.0	37	234	17.7
450	22	6,615	-15.7	36	236	21.8
400	22	7,502	-22.2	38	236	24.3
350	22	8,469	-29.6	37	237	27.0
300	22	9,550	-37.8		238	31.3
250	22	10,781	-47.0		242	35.0
200	22	12,223	-57.7		239	40.4
175	22	13,056	-62.6		239	39.6
150	22	13,998	-66.5		240	38.7
125	22	15,091	-69.8		236	32.8
100	19	16,417	-71.7		231	22.5
80	16	17,742	-72.4		215	10.5
70	16	18,529	-70.0		204	8.5
60	16	19,458	-66.2		200	7.4
50	15	20,568	-63.0		240	5.6
40	14	21,950	-59.6		238	5.6
30	13	23,777	-55.9		261	8.0
25	12	24,940	-53.5		245	8.2
20	10	26,364	-50.6			
15	7	28,276	-46.0			
10	7	30,983	-44.7			

DAYTON, OHIO
985 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	297	3.9	79	211	1.9
1000	30	168				
950	30	589	6.5	66	241	9.7
900	30	1,031	5.4	56	256	15.5
850	30	1,497	3.8	49	264	17.1
800	30	1,988	2.2	45	264	19.6
750	30	2,506	.1	41	267	20.6
700	30	3,059	-2.6	40	265	24.5
650	30	3,640	-5.4	38	268	27.6
600	30	4,269	-8.9	38	270	31.9
550	30	4,932	-13.2	37	270	35.5
500	30	5,658	-18.0	34	268	39.8
450	30	6,431	-23.3	37	266	45.1
400	30	7,290	-29.0		268	49.3
350	30	8,232	-35.8		271	53.2
300	30	9,288	-43.4		272	56.1
250	30	10,493	-51.2		273	61.0
200	30	11,919	-58.0		280	59.1
175	30	12,757	-60.2		278	53.8
150	30	13,714	-61.7		276	47.6
125	30	14,837	-63.9		276	40.8
100	30	16,198	-65.7		276	36.7
80	30	17,555	-65.0		278	25.8
70	29	18,375	-64.4		277	22.1
60	29	19,318	-63.6		280	19.8
50	28	20,443	-62.7		291	15.2
40	28	21,823	-61.1		280	13.8
30	27	23,621	-58.5		272	15.9
25	26	24,771	-57.0		273	17.5
20	25	26,187	-55.1		267	23.5
15	19	28,031	-52.1		263	35.9
10	9	30,693	-47.9			

DEL RIO, TEXAS
981 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	314	13.1	78	109	3.1
1000	29	151				
950	29	586	14.8	66	149	8.0
900	29	1,042	13.7	59	174	10.3
850	29	1,523	11.9	58	199	8.7
800	29	2,030	10.0	48	217	10.1
750	29	2,562	7.7	37	241	13.0
700	29	3,130	4.4	35	247	14.8
650	29	3,723	.9	28	255	17.7
600	29	4,369	-2.6		250	22.0
550	29	5,044	-6.9		250	24.3
500	29	5,792	-12.0		250	26.8
450	29	6,583	-17.8		250	30.5
400	29	7,463	-23.7		249	35.2
350	29	8,425	-31.0		249	39.6
300	29	9,500	-39.2		248	45.3
250	29	10,725	-48.4		249	48.4
200	28	12,163	-58.6		248	50.3
175	28	12,994	-62.6		246	52.1
150	28	13,937	-65.7		245	49.7
125	28	15,035	-69.1		247	40.8
100	28	16,361	-71.3		249	28.4
80	28	17,678	-70.9		251	19.6
70	28	18,472	-68.4		247	12.2
60	28	19,404	-65.6		228	6.8
50	28	20,520	-62.9		263	8.7
40	27	21,903	-59.5		262	7.2
30	26	23,723	-55.5		256	14.6
25	26	24,892	-53.1		263	22.3
20	25	26,335	-50.8		262	31.1
15	20	28,220	-47.9		266	42.9
10	9	30,911	-45.2			

DENVER, COLO.
836 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,611	.1	59	197	3.5
1000	30	156				
950	30	576				
900	30	1,019				
850	30	1,480				
800	30	1,970	3.1	42	272	5.8
750	30	2,490	1.1	42	295	8.9
700	30	3,043	-2.1	43	296	8.7
650	30	3,626	-5.1	43	290	12.0
600	30	4,253	-9.3	42	280	16.9
550	30	4,916	-13.4	39	268	19.8
500	30	5,640	-18.3	35	269	23.7
450	30	6,409	-23.7		264	27.6
400	30	7,269	-30.1		262	31.3
350	30	8,206	-37.4		259	34.6
300	30	9,252	-45.1		262	36.3
250	30	10,451	-52.2		259	38.5
200	30	11,874	-58.4		264	44.7
175	30	12,712	-59.4		262	43.5
150	30	13,673	-61.1		264	41.8
125	30	14,802	-62.4		263	35.5
100	30	16,179	-62.9		266	27.2
80	30	17,551	-63.7		265	20.0
70	30	18,371	-63.0		270	15.5
60	30	19,323	-62.6		280	13.8
50	28	20,445	-62.2		280	11.8
40	28	21,828	-61.7		281	10.3
30	28	23,618	-60.1		287	10.7
25	27	24,760	-58.3		283	12.0
20	25	26,169	-57.1		272	15.2
15	16	28,001	-54.8			

DODGE CITY, KANS.
925 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	792	2.3	86	291	2.7
1000	30	157				
950	30	574				
900	30	1,016	5.4	66	287	5.6
850	30	1,485	7.4	49	278	9.1
800	30	1,983	5.7	47	274	11.1
750	30	2,505	2.9	44	266	11.5
700	30	3,065	-.6	43	265	12.0
650	30	3,649	-3.9	39	254	17.5
600	30	4,281	-7.7	37	252	22.1
550	30	4,949	-12.0		256	23.9
500	30	5,675	-16.9		253	28.0
450	30	6,453	-22.5		253	33.2
400	30	7,313	-29.0		250	37.9
350	30	8,254	-36.0		249	41.2
300	30	9,308	-43.6		250	45.6
250	30	10,512	-51.3		254	51.1
200	30	11,939	-57.8		252	53.8
175	30	12,777	-59.8		251	50.5
150	30	13,736	-61.5		257	45.3
125	30	14,861	-63.6		257	40.8
100	30	16,225	-65.2		261	30.1
80	30	17,581	-65.7		262	25.6
70	29	18,392	-64.1		263	23.1
60	27	19,332	-63.2		261	17.7
50	27	20,455	-62.5		264	15.0
40	27	21,833	-61.4		262	16.3
30	25	23,626	-59.3		266	17.5
25	25	24,771	-58.2		263	21.0
20	24	26,186	-56.4		266	22.0
15	21	28,018	-53.9		268	37.3
10	5	30,645	-51.5			

EL PASO, TEXAS
884 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,193	5.5	51	276	2.3
1000	30	171				
950	30	597				
900	30	1,053				
850	30	1,519	9.8	38	254	5.4
800	30	2,020	7.4	37	251	9.7
750	30	2,545	4.8	32	251	13.8
700	30	3,109	1.5	30	254	16.9
650	30	3,698	-1.4		256	20.8
600	30	4,336	-5.2		258	22.3
550	30	5,006	-9.2		260	25.8
500	30	5,746	-14.1		260	28.9
450	30	6,532	-19.6		258	33.6
400	30	7,403	-26.1		259	36.9
350	30	8,357	-33.0		258	41.4
300	30	9,424	-40.9		256	43.9
250	30	10,640	-50.1		260	45.8
200	30	12,068	-58.8		259	52.3
175	30	12,900	-61.4		266	48.0
150	30	13,851	-63.9		264	40.0
125	30	14,962	-66.3		265	35.5
100	30	16,304	-69.4		261	26.4
80	30	17,637	-68.3		259	21.2
70	29	18,442	-66.4		261	14.6
60	29	19,378	-65.0		266	9.9
50	29	20,495	-62.9		269	10.7
40	29	21,878	-60.5		270	10.3
30	28	23,686	-57.5		257	13.8
25	28	24,843	-55.4		259	23.7
20	28	26,275	-52.6		260	33.6
15	23	28,147	-50.0		265	44.9
10	14	30,807	-47.8			

ELY, NEV.
809 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,908	-7.0	83	186	4.9
1000	30	220				
950	30	631				
900	30	1,063				
850	30	1,519				
800	30	1,997	-2.2	65	197	4.3
750	30	2,515	-1.7	55	217	3.9
700	30	3,059	-4.3	52	265	9.5
650	30	3,640	-7.4	49	264	12.2
600	30	4,259	-11.0	44	273	16.1
550	30	4,917	-15.4	39	276	18.3
500	30	5,634	-20.5		276	19.8
450	30	6,402	-26.3		275	18.5
400	30	7,247	-32.3		273	21.6
350	30	8,176	-38.7		274	23.9
300	30	9,221	-44.7		270	27.8
250	30	10,424	-50.8		263	29.1
200	28	11,861	-56.8		266	27.8
175	28	12,704	-58.5		270	25.1
150	28	13,671	-59.7		271	24.1
125	28	14,809	-60.9		274	19.4
100	27	16,191	-62.9		269	15.3
80	27	17,566	-62.5		276	12.8
70	27	18,390	-61.8		278	11.3
60	27	19,345	-61.9		294	7.6
50	27	20,474	-61.6		304	6.6
40	27	21,860	-60.6		322	6.8
30	26	23,657	-59.7		325	9.7
25	25	24,799	-58.5		332	8.7
20	22	26,202	-57.1		300	12.8
15	14	28,006	-54.6		278	20.6

*** FAIRBANKS, ALASKA**
996 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	135	-17.5	88	4	1.2
1000	29	102			5	1.9
950	29	494	-11.5	73	91	6.6
900	29	906	-12.1	70	111	8.2
850	29	1,343	-12.4	66	109	8.9
800	29	1,805	-13.4	60	129	5.2
750	29	2,290	-15.6	60	140	3.9
700	29	2,812	-18.5	61	191	4.1
650	29	3,361	-21.6	62	214	3.5
600	29	3,948	-25.3	62	277	2.9
550	29	4,572	-29.2	60	285	4.7
500	29	5,250	-33.5	56	292	5.8
450	29	5,980	-38.5		303	6.0
400	29	6,783	-44.1		296	10.3
350	29	7,668	-49.5		281	13.2
300	29	8,668	-53.1		283	14.2
250	29	9,843	-52.6		265	17.7
200	29	11,288	-51.4		270	16.5
175	29	12,156	-51.4		271	18.8
150	27	13,162	-51.4		262	19.2
125	27	14,345	-51.3		272	19.8
100	26	15,796	-51.3		281	21.2
80	26	17,246	-51.7		283	24.3
70	25	18,111	-51.8		286	22.7
60	25	19,112	-52.0		285	26.0
50	25	20,292	-52.2		292	29.3
40	25	21,737	-51.9		296	32.1
30	24	23,610	-50.9		298	35.9
25	22	24,789	-51.6		304	39.0
20	21	26,240	-52.0		302	41.8
15	19	28,086	-51.9		305	54.8
10	8	30,642	-51.4			

FLINT, MICH.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	234	2.4	83	228	5.1
1000	29	153				
950	29	571	3.8	71	258	12.6
900	29	1,008	2.4	65	267	17.9
850	29	1,470	1.2	59	268	21.4
800	29	1,956	-.2	49	270	23.7
750	29	2,470	-2.2	41	270	25.1
700	29	3,017	-4.8	40	274	28.7
650	29	3,594	-8.0	40	272	31.5
600	29	4,215	-11.4		273	33.6
550	29	4,870	-15.6		274	38.5
500	29	5,591	-20.5		274	44.5
450	29	6,355	-26.0		278	48.6
400	29	7,205	-31.8		279	52.6
350	29	8,137	-38.0		275	58.9
300	29	9,183	-44.7		278	64.5
250	29	10,385	-51.1		283	66.0
200	29	11,814	-57.0		283	67.2
175	29	12,656	-58.4		285	63.1
150	29	13,622	-59.7		285	51.7
125	29	14,756	-61.4		285	43.7
100	29	16,134	-62.8		285	40.4
80	29	17,508	-62.9		288	30.9
70	29	18,330	-62.3		289	25.3
60	29	19,284	-62.1		285	20.0
50	29	20,412	-61.4		295	19.2
40	29	21,799	-60.3		298	14.8
30	27	23,589	-58.5		284	20.0
25	26	24,731	-57.3		283	18.3
20	25	26,148	-56.0		277	24.3
15	21	27,979	-54.0		276	33.2
10	12	30,536	-52.0			

FORT WORTH, TEXAS
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	180	10.5	80	231	1.7
1000	30	165			338	1.9
950	30	599	11.7	69	207	9.7
900	30	1,047	11.1	60	219	11.5
850	30	1,523	9.8	54	234	12.2
800	30	2,025	7.8	50	242	14.0
750	30	2,558	5.3	45	244	15.7
700	30	3,117	2.5	38	249	16.8
650	30	3,714	-.8	36	247	22.0
600	30	4,348	-4.8	34	247	23.9
550	30	5,023	-9.0	32	246	25.4
500	30	5,759	-13.8		247	29.5
450	30	6,550	-19.3		244	34.2
400	30	7,419	-25.4		246	37.5
350	30	8,374	-32.4		246	43.9
300	30	9,443	-40.4		247	47.8
250	30	10,662	-49.5		248	51.7
200	28	12,091	-58.2		248	53.4
175	27	12,931	-61.9		250	52.3
150	27	13,879	-64.6		251	48.6
125	27	14,985	-67.2		254	39.0
100	26	16,320	-69.3		258	32.1
80	25	17,651	-68.6		265	22.3
70	24	18,456	-66.8		261	17.3
60	24	19,387	-64.3		260	12.9
50	24	20,506	-62.6		261	12.2
40	23	21,872	-59.7		263	12.2
30	21	23,698	-56.7		264	21.0
25	20	24,859	-55.0		263	28.0
20	18	26,294	-52.5		264	34.8
15	13	28,209	-48.6		269	38.1
10	6	30,870	-47.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1964

GLASGOW, MONT.
935 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	696	- 6.6	72	78	3.9
1000	30	161				
950	30	563				
900	30	992	- 2.2	58	296	3.1
850	30	1,447	- 2.1	51	286	8.5
800	30	1,928	- 3.5	49	288	11.3
750	30	2,432	- 5.8	48	292	13.0
700	30	2,974	- 8.3	47	295	16.3
650	30	3,542	-11.4	44	295	18.5
600	30	4,157	-14.6	40	292	22.3
550	30	4,805	-18.6	37	289	24.1
500	30	5,515	-23.4		288	24.7
450	30	6,266	-28.9	39	283	28.0
400	30	7,110	-35.1		282	30.1
350	30	8,029	-41.8		284	31.9
300	30	9,058	-48.7		287	36.7
250	30	10,240	-54.5		282	39.0
200	30	11,660	-56.5		280	40.2
175	30	12,508	-56.8		279	40.6
150	30	13,483	-57.4		278	36.9
125	29	14,629	-58.5		279	33.0
100	29	16,030	-58.6		279	29.9
80	29	17,426	-60.2		283	27.6
70	29	18,258	-59.9		287	25.3
60	29	19,219	-60.6		292	22.1
50	27	20,354	-60.7		304	18.3
40	27	21,743	-60.5		309	16.3
30	25	23,568	-59.2		324	15.9
25	24	24,719	-58.6		329	12.6
20	21	26,121	-58.6		341	11.8
15	14	27,952	-57.1			
10						

GRAND JUNCTION, COLO.
854 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	25	1,474	- .5	71	137	4.5
1000	25	198				
950	25	612				
900	25	1,053				
850	25	1,515			129	4.9
800	25	2,003	.4	59	149	4.9
750	25	2,518	- 1.7	60	186	4.3
700	25	3,066	- 4.1	58	245	7.6
650	25	3,643	- 7.3	55	260	11.7
600	25	4,267	-11.3	54	265	13.8
550	25	4,929	-15.4	50	265	15.5
500	25	5,646	-20.0		268	19.4
450	24	6,407	-25.4		264	23.1
400	24	7,256	-31.6	40	265	28.2
350	24	8,188	-37.9		273	32.4
300	24	9,234	-45.1		286	32.1
250	24	10,432	-51.9		288	32.1
200	24	11,862	-56.5		291	36.1
175	24	12,704	-58.6		289	36.7
150	24	13,669	-60.4		290	36.3
125	24	14,801	-61.7		288	28.9
100	24	16,176	-63.4		286	25.3
80	24	17,541	-64.2		282	20.0
70	24	18,361	-62.4		290	20.0
60	23	19,316	-62.3		288	14.2
50	21	20,450	-62.2		291	12.8
40	20	21,834	-62.2		305	10.5
30	20	23,619	-60.4		295	9.7
25	18	24,758	-59.4		296	11.3
20	17	26,164	-58.3		293	14.0
15	15	27,998	-55.6		290	15.3
10	9	30,664	-52.2			

GREAT FALLS, MONT.
886 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,123	- 1.4	63	232	8.2
1000	30	146				
950	30	565				
900	30	998				
850	30	1,453	.8	51	241	12.8
800	30	1,939	- 1.2	54	259	13.4
750	30	2,452	- 4.3	56	272	14.4
700	30	2,992	- 7.2	58	279	16.5
650	30	3,567	-10.2	54	285	17.1
600	30	4,180	-13.8	50	285	19.0
550	30	4,835	-18.0	48	288	22.5
500	30	5,543	-22.9	48	284	24.1
450	30	6,304	-28.5	51	283	24.3
400	30	7,142	-34.6	50	280	25.6
350	30	8,061	-41.3		278	28.4
300	30	9,092	-48.3		285	31.5
250	30	10,275	-54.3		282	31.1
200	30	11,692	-57.6		280	31.1
175	29	12,531	-57.1		274	30.1
150	29	13,506	-57.5		275	28.4
125	28	14,653	-58.3		271	26.6
100	28	16,056	-58.9		273	25.8
80	26	17,441	-58.9		277	23.5
70	26	18,278	-59.1		277	21.6
60	24	19,243	-59.3		283	21.0
50	24	20,384	-59.7		288	17.7
40	22	21,797	-59.6		289	15.5
30	18	23,613	-58.9		315	9.9
25	17	24,765	-58.1		305	8.5
20	15	26,185	-57.1		328	9.9
15	14	28,038	-56.9		354	11.5
10	7	30,646	-53.7			

GREEN BAY, WIS.
991 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	210	1.5	85	257	4.1
1000	30	131				
950	30	544	2.4	73	264	11.1
900	30	982	1.6	64	267	14.0
850	30	1,442	.1	56	270	15.0
800	30	1,926	- 1.4	47	271	19.0
750	30	2,436	- 3.2	41	271	23.1
700	30	2,983	- 6.1	41	270	25.8
650	30	3,555	- 9.0	41	269	29.9
600	30	4,175	-12.8	40	271	33.0
550	30	4,828	-16.7		267	35.0
500	30	5,544	-21.3		265	39.0
450	30	6,307	-27.0		265	42.5
400	30	7,152	-33.0		265	46.4
350	30	8,079	-39.1		266	51.3
300	30	9,121	-45.8		266	61.8
250	30	10,319	-51.9		266	65.9
200	30	11,748	-55.9		268	65.7
175	30	12,594	-57.4		268	60.2
150	30	13,566	-58.8		271	55.2
125	30	14,705	-60.3		272	43.7
100	30	16,093	-61.5		272	39.4
80	29	17,478	-62.0		273	32.1
70	29	18,303	-61.6		273	28.2
60	29	19,260	-61.2		278	23.5
50	28	20,402	-61.2		274	17.1
40	28	21,789	-60.5		277	16.5
30	28	23,589	-58.4		274	13.4
25	25	24,746	-57.6		269	12.0
20	20	26,155	-56.7		271	13.2
15	15	27,992	-54.0		302	7.4
10	6	30,626	-51.2			

GREENSBORO, N. C.
989 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	273	6.1	85	314	1.4
1000	30	177				
950	30	603	10.8	59	283	5.6
900	30	1,053	9.6	53	283	9.7
850	30	1,526	8.1	48	286	11.8
800	30	2,025	6.4	40	273	12.6
750	30	2,553	4.2	36	265	15.9
700	30	3,112	1.2	35	267	20.8
650	30	3,703	- 1.6		267	25.4
600	30	4,340	- 5.4	35	266	29.9
550	30	5,011	- 9.8	37	265	32.6
500	30	5,748	-14.4		264	35.7
450	30	6,534	-19.8		265	40.2
400	30	7,405	-26.0		265	45.1
350	30	8,358	-32.9		273	48.0
300	30	9,425	-40.7		273	54.4
250	30	10,643	-49.5		276	58.7
200	30	12,075	-58.2		276	65.9
175	30	12,909	-61.5		278	66.0
150	30	13,859	-63.9		279	58.1
125	30	14,970	-66.2		278	48.0
100	30	16,315	-67.4		281	37.7
80	30	17,660	-66.9		280	25.6
70	29	18,463	-65.8		277	20.6
60	29	19,405	-64.2		281	18.1
50	28	20,522	-62.3		287	15.3
40	28	21,907	-59.9		280	14.4
30	28	23,719	-56.6		273	17.3
25	28	24,882	-54.4		270	25.6
20	27	26,319	-52.2		269	34.2
15	19	28,177	-50.3		264	44.3
10						

HILO, HAWAII
1014 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	11	19.8	89	229	5.2
1000	28	133	21.7	82	224	3.3
950	28	575	19.5	82	102	3.7
900	28	1,043	16.4	84	94	5.8
850	28	1,528	13.6	84	104	6.0
800	28	2,038	11.0	75	99	6.2
750	28	2,576	8.6	62	97	6.2
700	28	3,144	6.0	55	100	3.7
650	28	3,748	2.9	49	118	2.1
600	28	4,392	- .6	45	225	2.1
550	28	5,078	- 5.0	37	275	3.9
500	28	5,824	- 9.8	33	283	8.9
450	28	6,627	-15.1	33	283	12.0
400	28	7,510	-21.3	35	288	15.3
350	28	8,481	-28.9		294	18.8
300	28	9,564	-37.6		293	22.3
250	28	10,795	-47.5		293	26.6
200	26	12,236	-57.3		283	31.5
175	26	13,071	-61.8		282	34.2
150	26	14,013	-66.8		282	33.8
125	26	15,102	-71.4		289	25.3
100	23	16,412	-74.4		283	16.3
80	23	17,719	-71.3		260	5.6
70	23	18,513	-68.2		186	3.5
60	23	19,444	-65.6		123	3.9
50	22	20,557	-63.0		88	7.6
40	20	21,942	-59.4		97	11.3
30	20	23,766	-54.3		90	9.1
25	20	24,941	-52.3		79	11.5
20	19	26,397	-49.3		78	15.5
15	12	28,288	-47.5		91	19.4
10	5	30,986	-44.4			
7						

HUNTINGTON, W. VA.
992 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	246	4.0	89	246	1.2
1000	30	176				
950	30	596	8.2	58	254	8.0
900	30	1,043	6.8	54	267	12.4
850	30	1,512	5.1	54	270	15.3
800	30	2,005	3.3	48	281	17.5
750	30	2,527	1.1	43	276	19.2
700	30	3,080	- .8	38	272	24.3
650	30	3,665	- 3.7	37	268	26.8
600	29	4,300	- 7.4	36	272	32.2
550	29	4,967	-11.4	36	271	35.7
500	29	5,697	-16.4		270	35.2
450	28	6,466	-22.2		267	40.0
400	28	7,332	-28.1		273	42.3
350	28	8,277	-34.9		273	48.2
300	28	9,335	-42.4		276	49.3
250	28	10,545	-50.6		279	52.4
200	28	11,976	-57.3		280	56.9
175	28	12,814	-60.3		279	58.3
150	28	13,769	-62.4		276	51.5
125	28	14,890	-64.6		277	45.8
100	28	16,245	-66.4		280	38.1
80	27	17,603	-65.3		280	25.1
70	27	18,417	-64.4		283	22.5
60	27	19,362	-63.3		283	19.8
50	27	20,485	-62.3		284	15.2
40	27	21,370	-60.2		278	15.5
30	27	23,678	-57.2		273	15.9
25	27	24,836	-55.5		268	19.2
20	27	26,266	-53.2		272	24.9
15	20	28,124	-50.6			
10						
7						

* INTERNAT. FALLS, MINN.
972 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	360	- 3.8	78	299	1.6
1000	30	133				
950	30	534	- 3.5	80	291	2.1
900	30	966	- 4.4	82	290	5.4
850	30	1,417	- 4.7	77	296	9.7
800	30	1,893	- 5.8	69	279	12.8
750	30	2,393	- 7.9	61	278	16.7
700	30	2,931	-10.2	53	276	20.4
650	30	3,495	-12.8	52	275	23.9
600	30	4,108	-16.2	52	276	28.4
550	30	4,753	-20.3	51	277	30.3
500	30	5,458	-25.1	50	276	31.3
450	30	6,209	-30.4	48	279	35.4
400	30	7,044	-35.9	46	278	40.6
350	30	7,960	-41.8		275	42.5
300	30	8,991	-47.5		272	50.1
250	30	10,183	-52.4		273	54.6
200	30	11,614	-55.0		274	53.4
175	30	12,466	-55.7		273	48.8
150	30	13,446	-56.7		272	45.3
125	30	14,597	-58.1		275	39.6
100	29	15,993	-59.1		277	35.9
80	29	17,388	-60.2		275	32.1
70	29	18,220	-60.5		275	28.4
60	29	19,179	-61.1		279	25.4
50	29	20,311	-61.5		280	23.9
40	27	21,718	-61.2		283	19.6
30	27	23,507	-60.2		286	16.9
25	25	24,640	-59.9		284	17.9
20	23	26,036	-59.6		288	20.6
15	20	27,805	-58.8		291	23.9
10	15	30,341	-57.0		285	23.7
7	6	32,696	-51.6			

JACKSON, MISS.
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	94	10.6	91	139	1.4
1000	29	169	11.7	83	114	2.1
950	29	600	12.8	65	179	4.3
900	29	1,054	11.0	58	259	6.6
850	29	1,530	9.6	54	273	8.5
800	29	2,032	7.0	53	274	10.5
750	29	2,556	5.4	39	273	13.0
700	29	3,124	3.9		261	15.5
650	29	3,717	.8		266	20.2
600	29	4,362	- 3.3		256	22.7
550	29	5,034	- 7.6		255	23.7
500	29	5,780	-12.6		257	27.6
450	29	6,568	-18.2		258	32.8
400	29	7,447	-24.3		258	34.6
350	29	8,406	-31.4		257	41.0
300	29	9,479	-39.7		257	42.9
250	29	10,700	-49.1		255	49.1
200	29	12,131	-58.6		253	55.6
175	29	12,961	-62.9		252	54.2
150	29	13,902	-66.0		259	50.5
125	29	14,998	-69.3		258	38.9
100	29	16,326	-70.7		255	28.6
80	29	17,650	-70.3		253	17.9
70	29	18,447	-68.1		257	10.5
60	28	19,381	-65.3		261	6.8
50	28	20,496	-63.4		299	6.6
40	28	21,874	-61.3		265	10.1
30	28	23,684	-55.9		265	18.6
25	27	24,852	-53.2		265	25.3
20	27	26,295	-51.4		269	31.5
15	24	28,177	-48.3		264	41.4
10	12	30,840	-46.9			
7						

JACKSONVILLE, FLA.
1020 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	14.7	91	343	2.7
1000	30	173	16.4	80	9	3.7
950	30	608	15.5	71	43	1.7
900	30	1,068	13.6	69	246	2.9
850	30	1,548	11.7	62	240	5.1
800	30	2,054	9.9	52	265	6.6
750	30	2,587	7.6	48	268	8.0
700	30	3,155	5.2	39	267	10.5
650	30	3,752	2.3		266	13.8
600	30	4,399	- 1.5		271	17.5
550	30	5,077	- 5.6		268	18.8
500	30	5,827	-10.6		270	21.8
450	30	6,621	-16.3		271	25.6
400	30	7,504	-22.7		269	30.7
350	30	8,469	-29.9		269	35.9
300	30	9,549	-37.8		270	42.3
250	30	10,780	-47.2		267	51.9
200	30	12,221	-57.8		267	62.5
175	30	13,053	-62.9		269	63.5
150	30	13,992	-67.1		269	59.6
125	30	15,083	-70.0		271	50.5
100	30	16,401	-72.5		272	35.0
80	30	17,712	-72.0		271	20.6
70	30	18,503	-69.0		273	15.3
60	30	19,431	-65.9		284	9.1
50	30	20,548	-62.1		279	6.4
40	30	21,940	-58.3		265	8.9
30	30	23,770	-53.5		260	15.3
25	29	24,954	-50.6		263	19.6
20	28	26,415	-48.9		263	26.4
15	24	28,320	-46.2		264	38.5
10	18	31,034	-42.3		276	49.9
7	6	33,426	-40.8			

JOHN F. KENNEDY INT. ARPT.NY
1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	7.3	67	309	4.9
1000	30	160	7.3	60	315	7.4
950	30	581	6.4	57	298	11.3
900	30	1,025	4.7	56	288	15.0
850	30	1,490	3.6	51	285	19.2
800	30	1,981	2.0	49	287	22.3
750	30	2,498	.1	45	286	25.8
700	30	3,050	- 2.4	42	281	28.7
650	30	3,637	- 5.2	36	277	32.1
600	30	4,260	- 9.0		276	35.4
550	30	4,928	-13.0		277	37.5
500	30	5,649	-17.8		275	41.2
450	30	6,429	-23.2		278	43.5
400	30	7,281	-29.4		280	47.4
350	30	8,221	-36.4		282	50.1
300	30	9,273	-44.0		284	55.8
250	30	10,475	-51.7		288	61.6
200	30	11,899	-58.0		292	64.3
175	29	12,738	-59.9		292	60.2
150	29	13,699	-61.0		288	57.3
125	29	14,829	-62.0		289	47.2
100	28	16,201	-63.2		292	38.1
80	27	17,575	-63.6		290	30.3
70	26	18,392	-62.7		286	26.4
60	26	19,344	-61.8		290	23.5
50	26	20,475	-61.3		289	19.2
40	26	21,866	-59.7		282	17.3
30	26	23,676	-56.9		279	17.5
25	26	24,835	-55.6		275	19.4
20	25	26,264	-53.6		272	25.4
15	21	28,130	-51.5		270	34.4
10	14	30,780	-47.1		277	37.5
7	9	33,135	-44.8			
5	7	35,398	-40.8			

JOHNSTON IS., PACIFIC AREA
1012 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	3	25.2	81	92	9.3
1000	29	109	24.4	81	91	11.7
950	29	557	20.9	82	94	14.4
900	29	1,024	18.0	75	98	13.2
850	29	1,512	15.1	74	98	12.4
800	29	2,025	13.2	57	94	10.3
750	29	2,566	10.9	43	99	8.7
700	29	3,138	8.3	38	106	7.0
650	29	3,742	5.0	33	90	5.2
600	29	4,395	1.4	31	61	2.7
550	29	5,087	- 2.5	26	22	2.1
500	29	5,840	- 7.3	29	320	2.1
450	29	6,651	-12.5	28	300	3.7
400	29	7,542	-19.0	32	296	8.2
350	29	8,521	-26.4	34	295	12.4
300	29	9,616	-34.9	33	295	18.6
250	29	10,862	-44.9		292	28.0
200	29	12,315	-56.5		288	32.4
175	28	13,153	-62.5		283	32.4
150	28	14,090	-68.5		285	34.2
125	28	15,166	-74.5		284	27.2
100	27	16,449	-79.4		291	19.8
80	27	17,721	-76.8		324	8.0
70	25	18,496	-72.5		352	3.5
60	25	19,417	-66.2		62	2.3
50	22	20,528	-64.1		94	6.4
40	21	21,903	-60.8		95	7.8
30	21	23,713	-56.0		75	11.7
25	21	24,882	-53.2		84	16.5
20	19	26,338	-49.6		84	24.5
15	18	28,239	-46.6		87	28.7
10	13	30,954	-42.1		101	24.7
7	9	33,382	-39.0			
5	6	35,704	-37.2			

KEY WEST, FLORIDA
1017 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	23	3	23.6	81	36	4.9
1000	23	152	22.7	81	62	9.1
950	23	595	19.7	84	90	11.7
900	23	1,063	17.1	78	95	9.3
850	23	1,549	14.5	70	104	6.6
800	23	2,060	12.3	65	100	5.1
750	23	2,594	10.6	55	86	2.5
700	23	3,173	8.1	47	58	1.7
650	23	3,777	5.1	42	109	1.7
600	23	4,432	1.2	41	306	.6
550	23	5,120	- 2.6	38	298	2.1
500	23	5,877	- 7.3	40	285	3.7
450	23	6,683	-13.1	42	277	7.6
400	23	7,578	-19.4	46	267	9.9
350	23	8,557	-26.3	42	270	14.0
300	23	9,652	-34.9	41	271	21.8
250	23	10,898	-44.9		265	22.1
200	22	12,347	-56.4		261	34.8
175	22	13,183	-62.3		261	33.0
150	22	14,122	-68.1		270	29.7
125	22	15,205	-72.1		271	25.3
100	22	16,510	-74.4		279	20.2
80	22	17,808	-74.4		280	10.1
70	22	18,588	-72.4		293	2.9
60	22	19,505	-67.2		3	2.1
50	22	20,617	-62.6		3	2.1
40	22	22,006	-58.4		139	1.4
30	22	23,827	-53.2		96	4.7
25	22	25,022	-50.1		72	3.7
20	22	26,487	-47.7		109	3.1
15	21	28,400	-44.6		227	2.1
10	19	31,134	-41.9		267	8.5
7	13	33,556	-39.9			
5	6	35,841	-36.9			

KING SALMON, ALASKA
1003 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	15	- 6.2	72	51	2.9
1000	30	36			14	8.9
950	30	439	- 5.1	63	41	8.5
900	30	864	- 5.8	58	40	7.0
850	30	1,310	- 7.8	56	43	4.7
800	30	1,780	- 9.6	54	29	2.9
750	30	2,275	-12.4	50	9	3.3
700	30	2,800	-15.5	47	352	2.9
650	30	3,354	-18.5	46	328	4.1
600	30	3,950	-21.7	41	308	3.9
550	30	4,583	-25.9		281	5.2
500	30	5,271	-30.3		299	7.8
450	30	6,011	-35.4		286	6.4
400	30	6,825	-40.9		269	9.1
350	30	7,722	-46.3		253	9.1
300	30	8,738	-49.5		261	14.6
250	30	9,928	-51.1		260	20.0
200	30	11,378	-50.9		270	21.2
175	30	12,248	-50.5		275	22.9
150	30	13,254	-50.5		274	21.6
125	30	14,442	-50.6		269	22.7
100	30	15,897	-50.1		265	21.2
80	30	17,356	-50.0		272	20.4
70	30	18,227	-50.2		271	19.2
60	30	19,234	-50.5		270	18.3
50	30	20,423	-50.6		276	18.5
40	30	21,879	-50.1		283	17.5
30	30	23,757	-49.8		283	18.5
25	30	24,946	-49.6		289	16.7
20	29	26,385	-51.0		299	18.6
15	22	28,287	-51.5		285	20.0
10	13	30,903	-50.2			
7						
5						

KOROR, CAROLINE IS.
+ 1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	30	27.3	86	160	.6
1000	30	75	26.9	85	35	.6
950	30	523	24.0	82	210	.4
900	30	1,001	21.0	79	15	.4
850	30	1,495	18.2	76	249	1.6
800	30	2,013	15.3	75	67	.4
750	30	2,555	12.6	70	104	2.9
700	30	3,137	9.8	67	102	4.7
650	30	3,746	6.3	67	94	6.4
600	30	4,403	2.8	64	98	8.5
550	30	5,098	- 1.1	63	99	10.7
500	30	5,859	- 5.3	58	93	11.1
450	30	6,672	-10.1	47	98	11.8
400	30	7,579	-15.8	42	98	10.7
350	30	8,573	-22.2	39	97	11.7
300	29	9,689	-30.6		92	9.5
250	29	10,957	-40.8		91	9.1
200	29	12,434	-53.5		85	10.1
175	29	13,279	-60.8		84	10.5
150	29	14,220	-68.6		78	12.4
125	29	15,290	-76.7		82	15.5
100	29	16,548	-83.9		90	21.6
80	29	17,797	-78.3		85	12.0
70	27	18,572	-70.6		356	2.5
60	27	19,495	-67.2		280	9.7
50	27	20,603	-64.0		274	15.0
40	25	21,980	-60.7		268	6.8
30	22	23,780	-57.0		101	12.8
25	21	24,937	-55.4		93	30.5
20	21	26,375	-51.0		95	50.7
15	18	28,274	-45.7		94	61.2
10	11	30,997	-40.9			
7						
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

KOTZEBUE, ALASKA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	-12.8	77	81	6.8
1000	30	97			95	7.2
950	30	492	-10.4	67	95	8.9
900	30	907	-11.3	60	98	7.2
850	30	1,345	-12.5	57	92	5.1
800	30	1,807	-13.9	54	82	3.1
750	30	2,295	-15.8	47	53	2.3
700	30	2,814	-18.6	46	2	1.6
650	30	3,361	-21.8	46	112	1.2
600	30	3,948	-25.1	47	185	.4
550	30	4,572	-29.2	46	216	1.4
500	30	5,250	-33.7	46	197	4.3
450	30	5,978	-38.4		223	5.8
400	30	6,781	-44.0		239	7.0
350	30	7,667	-49.2		248	7.4
300	29	8,668	-53.7		287	8.0
250	29	9,835	-55.1		278	9.7
200	29	11,259	-54.3		244	15.0
175	29	12,118	-52.9		242	17.3
150	29	13,114	-52.3		241	18.8
125	29	14,293	-52.0		237	22.0
100	29	15,740	-51.5		243	24.7
80	29	17,191	-51.2		241	28.0
70	29	18,057	-51.3		244	27.8
60	29	19,060	-51.3		244	30.9
50	29	20,246	-51.3		250	33.2
40	29	21,696	-51.2		251	33.6
30	28	23,575	-51.0		258	36.3
25	28	24,761	-51.2		255	39.8
20	25	26,253	-50.5		259	41.0
15	22	28,142	-49.7		257	34.0
10	12	30,916	-45.7			
7	5	33,315	-45.2			

LAKE CHARLES, LA.
1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	13.4	89	68	1.9
1000	30	167	16.0	78	103	3.3
950	30	604	15.0	68	180	6.2
900	30	1,060	13.0	58	207	6.6
850	30	1,540	11.3	48	224	7.6
800	30	2,045	9.2	47	245	7.6
750	30	2,578	7.4	40	256	10.9
700	30	3,145	5.1	32	258	13.6
650	30	3,748	1.8	30	254	16.1
600	30	4,389	- 1.8		257	19.0
550	30	5,071	- 6.1		253	23.7
500	30	5,817	-11.1		254	27.8
450	30	6,616	-16.8		251	32.4
400	30	7,493	-23.2		250	36.5
350	30	8,456	-30.5		252	41.8
300	30	9,533	-38.8		248	45.1
250	30	10,760	-48.1		250	53.8
200	30	12,198	-57.8		249	61.8
175	30	13,030	-62.6		249	61.4
150	30	13,972	-66.2		250	54.2
125	30	15,068	-69.5		253	47.8
100	30	16,391	-71.0		253	31.1
80	30	17,711	-70.6		250	20.6
70	30	18,508	-68.1		251	13.2
60	30	19,441	-65.3		253	10.5
50	29	20,559	-61.7		272	8.7
40	28	21,953	-58.7		259	8.7
30	27	23,779	-54.3		262	12.2
25	27	24,954	-51.7		261	19.4
20	24	26,404	-49.7		266	30.5
15	22	28,302	-46.2		268	38.5
10	11	31,000	-43.1			
7						

LANDER, WYO.
827 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,696	- 2.8	61	257	2.3
1000	30	168				
950	30	582				
900	30	1,021				
850	30	1,480				
800	30	1,965	.5	46	299	2.7
750	30	2,482	- 1.3	43	291	8.0
700	30	3,029	- 4.3	40	278	12.6
650	30	3,606	- 8.2	42	280	16.9
600	30	4,227	-11.7	41	280	20.2
550	30	4,884	-15.8	37	279	19.2
500	30	5,601	-21.0	36	272	22.0
450	30	6,367	-26.6	36	274	24.9
400	30	7,212	-33.2	36	268	26.2
350	30	8,137	-40.0		263	30.5
300	30	9,173	-47.1		260	38.5
250	30	10,364	-52.8		265	39.2
200	30	11,788	-57.1		266	36.1
175	30	12,632	-58.0		264	37.3
150	30	13,601	-59.0		264	34.6
125	30	14,741	-60.2		265	30.1
100	30	16,130	-61.3		268	24.5
80	30	17,512	-61.7		269	17.7
70	30	18,338	-61.9		269	15.7
60	29	19,294	-61.5		278	16.9
50	28	20,426	-61.7		290	13.4
40	26	21,802	-61.6		299	10.9
30	22	23,615	-59.8		294	3.3
25	21	24,773	-58.1		337	3.3
20	14	26,221	-56.8		32	6.0
15	6	28,046	-55.3			
10						
7						

LAS VEGAS, NEV.
941 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	660	5.8	53	251	4.1
1000	30	159				
950	30	580				
900	30	1,030	8.9	40	320	2.9
850	30	1,501	6.2	42	327	3.3
800	30	1,996	3.8	40	306	2.7
750	30	2,513	1.4	36	281	4.5
700	30	3,071	- 1.6	32	275	7.2
650	30	3,651	- 4.8		272	12.6
600	30	4,283	- 8.8		277	15.3
550	30	4,943	-13.4		277	19.6
500	30	5,670	-18.5		274	23.9
450	30	6,441	-24.0		276	27.0
400	30	7,298	-30.4		275	30.1
350	30	8,235	-36.7		271	34.0
300	30	9,289	-43.1		274	38.9
250	30	10,499	-49.8		273	42.5
200	30	11,936	-56.4		270	43.5
175	30	12,778	-59.2		267	41.4
150	30	13,738	-61.4		266	37.5
125	30	14,864	-63.5		267	31.5
100	30	16,230	-65.0		265	23.5
80	28	17,587	-63.9		272	17.1
70	27	18,404	-63.2		276	12.2
60	27	19,353	-62.4		281	9.9
50	27	20,482	-61.0		285	8.5
40	25	21,872	-60.8		298	8.4
30	23	23,671	-58.6		288	8.2
25	23	24,820	-57.3		279	8.5
20	22	26,229	-55.3		279	12.6
15	16	28,067	-52.6		276	18.1
10						
7						

* LIHUE, HAWAII
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	36	22.5	83	69	3.3
1000	30	137	22.3	81	66	5.6
950	30	580	19.1	87	81	8.0
900	30	1,045	15.9	89	94	7.2
850	30	1,529	12.9	87	103	5.6
800	30	2,037	10.6	68	111	5.2
750	30	2,572	8.7	54	144	4.1
700	30	3,143	5.9	44	178	1.7
650	30	3,743	3.1	34	258	1.7
600	30	4,391	- .9	33	281	3.1
550	30	5,073	- 5.3	30	292	7.8
500	30	5,822	-10.1	30	291	10.1
450	30	6,620	-15.8	33	297	13.2
400	30	7,504	-22.1	31	292	18.8
350	30	8,472	-29.5	32	299	24.5
300	30	9,552	-38.3	29	299	27.2
250	30	10,780	-48.0		303	33.6
200	29	12,215	-57.7		304	39.2
175	29	13,05[illegible]	-61.6		299	39.6
150	29	13,994	-66.1		293	35.2
125	28	15,089	-70.7		294	28.4
100	27	16,400	-73.6		294	20.4
80	26	17,702	-72.8		294	8.9
70	26	18,494	-67.9		280	3.5
60	26	19,423	-65.6		173	.8
50	26	20,537	-63.2		97	5.8
40	26	21,921	-59.3		97	8.7
30	25	23,736	-55.5		90	7.0
25	23	24,909	-53.2		72	7.6
20	22	26,356	-50.2		59	8.2
15	22	28,243	-47.5		86	6.2
10	20	30,943	-44.7		232	4.7
7	7	33,355	-41.5			

LITTLE ROCK, ARK.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	79	8.1	88	293	1.2
1000	30	169	10.1	73	222	2.9
950	30	594	10.6	63	230	8.7
900	30	1,048	9.5	57	246	11.3
850	30	1,522	8.1	52	255	11.1
800	30	2,021	5.5	56	266	11.3
750	30	2,544	4.0	47	269	13.4
700	30	3,106	1.6	39	264	16.3
650	30	3,697	- 1.9	42	265	18.8
600	30	4,334	- 5.1	38	267	20.4
550	29	5,009	- 9.6	36	262	22.3
500	29	5,747	-14.5		260	25.1
450	29	6,529	-20.3		261	26.4
400	29	7,400	-26.6		260	31.9
350	29	8,351	-33.2		261	41.2
300	29	9,418	-40.8		261	46.2
250	29	10,635	-49.4		264	51.9
200	29	12,068	-58.3		260	46.4
175	29	12,900	-61.9		257	41.2
150	29	13,848	-64.2		259	32.6
125	28	14,963	-66.6		260	29.9
100	28	16,307	-68.6		263	19.8
80	28	17,645	-67.9		275	15.7
70	27	18,445	-66.6		266	7.6
60	27	19,383	-64.9		268	4.7
50	27	20,499	-63.3		291	4.3
40	27	21,877	-61.1		281	2.9
30	26	23,671	-57.8		282	6.8
25	25	24,831	-55.3			
20	23	26,260	-52.8			
15	21	28,131	-50.3			
10	14	30,791	-46.3			
7						
5						

MCGRATH, ALASKA
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	103	-14.3	74	303	1.6
1000	29	83			344	5.6
950	29	475	-10.9	69	50	7.6
900	29	892	-10.2	67	64	8.7
850	29	1,333	- 9.3	61	53	8.7
800	29	1,801	-10.7	55	46	7.0
750	29	2,290	-13.2	56	42	5.6
700	29	2,818	-16.1	52	357	3.3
650	29	3,368	-19.4	51	327	4.1
600	29	3,964	-22.9	50	349	7.6
550	29	4,593	-27.2	49	342	7.8
500	29	5,277	-31.5	45	330	10.1
450	29	6,010	-35.8		320	9.1
400	29	6,826	-41.4		303	10.9
350	29	7,721	-47.2		332	11.8
300	29	8,730	-52.0		323	15.2
250	29	9,907	-53.3		317	16.3
200	28	11,356	-52.1		299	15.9
175	28	12,223	-50.8		301	16.3
150	28	13,227	-50.9		288	16.3
125	28	14,414	-50.9		281	17.7
100	28	15,869	-50.5		282	18.3
80	27	17,325	-50.3		283	21.8
70	27	18,196	-50.2		285	23.3
60	27	19,204	-49.9		286	23.5
50	27	20,396	-50.2		290	27.4
40	26	21,860	-49.8		289	27.8
30	25	23,744	-50.2		293	32.2
25	22	24,959	-49.6		300	33.4
20	21	26,412	-50.3		299	35.5
15	13	28,303	-48.3			
10						
7						
5						

MAJURO, MARSHALL IS.
+ 1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	3	28.2	78	88	8.0
1000	30	81	27.2	77	88	8.5
950	30	527	23.1	77	89	11.3
900	30	1,004	20.2	75	87	13.2
850	30	1,496	17.5	74	90	13.4
800	30	2,014	15.4	71	93	11.5
750	30	2,560	13.0	63	90	11.3
700	30	3,138	10.1	61	94	11.5
650	30	3,749	6.6	59	96	12.4
600	30	4,404	2.6	60	99	13.0
550	29	5,095	- 1.4	57	99	11.5
500	29	5,855	- 5.7	51	87	8.0
450	29	6,670	-10.7	45	91	5.1
400	29	7,572	-16.0	40	277	1.2
350	29	8,565	-22.5	34	244	5.1
300	29	9,680	-30.6		263	8.9
250	29	10,949	-40.9		247	15.3
200	29	12,427	-53.3		255	21.2
175	29	13,273	-60.2		257	22.7
150	29	14,218	-67.7		259	23.5
125	29	15,294	-75.7		265	18.3
100	29	16,563	-81.5		293	5.8
80	29	17,821	-77.4		2	2.5
70	29	18,597	-72.1		285	8.5
60	29	19,516	-66.8		272	14.4
50	28	20,628	-63.9		269	16.9
40	25	22,006	-60.0		278	4.3
30	23	23,826	-56.4		90	11.5
25	22	24,993	-53.0		92	31.3
20	16	26,439	-50.1		89	47.0
15						
10						
7						
5						

* MARCUS IS., N. PACIFIC
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	9	25.3	79	84	6.0
1000	30	113	24.5	78	84	7.4
950	30	555	20.9	84	89	7.8
900	30	1,029	18.0	82	100	4.7
850	30	1,517	15.2	80	117	3.3
800	30	2,030	12.8	73	150	1.9
750	30	2,564	10.4	65	216	3.5
700	30	3,144	7.9	53	222	5.6
650	30	3,747	5.1	46	237	7.8
600	30	4,403	1.5	41	247	9.5
550	30	5,095	- 2.3	34	257	13.2
500	30	5,850	- 7.0	34	255	15.3
450	30	6,658	-12.2	34	255	17.5
400	30	7,556	-18.1	35	263	17.5
350	30	8,541	-25.1	32	267	20.2
300	30	9,643	-33.3	30	275	23.7
250	30	10,898	-43.1		280	26.6
200	30	12,364	-54.5		285	27.2
175	30	13,208	-60.8		284	23.7
150	30	14,151	-67.6		279	22.7
125	30	15,230	-74.7		280	21.6
100	29	16,505	-80.5		277	16.7
80	29	17,765	-78.7		251	8.7
70	28	18,529	-74.7		207	3.3
60	27	19,441	-68.3		112	4.7
50	27	20,552	-63.1		81	6.4
40	26	21,941	-59.5		86	7.2
30	26	23,760	-54.9		81	7.4
25	25	24,928	-52.0		73	4.5
20	25	26,379	-50.2		334	2.9
15	24	28,270	-47.4		335	5.1
10	21	30,972	-44.2		328	14.0
7	13	33,381	-40.6		297	13.2
5	5	35,699	-38.3			

MEDFORD, OREG.
971 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	401	2.3	96	255	.6
1000	30	162				
950	30	579	4.0	81	312	.4
900	30	1,019	4.0	68	175	6.0
850	30	1,484	3.0	[illegible]	200	9.9
800	30	1,974	.5	57	232	12.2
750	30	2,488	- 1.8	55	245	14.8
700	30	3,036	- 4.7	45	253	17.3
650	29	3,614	- 8.0	45	261	15.7
600	29	4,236	-11.8	44	272	19.4
550	29	4,890	-16.5	47	276	22.3
500	29	5,607	-21.3	43	281	25.6
450	29	6,371	-26.3	44	286	29.5
400	29	7,220	-32.0	44	286	30.7
350	29	8,151	-38.6		284	28.9
300	29	9,193	-45.6		264	29.9
250	29	10,392	-51.7		272	18.6
200	29	11,821	-56.4		283	15.9
175	29	12,666	-58.2		264	20.4
150	29	13,633	-59.3		270	20.6
125	29	14,772	-60.5		279	18.1
100	29	16,156	-61.7		282	16.1
80	29	17,541	-60.4		278	13.0
70	29	18,373	-60.3		299	9.7
60	29	19,335	-60.0		306	8.4
50	29	20,473	-60.2		314	8.7
40	27	21,861	-59.4		358	7.4
30	27	23,667	-58.4		2	10.3
25	25	24,829	-57.8		6	12.0
20	21	26,247	-56.7		27	18.8
15	15	28,075	-54.6		20	14.2
10	6	30,706	-51.5			
7						
5						

* MIAMI, FLA.
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	21.3	87	19	3.3
1000	30	155	22.1	76	54	5.1
950	30	597	18.9	77	96	7.0
900	30	1,063	15.9	73	105	6.2
850	30	1,547	13.3	64	97	4.1
800	30	2,056	11.5	52	106	.8
750	30	2,594	10.0	32	244	1.2
700	30	3,166	6.9	30	254	3.1
650	30	3,771	4.0	34	251	4.5
600	30	4,419	.5	28	253	5.6
550	30	5,107	- 3.7	27	263	7.0
500	30	5,860	- 8.3	25	259	8.2
450	30	6,665	-14.1	29	263	11.3
400	30	7,554	-20.2	29	262	15.2
350	30	8,530	-27.2	29	267	19.8
300	30	9,621	-35.7	28	274	26.8
250	30	10,863	-45.6		267	35.0
200	30	12,311	-57.2		266	44.3
175	30	13,144	-63.0		269	44.5
150	30	14,079	-68.8		273	39.4
125	30	15,159	-72.6		271	31.1
100	30	16,459	-75.5		279	21.4
80	30	17,749	-75.5		284	11.1
70	30	18,526	-72.6		285	5.4
60	30	19,444	-67.7		300	3.1
50	30	20,555	-62.8		315	1.9
40	30	21,944	-58.5		244	1.9
30	30	23,775	-53.5		253	3.3
25	30	24,956	-50.7		285	3.9
20	30	26,417	-48.4		253	4.1
15	30	28,322	-45.7		254	9.7
10	23	31,050	-41.9		263	17.7
7	5	33,435	-38.4			
5						

* MIDLAND, TEXAS
917 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	874	7.3	78	203	2.3
1000	30	154				
950	30	583				
900	30	1,030	9.8	66	200	4.7
850	30	1,507	11.0	53	236	9.7
800	30	2,012	9.0	46	247	12.0
750	30	2,541	6.0	39	252	15.2
700	30	3,105	2.4	39	253	18.3
650	30	3,698	- .9	36	250	21.6
600	30	4,336	- 4.6	31	253	23.5
550	30	5,007	- 9.2	27	256	26.0
500	30	5,746	-14.1	26	255	27.8
450	30	6,532	-19.9	29	257	31.5
400	30	7,401	-26.4	29	260	33.4
350	30	8,352	-33.5	28	256	40.6
300	30	9,416	-40.9		254	49.0
250	30	10,634	-49.3		252	52.4
200	30	12,067	-58.2		251	58.3
175	30	12,899	-62.0		249	54.6
150	30	13,846	-64.6		250	51.9
125	30	14,953	-67.0		253	42.3
100	30	16,292	-69.2		252	32.8
80	30	17,623	-69.2		255	24.9
70	29	18,422	-67.5		258	17.7
60	29	19,358	-64.9		256	12.4
50	29	20,475	-63.2		264	10.1
40	29	21,854	-61.2		270	11.5
30	29	23,652	-58.0		261	17.3
25	29	24,808	-55.5		258	23.1
20	29	26,238	-53.3		260	37.3
15	27	28,097	-50.6		262	52.3
10	26	30,763	-47.8		262	61.0
7	16	33,149	-45.2		262	49.3
5	5	35,405	-42.6			

MONTGOMERY, ALA.
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	61	9.5	90	14	1.9
1000	30	177	11.7	80	43	3.1
950	30	609	13.0	66	206	.6
900	30	1,063	11.0	63	275	4.5
850	30	1,539	9.3	60	269	8.0
800	30	2,040	8.0	44	254	10.9
750	30	2,571	6.5		260	13.0
700	30	3,136	4.6		262	16.1
650	30	3,737	1.6		261	19.4
600	30	4,377	- 2.5		262	22.5
550	30	5,060	- 6.8		261	26.2
500	30	5,800	-11.5		261	29.3
450	30	6,598	-17.3		260	33.6
400	30	7,473	-23.3		260	38.9
350	30	8,435	-30.7		260	43.7
300	30	9,511	-38.8		259	47.0
250	30	10,737	-48.3		258	53.2
200	30	12,172	-58.0		258	60.8
175	30	13,003	-62.8		260	61.2
150	30	13,944	-66.3		260	56.5
125	30	15,040	-68.6		262	49.1
100	29	16,368	-70.9		261	38.3
80	29	17,689	-70.3		259	27.8
70	29	18,484	-67.9		261	21.4
60	29	19,416	-65.2		268	14.6
50	29	20,532	-63.1		269	11.3
40	28	21,910	-59.7		262	14.6
30	28	23,725	-55.5		260	20.2
25	28	24,894	-52.7		265	25.3
20	28	26,341	-50.4		264	33.6
15	26	28,228	-48.2		263	38.5
10	12	30,925	-45.0			
7	5	33,255	-41.0			
5						

NANTUCKET, MASS.
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	14	6.1	76	318	3.9
1000	30	150	6.7	70	300	4.9
950	30	564	5.0	63	284	10.9
900	30	1,010	3.6	57	284	14.8
850	30	1,473	2.7	49	285	19.2
800	30	1,963	1.4	39	282	21.0
750	30	2,479	- .6	39	282	25.6
700	30	3,031	- 3.0	36	283	29.7
650	30	3,610	- 5.9	32	282	33.6
600	30	4,238	- 9.3		280	38.9
550	30	4,900	-13.5		280	42.7
500	30	5,625	-18.2		282	44.5
450	30	6,397	-23.5		278	48.8
400	30	7,255	-29.7		276	52.1
350	30	8,194	-36.3		273	47.6
300	30	9,246	-44.1		287	52.1
250	30	10,447	-52.2		291	56.3
200	30	11,869	-57.7		287	58.9
175	30	12,709	-59.2		281	53.8
150	30	13,672	-60.5		277	51.7
125	30	14,802	-62.6		280	45.3
100	30	16,175	-63.4		280	35.7
80	30	17,546	-62.9		277	28.9
70	30	18,368	-62.3		284	23.3
60	30	19,323	-61.7		278	21.6
50	29	20,452	-60.4		280	18.8
40	28	21,852	-59.3		284	12.6
30	28	23,664	-56.7		271	14.4
25	27	24,819	-55.6		273	16.9
20	27	26,246	-53.9		270	27.2
15	27	28,105	-51.1		271	31.9
10	20	30,764	-47.7		270	54.8
7	11	33,127	-46.5			
5	5	35,363	-42.7			

NASHVILLE, TENN.
1000 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	177	7.5	86	190	.4
1000	30	176			39	1.9
950	30	603	9.5	61	227	7.6
900	30	1,050	8.0	59	250	10.9
850	30	1,520	6.0	56	262	13.0
800	30	2,015	4.0	51	264	14.8
750	30	2,539	2.7	38	266	16.1
700	30	3,094	.4		262	18.5
650	30	3,691	- 2.8		263	22.5
600	30	4,315	- 6.1		261	26.2
550	30	4,985	-10.4		263	30.5
500	30	5,718	-15.7		264	34.8
450	30	6,501	-21.1		266	38.3
400	30	7,364	-27.0		265	46.0
350	30	8,313	-33.7		262	50.1
300	30	9,377	-41.2		259	55.6
250	30	10,593	-49.4		262	58.5
200	30	12,026	-57.6		264	60.8
175	30	12,863	-60.8		263	60.0
150	30	13,815	-63.6		266	55.9
125	30	14,927	-65.7		264	45.5
100	30	16,276	-67.3		263	35.7
80	30	17,618	-66.9		263	25.1
70	30	18,426	-65.6		265	21.6
60	29	19,360	-64.2		265	18.1
50	29	20,481	-62.6		273	17.1
40	28	21,362	-60.2		263	15.5
30	27	23,665	-57.1		260	24.1
25	27	24,826	-54.7		264	27.6
20	27	26,261	-52.6		261	34.4
15	25	28,127	[illegible]		261	41.2
10	22	30,779	-47.5		261	[illegible]
7	9	33,153	-44.9			
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1964

NOME, ALASKA
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	7	-10.1	77	33	5.2
1000	29	86			343	5.8
950	29	485	- 7.8	55	31	3.9
900	29	901	- 9.1	58	52	3.1
850	29	1,346	-10.5	58	356	3.5
800	29	1,811	-12.6	55	342	3.5
750	29	2,297	-15.0	50	314	4.7
700	29	2,821	-17.8	47	310	5.1
650	29	3,370	-20.9	45	299	5.6
600	29	3,960	-24.4	43	282	5.8
550	29	4,584	-28.5	40	287	6.4
500	29	5,265	-33.1		292	8.0
450	29	5,994	-38.1		280	8.0
400	29	6,801	-43.2		273	8.5
350	29	7,589	-48.4		259	12.6
300	29	8,592	-53.1		268	12.4
250	29	9,861	-54.9		262	15.0
200	29	11,291	-53.4		260	17.7
175	29	12,152	-52.7		249	20.0
150	28	13,137	-51.7		244	20.4
125	28	14,320	-51.3		246	22.7
100	28	15,772	-50.5		242	24.9
80	27	17,232	-50.2		247	26.4
70	27	18,103	-50.6		248	27.2
60	26	19,114	-50.3		252	27.4
50	25	20,304	-49.9		255	31.1
40	25	21,764	-49.8		258	34.0
30	25	23,545	-50.0		255	37.3
25	23	24,949	-49.6		253	35.2
20	22	26,290	-50.1		251	38.3
15	17	28,214	-49.2		251	34.0
10	5	30,872	-48.2			
7						

NORFOLK, VA.
1020 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	9	9.9	78	280	1.6
1000	30	173	11.6	62	3.2	3.1
950	30	603	10.4	56	298	6.2
900	30	1,051	8.9	45	278	7.4
850	30	1,523	7.3	42	270	10.1
800	30	2,021	5.4	40	268	14.0
750	30	2,548	3.1	38	271	19.0
700	30	3,104	.6	33	272	22.7
650	30	3,692	- 2.2		273	26.2
600	30	4,328	- 5.6		270	28.4
550	30	4,998	- 9.7		272	32.8
500	30	5,736	-14.4		278	36.7
450	30	6,517	-20.1		278	40.0
400	30	7,389	-26.3		276	45.8
350	30	8,340	-33.5		275	51.5
300	30	9,404	-41.4		282	56.1
250	30	10,618	-50.1		280	59.8
200	30	12,047	-58.3		285	63.9
175	30	12,880	-61.3		283	59.6
150	30	13,830	-63.6		281	54.0
125	30	14,942	-65.5		280	46.2
100	30	16,297	-66.4		283	39.0
80	29	17,651	-66.0		282	25.3
70	29	18,461	-65.3		285	22.5
60	29	19,404	-63.4		292	16.5
50	29	20,530	-61.4		290	15.2
40	29	21,922	-58.9		279	15.5
30	29	23,739	-55.9		278	19.0
25	27	24,913	-53.8		276	19.8
20	22	26,362	-50.8		270	26.6
15	13	28,233	-49.2			

NORTH PLATTE, NEBR.
917 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	848	- 4.1	77	339	5.1
1000	30	159				
950	30	572				
900	30	999	- .3	68	320	6.0
850	30	1,460	2.2	52	315	10.9
800	30	1,949	1.5	47	301	12.8
750	30	2,470	.2	45	292	15.5
700	30	3,019	- 2.3	41	281	19.2
650	30	3,601	- 5.7	42	277	20.6
600	30	4,227	- 9.8	41	273	22.1
550	30	4,886	-14.1	38	276	23.7
500	30	5,610	-19.0	35	272	26.6
450	30	6,383	-24.3		268	32.2
400	30	7,235	-30.7		266	37.9
350	30	8,169	-37.8		263	41.6
300	30	9,215	-44.9		261	39.4
250	30	10,414	-52.2		266	41.2
200	30	11,838	-57.5		268	43.1
175	30	12,678	-58.8		267	44.7
150	30	13,642	-60.3		270	37.7
125	30	14,774	-61.9		271	33.6
100	30	16,151	-62.9		274	28.7
80	29	17,516	-63.4		275	23.9
70	28	18,336	-63.1		284	18.6
60	27	19,295	-62.6		286	15.0
50	27	20,420	-62.2		284	15.5
40	27	21,800	-61.9		292	13.0
30	26	23,587	-60.4		282	12.8
25	25	24,734	-58.9		275	12.6
20	25	26,136	-57.9		276	16.1
15	21	27,952	-55.6		276	19.0
10	16	30,560	-52.3		281	25.8
7	8	32,839	-49.5			

* OAKLAND, CALIF.
1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	10.4	76	164	1.4
1000	30	157	10.3	68	146	1.7
950	30	582	8.7	65	44	.4
900	30	1,030	7.3	58	244	3.5
850	30	1,499	5.4	53	252	5.8
800	30	1,992	3.3	48	258	7.6
750	30	2,511	.7	46	258	8.9
700	30	3,065	- 2.2	42	266	12.4
650	30	3,646	- 5.6	39	273	13.8
600	30	4,274	- 9.3	39	277	17.3
550	30	4,936	-13.8	38	282	20.4
500	30	5,660	-18.2	38	289	23.5
450	30	6,432	-23.4	42	288	28.9
400	30	7,292	-29.6	43	290	32.1
350	30	8,231	-36.3	40	299	37.7
300	30	9,284	-43.8		299	37.9
250	30	10,488	-51.3		289	42.0
200	29	11,911	-56.9		280	37.7
175	29	12,753	-58.6		283	42.0
150	28	13,724	-60.5		278	35.2
125	27	14,855	-62.9		280	30.3
100	26	16,225	-64.3		273	22.0
80	26	17,592	-63.6		268	15.2
70	25	18,417	-62.8		276	13.6
60	25	19,371	-61.9		301	11.3
50	24	20,499	-61.5		305	7.2
40	22	21,887	-60.7		318	9.1
30	20	23,683	-59.5		327	8.5
25	19	24,831	-57.6		328	9.7
20	16	26,243	-55.8		308	11.8
15	10	28,069	-54.6			
10	8	30,716	-50.7			

OKLAHOMA CITY, OKLA.
972 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	392	6.7	88	177	3.3
1000	30	155				
950	30	577	8.7	73	193	8.0
900	30	1,027	9.5	65	223	14.8
850	30	1,501	8.7	55	236	15.7
800	30	2,001	6.7	52	241	16.3
750	30	2,527	3.7	48	243	16.1
700	30	3,086	.4	43	247	19.4
650	30	3,674	- 2.7	39	249	23.3
600	30	4,308	- 6.3	36	249	26.4
550	30	4,978	-10.3	33	249	28.6
500	30	5,711	-15.3		248	31.1
450	30	6,490	-21.1		250	33.8
400	30	7,358	-27.4		251	37.1
350	30	8,306	-34.2		248	42.9
300	30	9,367	-41.8		248	49.7
250	29	10,579	-49.8		248	57.3
200	29	12,012	-58.0		249	57.5
175	29	12,846	-61.3		250	56.1
150	29	13,798	-63.2		254	54.2
125	29	14,913	-65.4		254	45.8
100	28	16,261	-66.4		263	35.2
80	27	17,609	-66.7		264	23.9
70	25	18,418	-65.3		256	22.5
60	25	19,361	-63.5		257	16.1
50	25	20,481	-62.6		264	16.3
40	24	21,865	-61.4		270	13.2
30	24	23,659	-58.5		265	19.2
25	24	24,809	-56.7		265	23.3
20	23	26,228	-54.4		261	32.8
15	20	28,089	-51.6		263	38.9
10	9	30,743	-48.1			

OMAHA, NEBR.
969 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	403	1.8	79	253	2.1
1000	30	144				
950	30	559	2.3	75	252	3.9
900	30	998	4.2	65	259	12.2
850	30	1,463	3.8	56	266	12.6
800	30	1,955	2.3	53	260	15.7
750	30	2,473	- .2	52	260	18.6
700	30	3,024	- 3.3	50	262	22.5
650	30	3,602	- 6.6	45	265	25.6
600	30	4,228	-10.1	42	261	27.4
550	30	4,889	-13.9	35	262	30.1
500	30	5,512	-18.8	34	262	34.2
450	30	6,382	-24.3		263	37.5
400	30	7,237	-30.4		262	42.5
350	30	8,173	-37.1		260	49.1
300	30	9,222	-44.5		258	54.8
250	30	10,423	-51.7		257	56.9
200	29	11,846	-56.7		260	59.6
175	29	12,588	-58.7		259	54.8
150	29	13,554	-60.1		263	48.6
125	29	14,787	-61.7		260	41.6
100	29	16,163	-63.0		262	35.0
80	29	17,536	-63.1		267	22.9
70	29	18,356	-63.1		269	21.0
60	29	19,305	-62.6		270	19.0
50	28	20,433	-62.2		278	15.3
40	26	21,816	-61.4		278	15.0
30	25	23,613	-59.7		277	14.4
25	25	24,756	-58.5		274	17.7
20	22	26,158	-57.6		270	23.5
15	10	27,977	-54.4			
10						
7						
5						

PEORIA, ILL.
995 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	200	2.9	82	238	2.1
1000	30	156				
950	30	577	5.8	67	253	11.5
900	30	1,017	4.9	65	264	14.4
850	30	1,483	3.7	57	267	16.7
800	30	1,975	2.2	51	261	17.9
750	30	2,496	.1	48	258	19.8
700	30	3,045	- 2.2	47	262	24.3
650	30	3,630	- 5.4	47	263	26.6
600	30	4,254	- 9.3	40	262	29.7
550	30	4,917	-13.5		263	33.8
500	30	5,641	-18.2		266	38.9
450	30	6,413	-23.6		269	43.9
400	30	7,270	-29.8		272	48.0
350	30	8,209	-36.2		270	54.4
300	30	9,262	-43.8		269	54.0
250	30	10,466	-51.2		266	58.1
200	30	11,993	-57.5		264	63.5
175	30	12,732	-59.4		264	55.9
150	30	13,693	-60.9		267	46.4
125	30	14,822	-62.8		267	38.7
100	30	16,192	-64.2		266	33.8
80	29	17,568	-64.0		272	25.6
70	29	18,385	-63.6		273	21.8
60	29	19,335	-62.8		271	20.6
50	29	20,459	-62.4		275	18.5
40	29	21,841	-60.9		280	17.3
30	29	23,639	-58.6		269	18.5
25	29	24,787	-57.3		268	19.2
20	29	26,203	-55.7		268	25.3
15	25	28,048	-53.5		269	30.3
10	23	30,660	-49.6		262	47.8
7	18	33,002	-47.3		259	83.7
5	13	35,179	-44.9			

PITTSBURGH, PA.
977 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	353	4.1	81	243	2.7
1000	30	170				
950	30	590	5.7	69	260	8.4
900	30	1,031	4.4	61	273	15.0
850	30	1,496	3.1	52	276	18.1
800	30	1,986	1.6	44	275	20.8
750	30	2,500	- .7	41	274	23.7
700	30	3,053	- 3.0	39	274	27.8
650	30	3,632	- 5.9		272	31.9
600	30	4,260	- 9.2		270	34.4
550	30	4,923	-13.5		268	36.5
500	30	5,647	-18.2		271	42.3
450	30	6,418	-23.4		272	46.0
400	30	7,279	-29.1		269	53.4
350	30	8,220	-35.8		266	56.9
300	30	9,276	-43.2		273	58.9
250	30	10,482	-51.1		276	62.2
200	30	11,909	-57.9		279	61.6
175	30	12,747	-59.6		283	57.7
150	30	13,704	-61.8		280	50.9
125	30	14,829	-63.4		279	46.2
100	30	16,196	-64.1		284	36.9
80	30	17,562	-63.7		280	27.2
70	30	18,382	-63.0		281	21.2
60	30	19,332	-62.4		286	19.8
50	30	20,457	-62.1		284	17.7
40	30	21,842	-60.1		285	16.7
30	30	23,646	-57.8		273	19.6
25	29	24,799	-56.3		273	20.2
20	28	26,222	-54.5		274	26.4
15	28	28,074	-51.8		268	33.0
10	25	30,721	-48.7		267	45.1
7	7	33,089	-45.0			

* POINT ARGUELLO, CALIF.
1005 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	113	8.2	90	96	2.1
1000	30	155	10.3	76	51	2.7
950	30	589	12.3	48	332	4.3
900	30	1,037	10.0	45	303	4.3
850	30	1,510	7.4	46	293	5.6
800	30	2,006	4.8	44	295	7.8
750	30	2,530	2.5	41	286	10.1
700	30	3,086	.0	36	280	13.8
650	30	3,672	- 3.3	34	275	17.5
600	30	4,304	- 6.9	33	281	22.1
550	30	4,970	-11.2	32	287	24.1
500	30	5,703	-16.1	32	286	28.0
450	30	6,481	-22.1	33	282	28.9
400	30	7,342	-28.5	37	284	33.6
350	30	8,286	-35.2	34	287	38.1
300	30	9,343	-42.8		287	43.5
250	30	10,551	-50.5		283	47.6
200	30	11,982	-57.3		282	46.0
175	30	12,820	-60.2		281	46.6
150	29	13,776	-62.4		279	42.3
125	28	14,902	-64.5		275	35.5
100	28	16,258	-66.4		277	28.6
80	27	17,613	-64.9		280	19.8
70	27	18,428	-63.9		281	16.3
60	27	19,377	-62.2		286	12.0
50	27	20,506	-61.6		296	8.2
40	26	21,892	-60.8		290	6.6
30	25	23,689	-59.0		303	9.5
25	24	24,835	-57.7		288	8.5
20	24	26,247	-56.0		284	13.0
15	22	28,087	-53.0		272	22.1
10	16	30,729	-49.2		277	30.1
7	6	33,014	-46.2			

PONAPE, CAROLINE IS.
+ 1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	39	28.4	78	59	5.4
1000	30	71	28.1	78	64	6.2
950	30	519	24.2	80	84	8.9
900	30	999	20.9	80	91	10.7
850	30	1,493	18.2	75	93	11.7
800	30	2,011	15.6	68	90	10.5
750	30	2,556	12.8	66	84	10.7
700	30	3,136	9.8	62	87	11.5
650	30	3,748	6.4	59	91	11.8
600	30	4,403	2.7	56	88	11.7
550	30	5,096	- 1.1	49	86	10.5
500	29	5,859	- 5.3	43	79	8.9
450	29	6,676	- 9.9	34	83	6.2
400	29	7,582	-15.3		97	4.7
350	29	8,577	-22.0		78	2.7
300	29	9,693	-30.4		264	1.6
250	29	10,962	-40.6		277	6.6
200	29	12,443	-52.8		273	10.1
175	29	13,292	-59.8		274	12.0
150	29	14,238	-67.2		269	10.3
125	29	15,316	-75.2		276	5.8
100	29	16,585	-82.8		53	7.4
80	28	17,838	-77.6		56	6.8
70	28	18,615	-71.2		296	5.1
60	27	19,537	-66.1		278	13.0
50	25	20,647	-63.7		274	14.4
40	24	22,027	-60.2		278	6.4
30	20	23,838	-56.1		99	14.6
25	18	24,996	-54.4		90	25.6
20	16	26,440	-50.7		94	42.7

PORTLAND, ME.
1016 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	20	- .7	82	317	3.5
1000	30	144	2.1	64	315	4.5
950	30	557	1.2	60	289	7.0
900	30	992	.2	57	278	11.1
850	30	1,450	- .6	48	280	15.7
800	30	1,934	- 1.5	43	282	18.5
750	30	2,446	- 3.0	45	276	23.1
700	30	2,991	- 5.3	41	279	27.6
650	30	3,564	- 8.1	40	281	31.5
600	30	4,189	-11.6	37	278	34.4
550	30	4,842	-15.8	37	277	39.6
500	30	5,563	-20.5	36	277	43.9
450	30	6,328	-25.6	37	280	50.3
400	30	7,181	-31.5	40	281	55.4
350	30	8,114	-38.0		286	57.1
300	30	9,160	-45.1		284	58.5
250	30	10,358	-52.3		289	64.5
200	30	11,783	-57.0		286	60.2
175	30	12,626	-57.4		286	52.8
150	30	13,597	-58.7		287	48.4
125	30	14,739	-60.0		284	42.0
100	29	16,127	-60.9		281	33.2
80	29	17,513	-60.9		287	29.1
70	29	18,343	-60.5		286	23.3
60	29	19,303	-60.7		283	22.3
50	29	20,438	-60.0		278	17.5
40	29	21,835	-59.0		280	16.7
30	28	23,642	-57.9		276	16.9
25	27	24,789	-57.0		269	25.1
20	24	26,21[illegible]	-55.6		275	23.7
15	14	28,097	-52.1		307	15.3
10	11	30,747	-48.7		302	16.5
7	9	33,118	-45.1			
5	8	35,370	-42.4			

RAPID CITY, S. DAK.
904 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	966	- 2.4	69	340	4.9
1000	30	157				
950	30	568				
900	30	1,002			330	5.1
850	30	1,462	.9	47	318	10.7
800	30	1,948	- .5	44	309	16.5
750	30	2,458	- 2.6	41	304	18.6
700	30	3,007	- 5.2	40	295	19.8
650	30	3,581	- 8.4	40	289	22.3
600	30	4,202	-12.0	39	280	24.7
550	30	4,857	-16.1	36	277	30.3
500	30	5,574	-21.0		279	32.8
450	30	6,338	-26.7		273	33.8
400	30	7,183	-33.2		274	36.7
350	30	8,108	-40.1		271	40.6
300	30	9,145	-46.6		269	43.7
250	30	10,336	-52.9		261	49.0
200	30	11,760	-56.8		257	52.1
175	30	12,604	-57.9		257	44.9
150	29	13,585	-58.9		261	41.2
125	29	14,726	-60.0		265	33.2
100	29	16,116	-60.9		267	28.2
80	29	17,500	-61.8		270	22.1
70	29	18,326	-61.9		277	19.2
60	29	19,280	-61.8		280	18.5
50	29	20,409	-61.9		288	16.3
40	28	21,788	-61.6		289	13.6
30	26	23,562	-59.9		298	12.4
25	24	24,698	-59.3		290	14.6
20	20	26,106	-57.6		300	12.2
15	12	28,040	-54.7		320	7.0

ST. CLOUD, MINN.
977 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	316	- 2.2	84	305	1.9
1000	30	131				
950	30	543	- 1.2	78	296	3.7
900	30	973	.1	66	296	8.0
850	30	1,431	.0	54	282	11.7
800	30	1,916	- 1.6	47	272	16.9
750	30	2,426	- 3.8	43	272	20.4
700	30	2,971	- 6.7	39	275	22.1
650	30	3,542	- 9.8	38	275	25.8
600	30	4,160	-13.5	38	274	28.7
550	30	4,811	-17.6	36	272	32.8
500	30	5,525	-22.3	35	269	35.4
450	30	6,282	-27.6		268	38.9
400	30	7,129	-33.6		267	46.6
350	30	8,054	-40.0		263	51.5
300	30	9,092	-46.1		267	53.0
250	30	10,287	-52.3		265	57.9
200	30	11,715	-56.8		266	59.6
175	30	12,559	-57.4		267	53.8
150	30	13,531	-58.5		269	51.5
125	30	14,673	-60.0		268	40.4
100	30	16,062	-61.3		269	35.2
80	30	17,443	-62.0		276	30.3
70	30	18,268	-62.4		277	26.4
60	30	19,221	-62.3		276	24.3
50	30	20,347	-61.9		286	19.6
40	30	21,729	-61.5		282	17.7
30	28	23,525	-60.6		285	15.5
25	26	24,665	-59.4		286	12.6
20	22	26,088	-57.8		276	17.7
15	17	27,951	-55.8		294	12.8
10	11	30,574	-53.1			

ST. PAUL IS., ALASKA
1004 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	.0	82	347	6.2
1000	30	43			83	6.0
950	30	453	- 2.0	69	354	5.8
900	30	881	- 4.5	65	346	5.8
850	30	1,329	- 7.2	64	321	5.2
800	30	1,799	-10.0	61	315	7.0
750	30	2,292	-12.9	54	305	6.8
700	30	2,818	-15.5	46	288	8.2
650	30	3,368	-18.8	45	278	9.9
600	30	3,967	-22.8	43	273	11.3
550	30	4,596	-27.2	42	264	10.9
500	30	5,281	-31.6		259	11.8
450	30	6,019	-36.4		261	13.2
400	30	6,829	-41.4		271	17.9
350	30	7,726	-46.2		274	21.6
300	30	8,741	-50.0		268	25.4
250	30	9,927	-51.9		262	30.7
200	30	11,371	-51.7		257	32.6
175	30	12,239	-51.0		256	31.9
150	29	13,247	-51.1		255	30.7
125	29	14,431	-51.4		252	29.3
100	29	15,884	-50.3		246	29.5
80	28	17,339	-49.8		245	26.6
70	28	18,212	-49.7		241	24.9
60	28	19,222	-49.5		240	23.9
50	27	20,419	-49.4		241	23.3
40	27	21,882	-48.9		236	20.4
30	27	23,770	-49.6		237	16.3
25	27	24,962	-50.2		243	15.0
20	26	26,404	-51.0		250	15.3
15	18	28,337	-49.6		252	9.3
10	9	31,006	-47.3			

SALEM, OREG.
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	4.1	96	199	4.5
1000	30	146			183	3.3
950	30	564	4.6	79	213	8.4
900	30	1,005	3.6	68	224	12.4
850	30	1,468	1.6	67	228	14.8
800	30	1,954	- .7	64	238	15.5
750	30	2,465	- 3.3	60	248	16.5
700	30	3,011	- 6.1	54	255	18.6
650	30	3,582	- 9.5	55	257	20.0
600	30	4,202	-13.0	51	260	20.8
550	30	4,852	-17.4	47	259	22.5
500	30	5,567	-22.1	43	264	25.1
450	30	6,328	-27.4	41	270	27.2
400	30	7,171	-33.2	41	274	28.6
350	30	8,096	-39.4		280	32.1
300	30	9,136	-46.0		275	33.8
250	30	10,332	-51.5		288	31.3
200	30	11,763	-56.2		294	28.4
175	30	12,609	-57.3		292	28.9
150	30	13,581	-58.3		289	26.0
125	30	14,725	-59.6		288	25.4
100	30	16,119	-59.8		289	19.8
80	30	17,516	-59.1		283	12.8
70	30	18,352	-58.9		283	11.8
60	29	19,322	-59.0		298	10.1
50	29	20,466	-58.8		320	7.4
40	27	21,872	-58.7		335	8.9
30	24	23,679	-58.1		4	11.7
25	23	24,832	-57.4		15	15.0
20	21	26,240	-56.5		5	19.6
15	16	28,064	-55.8		360	20.6

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SALT LAKE CITY, UTAH
874 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,288	.5	74	155	5.8
1000	30	189				
950	30	607				
900	30	1,045				
850	30	1,508	3.0	63	161	7.2
800	30	1,998	.9	57	188	8.2
750	30	2,511	- 1.9	57	231	6.8
700	30	3,060	- 4.7	56	268	10.3
650	30	3,635	- 8.3	53	273	12.6
600	30	4,257	-12.0	51	272	15.3
550	30	4,913	-16.3	49	270	19.8
500	30	5,627	-21.4	45	268	21.6
450	30	6,389	-27.1	43	267	24.7
400	30	7,234	-33.3	43	267	26.4
350	30	8,159	-39.6		271	28.7
300	30	9,199	-45.8		273	32.2
250	30	10,396	-51.3		273	36.3
200	30	11,828	-56.1		269	35.9
175	30	12,674	-57.8		269	32.2
150	30	13,642	-59.0		266	32.2
125	30	14,779	-61.3		266	26.6
100	30	16,161	-61.8		264	21.4
80	30	17,541	-62.0		257	14.4
70	29	18,368	-61.9		268	12.6
60	29	19,324	-61.6		279	11.3
50	28	20,452	-61.6		291	9.7
40	26	21,825	-61.0		300	11.5
30	25	23,614	-59.9		312	9.7
25	22	24,762	-58.4		307	9.5
20	17	26,167	-57.2		290	11.8
15	11	28,015	-55.6		309	13.2
10						
7						
5						

SAN ANTONIO, TEXAS
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	243	12.9	83	26	1.4
1000	30	162				
950	30	597	14.6	69	177	8.2
900	30	1,052	13.1	65	192	10.7
850	30	1,532	11.4	55	216	10.5
800	30	2,038	9.2	54	230	11.1
750	30	2,571	7.3	46	235	13.8
700	30	3,137	4.7	38	242	17.1
650	30	3,736	1.0	36	242	19.2
600	30	4,377	- 2.8		243	23.9
550	30	5,054	- 7.0		246	24.7
500	30	5,801	-12.0		249	27.6
450	29	6,590	-17.5		252	33.0
400	29	7,472	-23.8		249	35.7
350	29	8,434	-30.9		246	41.8
300	29	9,510	-39.3		246	45.5
250	29	10,735	-48.7		248	51.5
200	29	12,169	-58.5		248	58.3
175	29	13,000	-62.7		246	55.6
150	29	13,943	-66.2		246	53.2
125	29	15,039	-69.2		246	46.0
100	29	16,364	-71.8		251	35.7
80	29	17,679	-71.0		249	19.4
70	29	18,472	-69.0		250	14.6
60	29	19,401	-65.8		254	11.1
50	29	20,515	-63.0		260	8.4
40	29	21,896	-60.6		262	7.6
30	26	23,706	-55.8		253	18.1
25	23	24,882	-53.5		255	24.1
20	21	26,324	-51.2		257	31.9
15	16	28,210	-48.1		266	40.2
10	7	30,891	-46.2			
7						
5						

SAN DIEGO, CALIF.
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	124	9.8	77	99	1.7
1000	30	147	11.8	71	108	1.3
950	30	575	12.8	52	272	1.2
900	30	1,032	10.5	50	292	2.9
850	30	1,506	8.2	47	293	5.2
800	30	2,004	5.9	38	289	8.5
750	30	2,523	4.0		284	11.8
700	30	3,089	1.7		285	15.2
650	30	3,670	- 2.1		285	17.5
600	30	4,314	- 5.6		286	20.8
550	30	4,979	-10.0		283	24.9
500	30	5,721	-14.9		280	28.6
450	30	6,499	-20.8		279	33.0
400	30	7,371	-27.3		276	36.7
350	30	8,319	-34.0		273	41.8
300	30	9,382	-41.7		271	46.6
250	30	10,597	-49.8		271	48.5
200	30	12,030	-57.6		273	49.3
175	30	12,866	-61.3		270	47.2
150	30	13,815	-63.8		269	43.5
125	30	14,930	-65.3		266	35.0
100	30	16,283	-66.2		267	26.4
80	30	17,636	-65.5		269	17.9
70	30	18,449	-64.3		271	14.2
60	30	19,397	-62.6		283	8.9
50	30	20,523	-61.9		284	6.2
40	30	21,910	-59.9		288	7.8
30	30	23,716	-57.9		275	9.3
25	28	24,869	-56.0		271	14.0
20	25	26,299	-53.2		267	23.5
15	21	28,180	-50.4		265	33.0
10	6	30,893	-47.8			
7						
5						

* SAN JUAN, P. R.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	24.2	83	132	2.7
1000	30	134	24.2	76	[illegible]	7.5
950	30	581	21.2	74	82	11.7
900	30	1,049	18.0	71	81	12.2
850	30	1,536	15.2	63	75	11.8
800	30	2,048	12.6	58	71	9.3
750	30	2,584	10.5	43	75	8.7
700	30	3,160	7.8	31	72	7.4
650	30	3,763	4.7	29	72	6.4
600	30	4,416	1.1	25	58	6.4
550	30	5,108	- 2.8	22	28	5.2
500	30	5,859	- 7.4	22	22	5.2
450	30	6,665	-12.9	[illegible]	355	6.8
400	30	7,559	-19.4	20	343	8.9
350	30	8,537	-26.5	20	343	11.7
300	30	9,632	-34.8	18	338	15.0
250	30	10,879	-44.2		327	20.6
200	30	12,338	-55.3		318	25.3
175	29	13,179	-61.2		309	25.1
150	29	14,120	-67.7		307	24.5
125	29	15,200	-73.7		307	21.4
100	29	16,492	-76.7		327	14.6
80	29	17,775	-75.4		356	10.1
70	29	18,554	-72.1		360	7.0
60	28	19,471	-66.9		29	3.1
50	28	20,586	-61.8		78	5.6
40	28	21,985	-57.4		83	12.8
30	27	23,820	-52.6		88	17.5
25	26	25,003	-50.0		83	20.0
20	26	26,468	-48.1		89	27.8
15	26	28,381	-44.5		95	28.4
10	24	31,126	-40.1		81	26.6
7	16	33,597	-35.0		70	15.5
5	8	35,981	-32.5			

SANTA MONICA, CALIF.
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	38	12.1	60	27	6.0
1000	30	148	13.9	51	24	5.2
950	30	581	12.6	46	11	3.5
900	30	1,033	10.3	45	306	1.7
850	30	1,506	7.7	45	292	2.9
800	30	2,004	5.1	41	301	5.4
750	30	2,530	2.8	35	296	9.1
700	30	3,085	.2	32	285	13.2
650	30	3,674	- 3.1		283	17.7
600	30	4,305	- 7.1		283	20.0
550	30	4,973	-11.5		284	22.9
500	30	5,704	-16.0		287	27.4
450	30	6,481	-22.0		284	32.1
400	30	7,346	-28.6		283	33.4
350	30	8,295	-35.2		279	37.9
300	30	9,347	-42.8		278	43.7
250	30	10,558	-50.5		276	47.2
200	30	11,988	-58.0		281	44.3
175	30	12,823	-61.1		281	41.6
150	30	13,775	-63.9		278	39.0
125	30	14,889	-65.2		276	34.6
100	30	16,245	-66.3		278	26.4
80	30	17,595	-65.7		279	21.6
70	30	18,457	-64.4		28	16.3
60	30	19,554	-62.8		286	10.7
50	30	20,479	-62.3		283	8.2
40	30	21,860	-60.8		283	8.9
30	29	23,657	-59.0		293	10.5
25	27	24,804	-57.4		283	12.8
20	25	26,224	-55.4		271	19.0
15	22	28,079	-52.1		271	30.5
10	14	30,700	-49.6			
7						
5						

SAULT STE. MARIE, MICH.
988 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	221	.5	87	10	1.4
1000	30	126				
950	30	539	- .1	80	245	4.3
900	30	970	- .7	72	264	10.9
850	30	1,426	- 1.8	65	273	16.5
800	30	1,908	- 3.7	60	271	20.4
750	30	2,414	- 6.2	56	270	24.3
700	30	2,953	- 8.0	48	271	28.6
650	30	3,524	-10.9	45	270	32.1
600	30	4,137	-14.3	42	270	37.5
550	30	4,791	-18.2	42	270	40.6
500	30	5,498	-23.0	41	271	42.9
450	30	6,259	-28.3	40	272	45.5
400	30	7,096	-34.2	39	272	49.9
350	30	8,018	-40.3		272	52.4
300	30	9,054	-46.8		273	54.6
250	30	10,246	-52.7		275	63.9
200	30	11,671	-56.3		277	63.3
175	30	12,519	-56.4		276	55.6
150	29	13,496	-57.7		276	52.4
125	28	14,635	-59.8		279	45.1
100	26	16,033	-60.6		278	35.4
80	26	17,419	-60.9		278	31.5
70	23	18,245	-60.8		280	28.6
60	22	19,205	-61.7		280	27.8
50	20	20,337	-60.6		279	22.0
40	19	21,735	-60.1		274	17.7
30	17	23,564	-58.5		293	15.0
25	14	24,794	-56.7		306	8.5
20	14	26,213	-55.6		310	7.6
15	12	28,039	-54.3		296	17.9
10	8	30,713	-49.9			
7	6	33,105	-47.0			

SHEMYA, ALASKA
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	38	1.3	81	275	2.5
1000	29	79			56	.8
950	29	489	- 2.2	77	239	4.7
900	29	916	- 5.2	78	261	7.6
850	29	1,364	- 7.0	69	269	10.3
800	29	1,835	- 9.4	60	267	10.5
750	29	2,330	-12.1	57	262	11.5
700	29	2,857	-14.6	50	262	13.6
650	29	3,410	-17.9	44	258	17.3
600	29	4,009	-21.4		263	17.1
550	29	4,641	-25.5		267	20.4
500	29	5,330	-30.2		265	22.9
450	29	6,067	-35.2		266	28.7
400	29	6,884	-40.6		261	30.5
350	29	7,783	-45.4		259	33.6
300	29	8,800	-50.0		255	37.3
250	29	9,982	-52.7		252	37.7
200	29	11,420	-52.6		251	36.5
175	29	12,284	-51.9		247	31.7
150	29	13,282	-52.3		246	31.5
125	29	14,461	-52.1		238	31.3
100	29	15,905	-51.6		242	28.0
80	28	17,352	-50.9		242	23.9
70	28	18,220	-50.9		238	23.3
60	28	19,225	-50.4		232	21.2
50	27	20,416	-49.6		228	19.6
40	26	21,874	-49.3		220	17.7
30	25	23,761	-49.5		221	15.5
25	25	24,955	-49.6		215	11.7
20	22	26,405	-50.6		223	12.8
15	20	28,285	-50.0		202	15.0
10	6	30,996	-50.7			
7						

* SHREVEPORT, LA.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	79	11.5	89	148	2.1
1000	30	172	12.2	80	135	2.5
950	30	611	13.1	63	207	8.2
900	30	1,059	11.6	59	219	10.3
850	30	1,535	9.4	56	235	10.9
800	30	2,036	7.0	52	253	12.4
750	30	2,568	4.8	50	260	14.2
700	30	3,126	3.0	40	254	15.9
650	30	3,722	- .3	39	254	19.0
600	30	4,359	- 4.2	37	252	21.8
550	30	5,036	- 8.3	33	255	25.4
500	30	5,773	-13.2	32	254	30.7
450	30	6,564	-18.6	34	252	37.3
400	30	7,437	-24.7	30	251	42.0
350	30	8,397	-31.9	33	252	47.4
300	30	9,462	-39.8	31	251	51.5
250	30	10,687	-48.9		253	57.3
200	30	12,120	-58.2		250	60.4
175	30	12,952	-62.2		251	58.1
150	30	13,896	-65.3		251	55.4
125	30	15,000	-67.6		254	49.5
100	30	16,335	-69.6		256	35.4
80	30	17,663	-69.7		256	22.1
70	29	18,465	-67.4		276	15.9
60	29	19,398	-65.2		264	13.6
50	29	20,514	-63.1		268	11.3
40	29	21,895	-60.5		257	11.3
30	29	23,702	-56.8		260	17.1
25	29	24,862	-54.9		261	25.3
20	29	26,295	-52.6		259	33.8
15	28	28,159	-49.8		264	44.9
10	28	30,832	-46.2		262	51.3
7	10	33,251	-42.6			

SPOKANE, WASH.
932 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	722	- .3	92	178	3.1
1000	30	149				
950	30	561				
900	30	997	1.1	81	179	6.6
850	30	1,456	.0	74	211	10.7
800	30	1,940	- 1.9	68	231	13.2
750	30	2,448	- 4.2	63	247	14.6
700	30	2,994	- 6.9	58	252	15.7
650	30	3,562	-10.0	57	255	17.1
600	30	4,182	-13.8	54	256	18.8
550	30	4,831	-18.3	[illegible]	257	21.4
500	30	5,543	-22.9	45	260	22.9
450	30	6,299	-28.2	43	259	25.6
400	30	7,140	-34.6	40	264	28.6
350	30	8,060	-41.4		269	31.7
300	30	9,092	-47.9		274	35.4
250	30	10,279	-53.4		277	33.8
200	30	11,704	-56.1		282	32.6
175	30	12,552	-56.2		283	29.7
150	30	13,530	-57.3		277	27.2
125	30	14,680	-58.3		277	24.5
100	30	16,082	-59.1		285	22.1
80	30	17,485	-58.3		279	17.9
70	30	18,323	-58.9		281	18.1
60	30	19,290	-58.5		289	16.7
50	30	20,437	-58.5		309	12.4
40	30	21,837	-59.0		328	10.3
30	25	23,662	-57.7		341	12.8
25	23	24,817	-56.9		346	12.4
20	17	26,240	-56.4		354	10.9
15	8	28,026	-53.0			
10						
7						

SWAN ISLAND, W. I.
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	25.7	84	74	7.6
1000	30	114	25.5	83	69	11.3
950	30	571	22.6	81	72	15.0
900	30	1,036	19.5	81	79	14.8
850	30	1,527	16.5	77	84	12.4
800	30	2,041	13.6	72	88	12.4
750	30	2,586	10.9	69	89	12.0
700	30	3,157	8.1	60	93	11.1
650	30	3,766	4.8	53	101	11.8
600	30	4,415	1.2	48	98	11.8
550	30	5,105	- 2.8	41	94	10.7
500	30	5,860	- 7.0	37	103	8.7
450	29	6,677	-12.4	36	103	9.5
400	29	7,565	-18.4		107	8.4
350	29	8,547	-25.6	35	126	6.4
300	29	9,646	-34.1		141	6.0
250	29	10,895	-44.4		180	8.5
200	29	12,348	-55.9		184	15.7
175	29	13,180	-63.5		189	16.3
150	29	14,111	-69.8		212	10.5
125	28	15,180	-75.1		204	6.0
100	28	16,464	-77.9		116	3.9
80	28	17,740	-76.8		72	7.0
70	27	18,516	-73.0		78	5.4
60	27	19,430	-68.4		87	7.4
50	27	20,536	-63.9		83	9.3
40	26	21,923	-58.1		87	8.5
30	26	23,757	-53.2		86	15.9
25	24	24,943	-50.7		90	20.8
20	22	26,402	-47.8		94	26.6
15	16	28,315	-44.0		98	34.8
10	5	30,970	-42.4			
7						

TAMPA, FLA.
1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	16.8	94	45	5.2
1000	30	163	18.5	82	64	6.0
950	30	602	17.2	73	94	3.9
900	30	1,064	15.0	67	168	1.7
850	30	1,547	12.3	65	220	3.3
800	30	2,054	10.7	48	249	3.7
750	30	2,589	9.0	37	271	4.5
700	30	3,160	6.5		270	6.0
650	30	3,761	3.5		266	8.2
600	30	4,410	- .1		272	9.9
550	30	5,095	- 4.4		270	12.2
500	30	5,847	- 9.2		272	14.4
450	30	6,649	-14.8		270	17.7
400	30	7,535	-21.3		267	21.4
350	30	8,505	-28.4		268	27.2
300	30	9,593	-36.0		266	35.4
250	30	10,834	-45.6		264	43.5
200	30	12,282	-57.2		262	49.0
175	30	13,115	-62.6		264	51.3
150	30	14,054	-67.6		268	47.0
125	30	15,140	-71.4		268	38.7
100	30	16,449	-73.7		268	27.8
80	30	17,751	-73.6		265	17.5
70	30	18,536	-70.6		267	10.7
60	30	19,460	-66.1		264	5.2
50	30	20,575	-62.6		289	5.1
40	30	21,966	-58.0		267	5.1
30	29	23,802	-52.7		250	8.0
25	29	24,986	-50.0		263	11.1
20	28	26,452	-47.3		262	16.1
15	24	28,365	-44.9		251	19.8
10	11	31,115	-39.9			
7	5	33,499	-40.2			
5						

* TATOOSH IS., WASH
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	31	6.4	86	104	5.1
1000	29	119	5.9	81	135	3.9
950	29	535	3.9	75	213	4.3
900	29	976	1.6	77	224	6.8
850	29	1,435	- .7	75	224	8.0
800	29	1,918	- 2.7	63	237	9.9
750	29	2,422	- 5.5	56	246	12.0
700	29	2,966	- 8.6	51	251	14.8
650	29	3,532	-11.6	48	257	16.7
600	29	4,147	-15.5	49	257	17.3
550	29	4,791	-19.3	44	261	18.8
500	29	5,502	-23.9	43	263	23.3
450	29	6,255	-28.8	44	266	24.5
400	29	7,098	-34.8	48	263	29.5
350	29	8,018	-40.8		264	31.7
300	29	9,053	-46.9		259	36.7
250	29	10,244	-52.8		261	33.2
200	29	11,674	-55.2		273	30.7
175	29	12,524	-56.4		273	27.6
150	29	13,501	-56.9		274	28.0
125	29	14,653	-57.7		276	24.1
100	28	16,056	-58.7		279	21.2
80	27	17,459	-58.2		283	18.3
70	27	18,299	-57.8		295	12.2
60	25	19,276	-57.4		289	10.9
50	23	20,421	-57.2		310	7.4
40	23	21,831	-57.4		340	9.3
30	22	23,649	-56.9		355	12.4
25	21	24,803	-56.2		11	16.1
20	21	26,221	-55.6		17	20.6
15	13	28,073	-54.4		34	25.1
10	9	30,671	-53.1			
7						
5						

TOPEKA, KANS.
986 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	5.8	79	216	1.0
1000	30	152				
950	30	572	6.2	71	224	7.6
900	30	1,017	6.6	67	238	14.0
850	30	1,486	5.6	64	251	18.3
800	30	1,981	3.8	57	255	19.0
750	30	2,501	1.5	52	256	19.8
700	30	3,056	- 1.7	50	257	22.3
650	30	3,639	- 4.7	45	259	25.3
600	30	4,270	- 8.4	39	259	28.9
550	30	4,934	-12.3		259	31.5
500	30	5,664	-16.9		259	37.9
450	30	6,440	-22.4		257	41.0
400	30	7,301	-29.0		259	43.5
350	30	8,243	-35.9		257	48.2
300	30	9,296	-43.8		265	45.5
250	30	10,498	-51.6		262	50.7
200	30	11,925	-57.7		258	53.6
175	30	12,762	-60.2		257	50.9
150	30	13,718	-61.8		262	48.2
125	30	14,843	-63.4		260	38.7
100	30	16,208	-65.2		264	32.8
80	30	17,567	-64.8		266	23.5
70	30	18,381	-64.2		267	19.8
60	30	19,327	-63.7		279	15.7
50	30	20,448	-62.8		276	17.3
40	29	21,824	-61.5		274	16.7
30	28	23,624	-59.6		269	15.9
25	27	24,775	-58.1		261	19.4
20	26	26,177	-56.3		266	26.8
15	24	28,317	-53.6		262	37.5
10	16	30,612	-49.8		259	70.1
7	12	32,926	-47.4			
5	8	35,112	-44.3			

TRUK, CAROLINE IS.
+ 1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	2	29.0	75	66	4.9
1000	30	76	28.3	76	77	6.0
950	30	524	24.7	77	89	8.7
900	30	1,005	21.5	77	94	9.5
850	30	1,500	18.6	76	95	10.3
800	30	2,019	15.8	72	97	10.7
750	30	2,566	13.2	65	93	11.7
700	30	3,145	10.3	58	93	12.0
650	30	3,758	6.7	57	97	13.0
600	30	4,414	2.9	54	97	11.8
550	30	5,110	- 1.0	48	101	11.7
500	30	5,870	- 5.2	40	103	9.5
450	30	6,687	- 9.8	37	112	8.0
400	30	7,593	-15.2	31	96	6.0
350	30	8,589	-21.8		108	3.1
300	30	9,705	-30.2		349	1.7
250	30	10,975	-40.4		282	4.1
200	30	12,455	-52.9		288	8.4
175	30	13,303	-59.6		292	6.2
150	30	14,249	-67.2		295	4.3
125	30	15,327	-75.1		68	3.5
100	30	16,595	-82.6		66	13.2
80	29	17,847	-77.3		83	10.3
70	28	18,625	-71.6		[illegible]	3.3
60	28	19,544	-67.0		282	11.3
50	28	20,654	-63.5		282	12.6
40	27	22,037	-60.0		[illegible]	3.5
30	27	[illegible]	-56.1		93	16.7
25	24	[illegible]	-53.9		[illegible]	34.4
20	21	26,456	-50.6		97	45.5
15	12	28,342	-46.3		[illegible]	56.9
10						
7						
5						

TUCSON, ARIZ.
926 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	789	7.2	65	143	4.9
1000	30	153				
950	30	581				
900	30	1,029	11.4	47	135	6.6
850	30	1,505	10.0	41	153	5.4
800	30	2,006	7.2	37	194	6.8
750	30	[illegible]	4.8	32	225	8.4
700	30	3,094	1.8	26	237	12.0
650	30	3,685	- 1.2		248	14.4
600	30	4,323	- 4.6		[illegible]	19.4
550	30	4,995	- 8.9		[illegible]	23.5
500	30	5,734	-14.0		264	28.7
450	30	6,518	-19.5		264	33.8
400	30	7,391	-25.6		266	36.5
350	30	8,345	-32.6		271	42.2
300	30	9,412	-40.8		271	44.9
250	30	[illegible]	-49.8		277	45.1
200	30	[illegible]	-58.1		[illegible]	46.2
175	30	12,893	-61.0		272	[illegible]
150	30	13,843	-63.7		272	41.0
125	30	14,956	-65.7		269	37.1
100	30	[illegible]	-67.3		[illegible]	29.7
80	30	17,647	-66.5		264	20.2
70	30	18,458	-65.0		267	13.4
60	30	19,403	-63.6		[illegible]	8.7
50	29	20,524	-61.9		268	9.7
40	29	21,910	-60.1		274	9.3
30	29	23,715	-57.5		273	14.4
25	29	24,872	[illegible]		[illegible]	21.0
20	28	26,309	-52.3		[illegible]	30.7
15	26	28,183	-49.3		[illegible]	[illegible]
10	[illegible]	30,852	-47.7		265	58.7
7	7	33,195	-45.9			
5						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1964

Standard pressure surface (mb)	* WAKE IS., PACIFIC AREA 1012 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	25.7	81	73	7.2
1000	30	113	25.1	81	76	9.3
950	30	562	22.0	84	78	12.0
900	30	1,033	19.0	82	80	11.3
850	30	1,524	16.2	78	82	9.5
800	30	2,038	14.0	58	83	7.8
750	30	2,584	11.9	44	79	7.4
700	30	3,157	9.3	38	70	6.6
650	30	3,767	6.2	31	68	7.6
600	30	4,420	2.4	27	51	6.8
550	30	5,114	- 1.9	27	49	5.4
500	30	5,870	- 6.7	26	42	6.0
450	30	6,684	-12.1	26	37	4.9
400	30	7,577	-18.3	28	14	4.5
350	30	8,560	-25.4	27	341	8.9
300	30	9,660	-33.8	28	334	11.5
250	30	10,913	-43.2		323	14.4
200	30	12,379	-54.3		323	14.2
175	30	13,223	-60.5		325	14.8
150	30	14,168	-66.7		325	11.3
125	30	15,251	-73.7		340	8.9
100	29	16,532	-79.5		357	8.2
80	28	17,794	-78.7		41	6.0
70	27	18,565	-74.0		71	7.2
60	27	19,477	-67.3		83	8.0
50	27	20,589	-62.8		85	10.5
40	27	21,977	-58.8		91	13.0
30	27	23,801	-54.4		86	15.3
25	27	24,976	-52.1		84	15.7
20	27	26,429	-47.7		83	19.6
15	27	28,326	-46.6		86	20.0
10	23	31,049	-41.6		81	14.6
7	7	33,510	-38.3			

Standard pressure surface (mb)	WALLOPS IS. VA. NASA 1019 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	18	3	9.2	80	344	1.7
1000	18	159	11.0	64	314	4.5
950	18	589	10.6	48	269	8.7
900	18	1,036	9.0	48	271	10.9
850	18	1,508	6.8	50	270	13.4
800	18	2,005	4.8	50	275	14.4
750	18	2,531	2.8	45	278	18.1
700	18	3,086	.0	43	280	21.2
650	18	3,672	- 3.1	44	279	23.9
600	17	4,303	- 6.8	44	283	26.4
550	17	4,974	-10.9	41	283	31.3
500	17	5,705	-15.5	50	285	34.0
450	17	6,485	-20.9	44	288	40.6
400	17	7,353	-27.0	42	289	47.4
350	17	8,303	-33.9	36	287	52.3
300	17	9,365	-42.0		287	59.6
250	17	10,576	-50.5		287	70.9
200	17	12,005	-58.0		284	73.2
175	17	12,840	-61.0		283	68.4
150	17	13,793	-63.0		285	58.5
125	17	14,912	-63.8		283	49.9
100	17	16,276	-65.0		288	43.9
80	17	17,633	-65.8		287	38.5
70	16	18,440	-64.8		288	27.4
60	16	19,383	-63.4		288	19.6
50	16	20,505	-62.1		287	16.3
40	15	21,894	-59.6		281	16.1
30	14	23,698	-56.9		275	22.1
25	13	24,869	-55.3		273	19.4
20	12	26,290	-53.8		260	25.1
15	11	28,151	-51.6		264	31.7
10	10	30,801	-48.6			
7						

Standard pressure surface (mb)	WASHINGTON, D. C. 1010 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	84	2.3	80	306	2.3
1000	28	166	6.4	70	296	3.9
950	28	595	7.8	55	300	8.7
900	28	1,034	5.8	51	293	12.4
850	28	1,501	4.9	45	285	14.6
800	28	1,994	2.9	45	284	18.3
750	28	2,516	1.4	42	277	21.4
700	28	3,069	- 1.0	38	271	24.7
650	28	3,655	- 4.3	36	269	27.4
600	28	4,283	- 8.1		269	30.5
550	28	4,951	-12.0		270	33.8
500	28	5,677	-16.8		270	38.5
450	28	6,455	-22.1		269	41.8
400	28	7,317	-28.2		271	46.6
350	28	8,261	-35.2		272	51.5
300	28	9,318	-43.2		275	54.8
250	28	10,523	-51.4		283	62.2
200	28	11,947	-58.7		281	62.9
175	28	12,781	-61.1		282	59.2
150	28	13,732	-63.1		282	51.9
125	28	14,849	-64.6		281	47.6
100	28	16,209	-65.5		284	39.4
80	28	17,564	-66.0		282	29.3
70	28	18,375	-65.2		281	26.0
60	28	19,318	-63.4		286	20.4
50	28	20,442	-62.0		285	17.1
40	26	21,825	-59.9		276	18.1
30	26	23,629	-57.9		270	23.1
25	26	24,784	-56.1		271	26.2
20	26	26,209	-54.4		271	30.7
15	25	28,064	-51.9		267	42.0
10	19	30,710	-48.1			
7	5	33,124	-44.4			

Standard pressure surface (mb)	WINNEMUCCA, NEV. 871 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,310	- 2.6	78	183	1.6
1000	30	193				
950	30	607				
900	30	1,045				
850	30	1,500	2.4	59	195	4.9
800	30	1,990	1.1	53	232	8.7
750	30	2,505	- 1.6	53	253	11.5
700	30	3,052	- 4.9	49	262	12.8
650	30	3,631	- 8.2	45	267	16.9
600	30	4,249	-12.1	38	274	20.6
550	30	4,908	-16.5		272	22.5
500	30	5,619	-21.2		270	24.3
450	30	6,385	-26.7		281	18.5
400	30	7,229	-32.1		279	19.6
350	30	8,158	-38.9		272	25.1
300	30	9,202	-45.0		269	26.6
250	30	10,401	-51.8		271	31.3
200	30	11,830	-56.1		263	28.0
175	30	12,676	-57.4		262	29.5
150	29	13,652	-58.9		267	27.6
125	29	14,793	-60.2		272	24.3
100	29	16,178	-61.6		266	18.6
80	29	17,561	-61.5		278	14.0
70	29	18,389	-61.0		286	9.9
60	29	19,348	-60.7		292	9.7
50	27	20,478	-60.7		291	7.0
40	26	21,878	-59.6		320	6.6
30	25	23,678	-58.6		336	9.3
25	23	24,825	-57.9		342	12.2
20	19	26,253	-56.8		352	11.5
15	12	28,104	-55.2			

Standard pressure surface (mb)	WINSLOW, ARIZ. 853 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,492	- 1.4	68	191	3.3
1000	30	204				
950	30	619				
900	30	1,059				
850	30	1,519			173	3.5
800	30	2,010	3.0	53	229	6.2
750	30	2,529	1.1	47	245	10.7
700	30	3,084	- 1.1	39	252	13.4
650	30	3,669	- 4.0	34	249	16.1
600	30	4,300	- 7.8	31	251	19.2
550	30	4,966	-11.8		260	22.0
500	30	5,695	-16.4		264	25.3
450	30	6,469	-22.6		264	29.1
400	30	7,333	-28.7		265	35.4
350	30	8,277	-35.3		265	37.3
300	30	9,334	-42.6		272	41.8
250	30	10,544	-50.0		273	45.6
200	30	11,979	-56.7		269	47.6
175	30	12,819	-59.6		270	43.5
150	30	13,776	-62.3		267	39.4
125	30	14,897	-63.9		262	34.2
100	30	16,255	-66.4		262	28.9
80	30	17,609	-65.2		260	20.4
70	30	18,423	-64.4		258	15.9
60	29	19,365	-63.5		262	12.8
50	29	20,486	-62.7		275	11.3
40	29	21,867	-61.3		276	8.9
30	28	23,658	-59.6		274	12.6
25	28	24,803	-57.6		267	16.9
20	22	26,215	-55.8		263	25.1
15	13	28,045	-52.7			

Standard pressure surface (mb)	YAKUTAT, ALASKA 1007 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	12	- 2.0	83	108	5.1
1000	30	69			108	9.1
950	30	478	- 1.3	67	115	13.6
900	30	909	- 3.8	68	125	12.4
850	30	1,359	- 6.4	68	130	11.8
800	30	1,831	- 9.2	68	138	9.9
750	30	2,327	-12.2	64	162	8.9
700	30	2,853	-15.4	58	192	8.9
650	30	3,427	-18.6	56	202	10.9
600	30	4,003	-22.2	53	211	14.6
550	30	4,632	-26.3	51	221	17.5
500	30	5,321	-30.5	50	230	21.6
450	30	6,057	-35.3		235	22.9
400	30	6,877	-40.5		248	23.7
350	30	7,776	-45.6		257	26.0
300	30	8,794	-49.7		266	26.2
250	30	9,981	-51.7		275	28.9
200	30	11,426	-51.6		274	26.8
175	30	12,293	-51.5		276	24.9
150	30	13,292	-52.1		275	25.4
125	30	14,472	-51.9		282	24.7
100	29	15,922	-52.5		288	22.1
80	29	17,366	-52.1		292	22.5
70	29	18,230	-52.2		294	21.2
60	29	19,227	-52.5		298	22.7
50	29	20,405	-52.3		303	25.4
40	28	21,847	-52.2		314	27.2
30	26	23,696	-52.6		322	34.2
25	25	24,872	-52.6		328	33.8
20	24	26,317	-52.1		331	39.6
15	18	28,207	-52.4		336	44.7
10	5	30,993	-47.7			

Standard pressure surface (mb)	+ YAP, CAROLINE IS. 1006 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	17	28.3	82	71	5.6
1000	30	74	27.7	82	76	6.0
950	30	516	23.8	82	84	10.3
900	30	1,000	20.7	81	94	11.3
850	30	1,494	18.1	78	96	11.5
800	30	2,012	15.5	74	96	10.7
750	30	2,554	12.6	69	95	11.3
700	30	3,136	9.7	64	98	12.2
650	30	3,746	6.3	61	98	12.4
600	30	4,402	2.5	63	96	12.6
550	30	5,095	- 1.5	61	94	12.4
500	30	5,856	- 5.7	53	95	12.4
450	29	6,671	-10.3	48	98	13.4
400	29	7,574	-15.9	42	90	13.4
350	29	8,567	-22.6		83	12.2
300	29	9,681	-30.6		79	8.0
250	29	10,949	-40.9		86	4.9
200	28	12,426	-53.6		89	3.1
175	28	13,270	-60.8		40	2.3
150	28	14,212	-68.4		22	4.5
125	28	15,283	-76.3		56	8.9
100	27	16,548	-83.4		74	17.3
80	26	17,792	-79.8		88	16.3
70	26	18,559	-73.5		89	8.5
60	26	19,471	-67.6		291	2.7
50	25	20,580	-64.2		281	3.3
40	25	21,960	-60.1		56	3.5
30	24	23,770	-56.6		93	20.4
25	23	24,933	-54.2		90	30.1
20	20	26,377	-50.6		87	43.1
15	17	28,274	-45.6		88	54.2
10	6	31,013	-41.3			

Standard pressure surface (mb)	YUCCA FLAT, NEV. 883 MB Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,196	- 1.5	62	275	1.6
1000	30	185				
950	30	598				
900	30	1,040				
850	30	1,500	5.0	48	342	2.1
800	30	1,993	3.0	42	13	1.2
750	30	2,512	.6	42	237	3.3
700	30	3,065	- 2.0	36	267	6.6
650	30	3,650	- 5.4		277	10.3
600	30	4,274	- 9.6		281	14.2
550	30	4,939	-14.0		280	17.5
500	30	5,658	-19.0		279	22.1
450	30	6,426	-24.7		278	25.8
400	30	7,280	-31.2		277	29.9
350	30	8,215	-37.3		277	32.4
300	30	9,266	-43.3		278	38.1
250	30	10,476	-50.0		270	39.4
200	30	11,912	-56.3		272	43.3
175	30	12,754	-59.0		268	41.6
150	30	13,717	-60.9		270	36.7
125	30	14,845	-62.8		269	32.2
100	30	16,217	-63.6		270	26.4
80	28	17,581	-64.1		283	19.0
70	28	18,398	-63.1		276	14.6
60	26	19,351	-62.2		279	10.5
50	25	20,483	-60.7		290	7.8
40	23	21,875	-60.5		297	9.9
30	23	23,672	-58.9		304	10.3
25	23	24,818	-57.9		292	12.0
20	18	26,235	-55.9		295	11.5
15	12	28,073	-53.7			

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i. e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G. C. T.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. NOVEMBER 1964

Date	Sun's zenith distance								
	A. M.				*	P. M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

ALBUQUERQUE, N. MEX.

	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Nov.									
1	0.96	1.06	1.19	1.32	(1.36)	(1.25)	----	----	----
2	.85	.98	1.09	1.27	----	(1.16)	(1.02)	----	(0.78)
3	----	----	.97	----	1.30	1.22	1.06	0.93	.80
4	.91	1.01	1.14	1.27	1.36	1.23	1.19	.85	.74
5	.84	.96	1.09	1.24	(1.27)	(1.22)	1.06	.93	.83
6	.95	1.07	1.16	1.34	1.36	1.32	1.19	1.03	.88
7	.99	1.08	1.18	(1.30)	----	(1.23)	(1.16)	(1.05)	(.93)
8	----	----	----	(1.30)	1.39	1.33	1.17	1.04	.91
10	----	.89	1.07	(1.21)	1.33	1.27	1.10	(.96)	.84
11	----	----	----	----	1.37	1.32	(1.17)	1.06	.95
12	1.00	1.10	1.21	1.36	1.41	1.35	1.18	1.07	.99
13	1.01	1.11	1.22	D(1.36)	1.40	1.31	D(1.02)	D (.86)	D (.70)
14	.95	1.07	1.19	1.33	----	----	(.79)	----	(.54)
17	.85	.97	1.08	1.19	1.20	1.15	.90	.79	.67
20	.94	1.05	1.17	1.37	1.41	1.35	1.21	1.08	.97
21	.88	1.00	1.15	1.30	1.30	1.24	1.11	.97	.88
22	.91	1.00	1.15	1.32	1.36	1.31	1.15	1.04	.93
23	.89	1.00	1.15	(1.25)	(1.31)	(1.29)	(1.12)	(.98)	(.86)
24	.91	1.07	1.21	1.33	1.33	----	1.19	1.04	.94
25	.97	1.07	1.20	1.35	1.39	1.35	1.17	1.05	.94
27	----	----	----	1.25	1.33	1.28	----	1.01	(.89)
28	.94	1.06	1.19	1.32	1.36	1.33	1.16	1.03	.91
29	.99	1.05	1.19	1.33	1.35	1.31	----	1.05	.94
30	.93	1.02	1.15	1.33	1.37	1.33	1.15	1.02	.92
Averages	0.93	1.03	1.15	1.31	1.35	1.29	1.13	1.00	0.93

BLUE HILL OBS., MASS.

	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Nov.									
1	0.93	1.01	1.15	1.29	1.33	1.27	1.06	0.90	0.77
2	.78	.89	1.03	1.24	1.25	1.16	.91	.81	.70
4	.86	.94	1.07	1.22	1.23	1.21	1.04	.89	.78
7	----	----	----	1.16	1.18	1.17	.89	.75	----
8	.70	.81	.99	1.17	1.18	1.16	.99	.84	.74
9	.90	.98	1.13	1.23	1.24	----	----	----	----
17	----	----	----	----	1.21	----	1.04	.87	.77
18	.84	.99	1.11	----	1.29	----	1.11	.99	.90
21	----	----	----	----	1.24	----	1.05	.90	.81
22	.87	.96	1.12	----	1.25	----	1.05	.90	.79
23	.87	.96	1.12	----	1.23	----	1.06	.88	.67
27	----	----	----	----	1.20	----	1.10	.94	.83
Averages	0.84	0.94	1.09	1.22	1.24	1.19	1.03	0.88	0.78

OMAHA, NEBR.

	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Nov.									
1	----	----	HM0.84	HS1.04	HS1.10	----	----	----	----
8	----	----	----	HM1.12	HM1.24	HM1.25	----	----	----
9	----	----	----	HM1.23	HM1.28	----	----	----	----
13	HS0.91	HS1.02	HS1.10	HS1.26	HS1.30	HS1.10	HS0.91	HS0.76	----
14	HM .72	HS .87	----	----	----	----	----	----	----
18	----	HS .94	HS1.06	----	HS1.22	----	----	----	----
21	----	HS1.04	HS1.14	----	HS1.32	----	HS1.22	HS1.10	----
22	HS .94	HS1.06	HS1.18	----	HS1.31	----	HS1.17	HS1.05	HS0.95
23	HM .84	HM .88	HS1.08	----	HS1.24	----	HS1.04	HS .86	HS .78
24	----	----	HM1.06	----	----	----	----	----	----
28	HM .80	HS .96	HS1.06	----	HS1.22	----	----	----	----
Averages	0.82	0.97	1.07	1.16	1.25	1.18	1.09	0.94	0.87

GUAM, M. I.

	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observation due to cloudiness								

Date	Sun's zenith distance								
	A. M.				*	P. M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°

MADISON, WIS.

	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Nov.									
5	S 0.88	S 1.00	S 1.13	S 1.30	S 1.31	S 1.30	S 1.12	S 1.02	S 0.94
11	----	----	----	----	S 1.04	----	----	----	----
13	----	S .78	S .93	----	S 1.13	----	S .98	S .80	S .71
14	----	----	S .96	----	S 1.05	----	----	----	----
16	----	----	----	----	----	----	S 1.04	----	----
18	----	----	----	----	S 1.24	----	S 1.11	----	----
21	----	----	----	----	----	----	S 1.08	S .95	S .86
22	----	----	----	----	S 1.21	----	S 1.09	S .94	S .83
23	S .76	S .88	S .99	----	S 1.14	----	S .96	S .87	S .77
Averages	0.82	0.89	1.00	1.30	1.16	1.30	1.05	0.92	0.82

TUCSON, ARIZ.

	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Nov.									
1	0.90	1.01	1.12	----	----	----	----	----	----
4	----	----	----	----	----	----	----	----	0.88
5	.88	----	----	----	----	----	----	----	----
6	.79	.93	----	----	----	----	----	----	----
7	----	----	----	----	----	----	----	0.95	----
8	.86	.96	----	----	----	----	----	----	----
12	----	.99	----	----	----	----	----	.42	----
13	.87	----	----	----	----	----	----	.57	----
16	----	----	----	----	----	----	----	----	.92
17	.68	----	----	----	----	----	----	----	----
20	----	----	----	----	----	----	----	----	.85
21	----	----	----	----	----	----	----	----	.86
22	.92	1.01	1.13	----	----	----	----	----	----
23	.86	----	----	----	----	----	----	----	.83
24	----	.98	1.12	----	----	----	----	----	.89
25	----	.95	1.08	----	----	----	1.08	----	.89
26	----	----	----	----	----	----	----	.97	.88
28	.90	1.01	1.14	----	----	----	----	----	.89
29	.81	.93	----	----	----	----	----	----	----
30	.90	1.01	1.14	----	----	----	----	----	----
Averages	0.85	0.97	1.12	----	----	----	1.08	0.72	0.88

MAUNA LOA OBS., HAWAII

	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Nov.									
1	H 1.01	H 1.11	H 1.23	H 1.36	----	----	----	----	----
2	1.07	1.16	1.27	1.39	----	----	----	----	----
3	1.07	1.17	1.28	----	----	----	----	----	----
13	1.08	----	----	----	----	----	----	----	----
14	1.12	1.23	1.35	1.49	1.57	1.43	1.29	1.18	1.07
15	1.02	1.14	1.27	1.42	1.54	----	----	1.15	----
16	1.06	1.16	1.28	1.42	----	----	----	----	----
17	1.13	1.23	1.35	1.46	1.58	1.46	1.32	1.21	1.12
18	1.11	1.21	1.33	1.46	1.57	1.41	1.30	1.20	----
19	Recorder Inoperable								
20	1.12	1.20	1.30	1.42	----	----	----	----	----
21	1.08	1.18	1.31	1.45	1.56	1.43	1.30	1.19	1.10
22	Recorder Inoperable				1.60	----	----	----	----
24	1.07	1.17	1.29	1.42	----	----	----	----	----
25	1.14	1.22	1.34	1.46	1.54	----	----	----	----
26	1.13	1.22	1.33	1.45	----	1.42	----	1.16	----
27	1.09	1.17	1.30	1.44	----	----	----	1.16	1.10
28	1.12	1.21	1.34	1.46	----	----	----	----	----
29	1.10	1.19	1.32	1.44	1.54	1.44	1.30	1.19	1.10
30	1.13	1.22	1.32	1.46	1.56	1.45	1.32	1.20	1.11
Averages	1.09	1.19	1.31	1.44	1.56	1.43	1.31	1.18	1.10

H	Haze
D	Dust
HS	Slight haze
HM	Moderate haze
S	Slight haze - indeterminable
( )	Clouds present
*	Values corresponding to true solar noon.

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

NOVEMBER 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	392	366	383	387	377	382	378	362	292	349	284	370	364	338	189	194	334	105	141	348	333	348	328	329	326	213	280	318	315	314		315
AMES IOWA	246	194	203	55	64	111	211	172	217	155	177	131	259	212	70	215	88	237	112	155	253	237	226	214	211	199	21	205	135	158		171
ANNETTE ALASKA	14	8	3	53	5	31	69	15	3	28	53	58	73	5	2	10	22	13	19	37	23	8	10	13	20	33	69	29	7	10		25
APALACHICOLA FLORIDA	398	434	428	157	417	403	390	382	406	389	333	336	156	338	379	---	301	398	244	238	336	343	175	61	371	363	315	78	274	377		318
ARGONNE NAT. LAB.	199	69	269	241	312	110	103	257	251	175	250	233	273	264	40	141	99	245	61	91	281	244	242	242	225	142	33	183	100	246		187
ASTORIA OREGON	232	230	13	134	227	224	228	130	170	125	138	55	219	223	230	227	162	218	215	219	186	30	17	24	23	62	71	89	61	20		140
ATLANTA GEORGIA	337	388	356	384	373	373	320	232	328	367	355	274	178	319	231	146	220	199	178	242	351	323	---	38	74	320	310	84	336	348		275
BETHEL ALASKA	117	50	64	58	70	97	---	61	128	122	32	57	23	37	33	26	45	30	50	101	87	56	51	67	75	19	67	69	17	23		60
BISMARCK N.DAK.	125	42	82	263	253	243	243	122	227	131	60	137	106	13	55	209	220	91	182	218	178	218	25	97	62	109	166	204	220	79		146
BLUE HILL MASS.	328	307	278	301	219	170	272	283	258	181	27	166	134	274	255	66	263	265	85	63	247	243	231	203	152	36	215	103	69	74		192
BOISE IDAHO	61	221	215	265	268	272	198	186	114	41	246	77	248	273	116	220	242	138	232	243	233	127	118	38	165	95	83	115	108	32		166
BOSTON MASSACHUSETTS	---	---	241	265	173	176	255	265	232	139	13	111	132	273	256	66	250	253	68	58	238	---	222	181	108	54	217	71	68	76		165
BROWNSVILLE TEXAS	423	463	445	166	234	428	480	446	461	437	313	356	347	213	394	336	449	382	373	239	32	38	333	276	437	422	279	273	298	232		333
BURLINGTON VERMONT	---	295	217	295	20	45	70	266	161	24	16	200	56	248	185	39	194	125	63	129	155	212	94	12	101	71	145	160	126	105		132
CAPE HATTERAS N.C.	372	167	267	359	333	356	345	341	254	343	313	321	268	345	341	311	312	301	277	140	159	295	302	158	40	306	295	246	179	42		270
CARIBOU MAINE	86	237	262	229	226	66	94	234	151	108	205	29	75	213	181	56	138	131	208	35	127	159	110	201	80	22	153	173	11	93		136
CHARLESTON S.C.	197	96	364	403	396	390	393	284	264	338	367	249	246	328	290	327	337	280	348	115	315	370	203	78	225	357	342	195	323	314		291
CLEVELAND OHIO	281	168	177	217	212	274	43	80	253	202	244	94	236	249	189	41	165	211	16	190	159	229	249	161	16	181	128	22	236	89		167
COLUMBIA MISSOURI	243	249	248	204	185	149	109	270	279	220	272	289	292	244	65	35	72	94	91	177	295	271	267	200	248	210	100	259	73	272		199
DAVIS CALIFORNIA	120	64	318	291	300	237	124	104	148	213	59	240	231	300	302	276	279	288	266	267	234	241	259	122	124	260	131	57	255	46		205
DODGE CITY KANSAS	300	284	92	50	53	121	279	264	256	148	240	265	274	214	26	34	63	64	219	235	227	276	222	248	243	85	227	239	249	247		191
E. LANSING MICHIGAN	269	194	219	262	309	242	63	212	171	172	246	120	192	271	42	74	182	169	57	135	164	211	247	239	231	122	70	33	78	180		173
EL CENTRO CALIF NARF	286	315	317*	317*	303	283	277	302	275	227	298	279	262	158	144	227	215	242	291	294	289	274	275	269	259	251	254	252	256	230		264*
EL PASO TEXAS	438	432	429	420	406	424	416	363	337	333	392	417	408	369	361	367	381	381*	349	384	382	379	372	374	370	361	358	355	360	351		382*
ELY NEVADA	266	240	361	359	333	294	283	341	283	87	230	254	123	265	345	218	311	316	323	307	---	304	300	225	242	250	259	280	256	251		273
FAIRBANKS ALASKA	---	53	46	22	33	17	39	34	25	25	17	32	33	10	18	6	7	14	3	11	22	26	42	---	---	22	16	12	18	9		23
FORT WORTH TEXAS	297	316	169	117	158	394	401	396	391	369	165	399	399	120	61	132	27	53	111	384	382	372	337	356	358	347	296	357	341	354*		279*
FRESNO CALIFORNIA	216	272	207	298	259	155	276	179	71	260	108	219	307	339	318	230	237	311	312	294	288	222	267	190	176	274	281	262	266	242		244
GLASGOW MONTANA	157	114	98	246	209	233	228	111	180	183	136	311	80	34	229	207	193	108	55	205	194	209	47	103	94	50	175	174	165	111		155
GRAND JUNCTION COLO.	249	186	---	---	353	339	331	326	181	133	300	141	170	219	149	112	187	101	323	312	319	334	295	249	234	116	257	229	277	278		239
GREAT FALLS MONTANA	180	128	227	191	170	208	170	141	169	171	82	72	116	114	145	184	71	70	31	49	169	149	123	81	---	76	116	119	93	48		126
GREENSBORO N.C.	296	388	375	358	308	370	275	94	293	335	341	300	212	339	327	295	311	214	171	286	327	349	312	90	159	304	292	115	261	85		273
GRIFFIN EXP.STA.GA.	349	460	396	464	439	451	407	313	401	439	423	295	194	305	264	203	303	250	241	247	417	413	133	56	97	391	392	149	389	411		323
INDIANAPOLIS INDIANA	305	319	321	311	303	348	311	272	307	284	297	165	330	---	72	116	231	128	34	168	316	312	295	---	92	216	163	127	157	305		236
INYOKERN CALIFORNIA	417	431	425	424	408	337	379	398	219	280	386	394	406	393	328	303	95	377	379	372	362	324	356	297	340	339	336	320	330	334		350
LAKE CHARLES LA.	408	243	324	312	248	155	395	403	400	363	227	359	208	143	203	339	239	338	45	288	294	188	361	109	365	305	201	303	290	366		281
LAKELAND FLORIDA	417	129	140	369	388	434	381	412	533	444	408	332	419	362	409	427	380	377	426	328	176	317	361	310	344	430	348	353	252	426		361
LANDER WYOMING	189	292	321	313	319	307	307	291	275	269	80	256	53	136	274	175	158	263	272	249	278	239	267	165	257	113	181	241	247	152		231
LARAMIE WYOMING	245	225	201	307	306	205	297	270	196	292	150	247	264	144	260	276	82	76	234	116	271	265	203	169	222	179	259	78	198	174		214
LAS VEGAS NEVADA	294	390	388	388	386	---	286	366	310	169	359	322	221	231	206	306	38	200	339	336	330	221	320	225	297	281	299	282	298	302		289
LITTLE ROCK ARKANSAS	276	273	220	229	301	103	165	302	290	296	135	243	---	---	---	---	62	66	47	305	307	315	279	98	266	140	101	378	276	297		222
LOS ANGELES CALIF.	186	379	364*	372	364	337	342	327	289*	169	212	210	362	364	369	289	63	320	346	340*	339	308	318	310	280	116	244	278	315	314		294*
MADISON WISCONSIN	188	206	255	182	314	51	163	216	245	123	254	100	260	245	56	226	124	268	137	136	277	238	244	185	208	193	17	166	206	232		191
MANHATTAN KANSAS	349	317	64	83	56	101	163	325	312	230	---	320	---	160	26	54	60	86	274	200	268	300	288	280	284	263	75	291	225	161		201
MATANUSKA ALASKA	106	96	54	35	31	78	73	50	75	---	48	60	6	16	31	18	11	4	---	12	15	1	42	37	45	37	38	19	32	38		40
MAUNA LOA OB.HAWAII	482	403	345	497	583	328	336	403	---	533	295	220	---	594	485	539	575	582	---	---	572	---	172	510	492	450	413	378	545	547		451
MEDFORD OREGON	88	277	235	63	91	155	61	61	117	110	59	102	93	184	252	256	232	231	219	192	87	122	48	47	62	112	44	47	102	19		126
MIAMI FLORIDA	319	367	340	310	425	419	325	290	395	421	414	353	371	350	359	213	392	362	368	342	252	233	268	330	105	252	265	309	151	213		317
MIDLAND TEXAS	341	363	375	98	---	---	---	---	---	318	342	357	355	252	221	223	107	49	203	337	462	341	317	320	---	---	---	---	---	---		---
NASHVILLE TENNESSEE	195	313	325	329	310	344	133	251	296	322	311	167	348	318	252	183	132	82	37	324	333	340	260	49	74	269	270	126	242	238		239
NEW YORK N.Y. U	296	253	173	279	148	136	273	239	253	223	112	169	148	275	244	47	201	267	23	92	253	222	218	186	71	121	234	49	183	50		181
NORTH OMAHA NEBRASKA	300	182	63	72	51	149	110	265	278	124	148	177	278	223	34	122	94	204	184	258	286	265	251	98	219	199	99	253	172	134		176
OAK RIDGE TENNESSEE	272	285	291	281	270	304	240	80	196	203	260	205	216	270	233	152	111	102	42	267	263	278	223	62	40	229	225	140	147	214		203
OKLAHOMA CITY OKLA.	280	300	94	79	19	221	197	308	303	277	240	318	309	174	59	32	45	28	161	292	188	292	278	210	260	264	162	265	265	278		207
PHOENIX ARIZONA	338	368	382	368	369	347	341	343	162	281	352	347	275	308	87	270	336	68	213	325	324	304	309	320	303	294	279	293	300	293		297

Note. --Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

NOVEMBER 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PORTLAND MAINE	289	295	257	281	222	214	93	266	171	53	44	62	143	254	---	69	285	235	134	32	219	232	98	189	---	---	---	---	52	98		171
RAPID CITY S.DAK.	255	233	261	270	264	245	242	166	235	217	148	198	110	37	139	205	---	107	184	229	213	207	120	106	37	67	222	184	205	164		182
RIVERSIDE CALIFORNIA	176	409	425	429	415	376	392	400	150	107	295	110	368	351	399	317	8	387	391	384	380	330	362	345	320	152	314	308	341	336		316
SAINT CLOUD MINN.	65	206	74	141	129	225	212	198	83	58	39	38	192	207	38	201	227	182	220	143	218	210	215	181	71	215	45	206	232	128		153
SALT LAKE CITY UTAH	173	165	366	340	319	312	289	335	335	161	107	107	143	195	321	134	259	256	156	174	277	217	158	126	108	78	115	53	115	230		204
SAN ANTONIO TEXAS	299	328	213	47	330	437	434	428	413	385	312	305	289	182	107	209	202	87	252	190	363	272	371	395	392	329	185	382	367	387		296
SANTA MARIA CALIF.	261	353	361	354	301	308	323	187	226	269	117	242	320	288	329	250	252	324	---	333	320	---	301	266	291	247	289	295	286	291		285
SAULT STE MARIE MICH	119	191	75	132	93	68	239	231	39	165	14	50	82	93	22	90	96	78	78	163	105	182	127	77	154	41	53	22	161	204		108
SEATTLE TACOMA WASH.	135	237	38	74	85	134	160	57	31	45	156	57	76	172	190	195	61	58	65	58	142	39	34	25	30	68	47	89	32	22		87
SHREVEPORT LOUISIANA	342	301	279	346	178	45	311	366	384	373	325	194	372	135	231	257	191	73	47	302	369	316	365*	282	327	265	179	352	358	---		271*
SPOKANE WASHINGTON	51	251	83	102	184	95	70	70	53	69	170	81	94	46	132	375	131	69	33	67	142	43	56	31	87	100	163	109	63	48		102
STATE COLLEGE PENN.	330	229	220	300	176	47	281	107	248	216	212	237	262	297	274	38	265	284	26	94	153	250	268	215	40	139	271	21	201	136		195
STERLING VIRGINA	326	313	138	306	220	159	330	185	279	268	204	---	202	289	255	36	284	221	20	206	296	245	284	239*	32	140	239	27	252	60		209*
STILLWATER OKLAHOMA	265	325	175	75	61	186	188	330	331	277	285	342	331	191	85	45	28	41	181	298	304	301	279	223	270	278	125	277	280	289		222
SWAN ISLAND W.I.	130	40	273	398	349	168	24	404	178	367	452	480	493	497	526	361	462	503	433	302	72	280	426	388	447	454	419	441	429	490		356
TAMPA FLORIDA	403	149	140	329	396	435	438	395	443	428	418	341	394	357	397	391	405	397	392	356	134	345	328	352	286	404	323	343	202	373		350
TUCSON ARIZONA	377	395	408	397	394	385	383	374	153	369	357	376	373	90	68	318	363	34	345	349	363	348	346	343	339	335	323	332	329	326		323
WAKE ISLAND,PACIFIC	---	---	431	426	443	443*	429	425	343*	412	383	448	445	326	435	362	426	409	413	418	393	428	310	422	361	379	338	379	324	214		392*

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

NOVEMBER 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	3	-18	20	60	32	17	35	-13	20	16	-29	-38	-9	-46	-31	-29	2	-14	-65	-4	-13	-20	9	-19	-33	-8	-60	-44	2	12		-9

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Huntley Exp. Station. The instrument with which they were measured has not been checked by the Weather Bureau.

TOTAL OZONE DATA

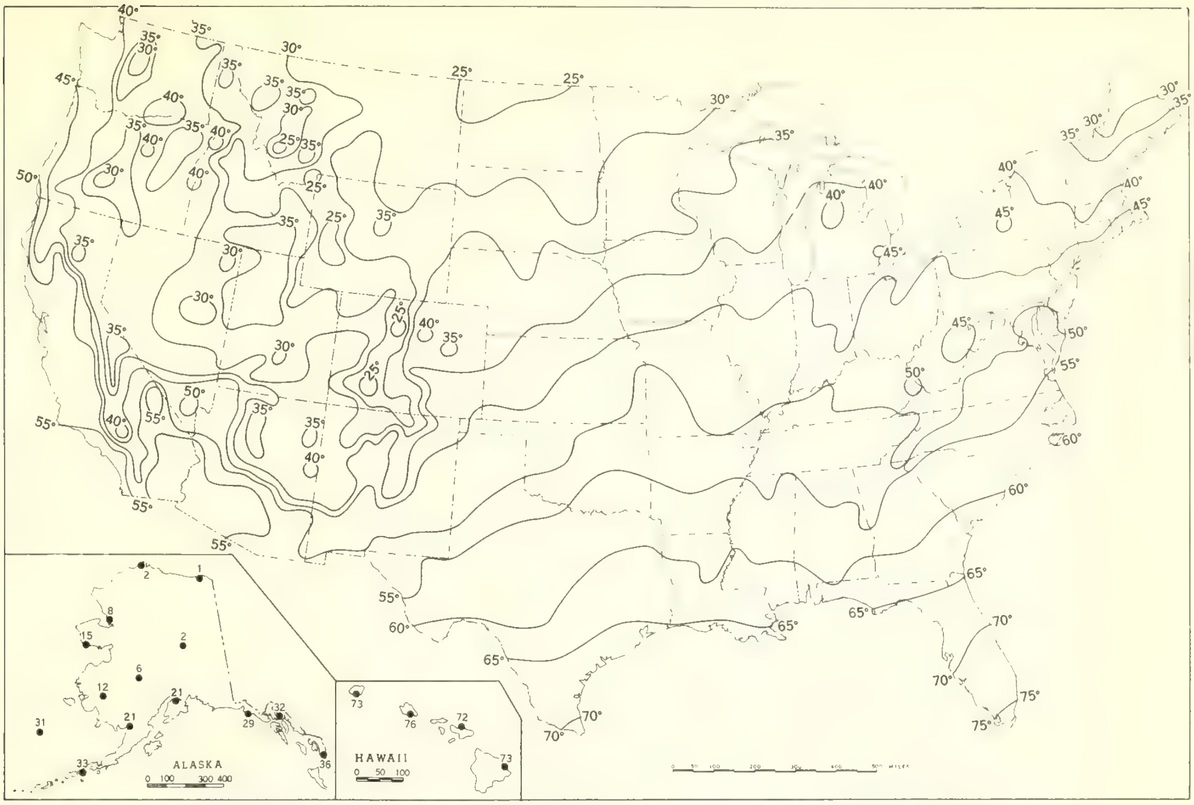
These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λs Ω Ω Ω defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units: Milli-atmo-cms.

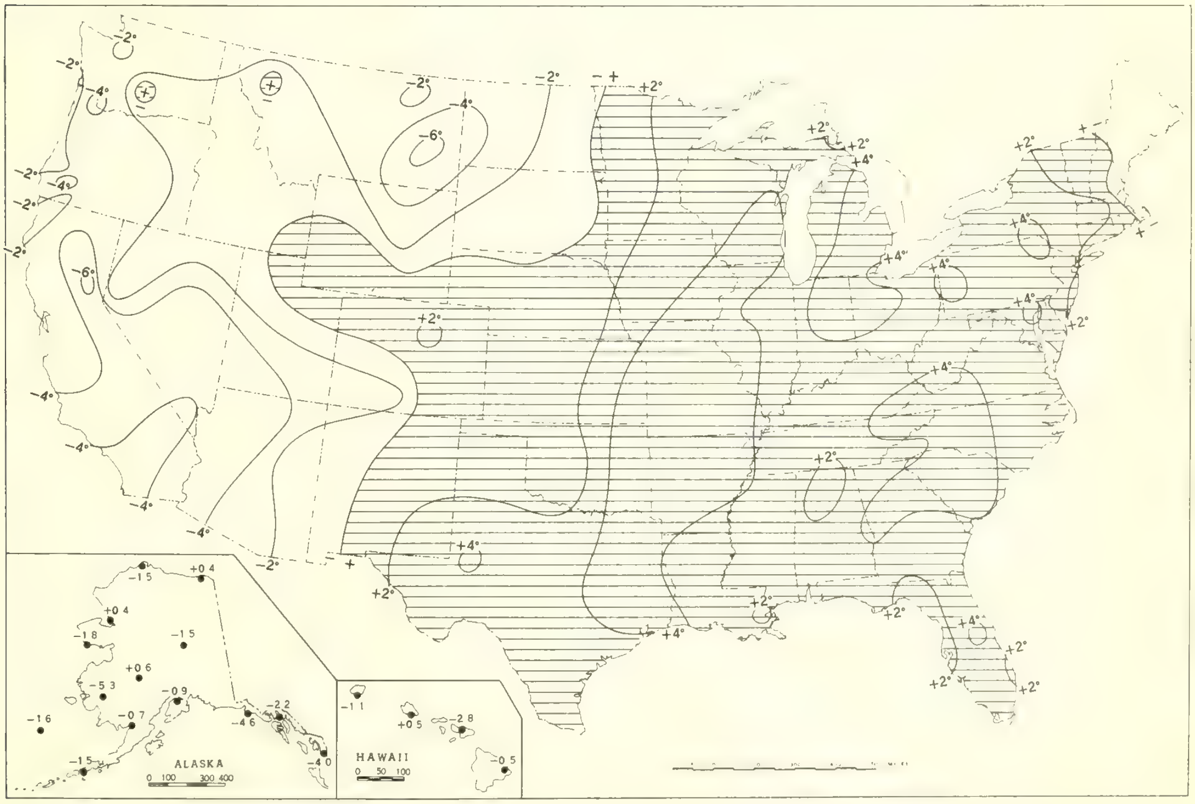
Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O3
																Data will be delayed																

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded Ω Ω Ω) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e g , 350 milli-atmo-cm ozone implies an ozone layer 0 350 centimeter thick The code λ s designates the type of measurement made

Chart I. A. Average Temperature (°F.) at Surface, November 1964.



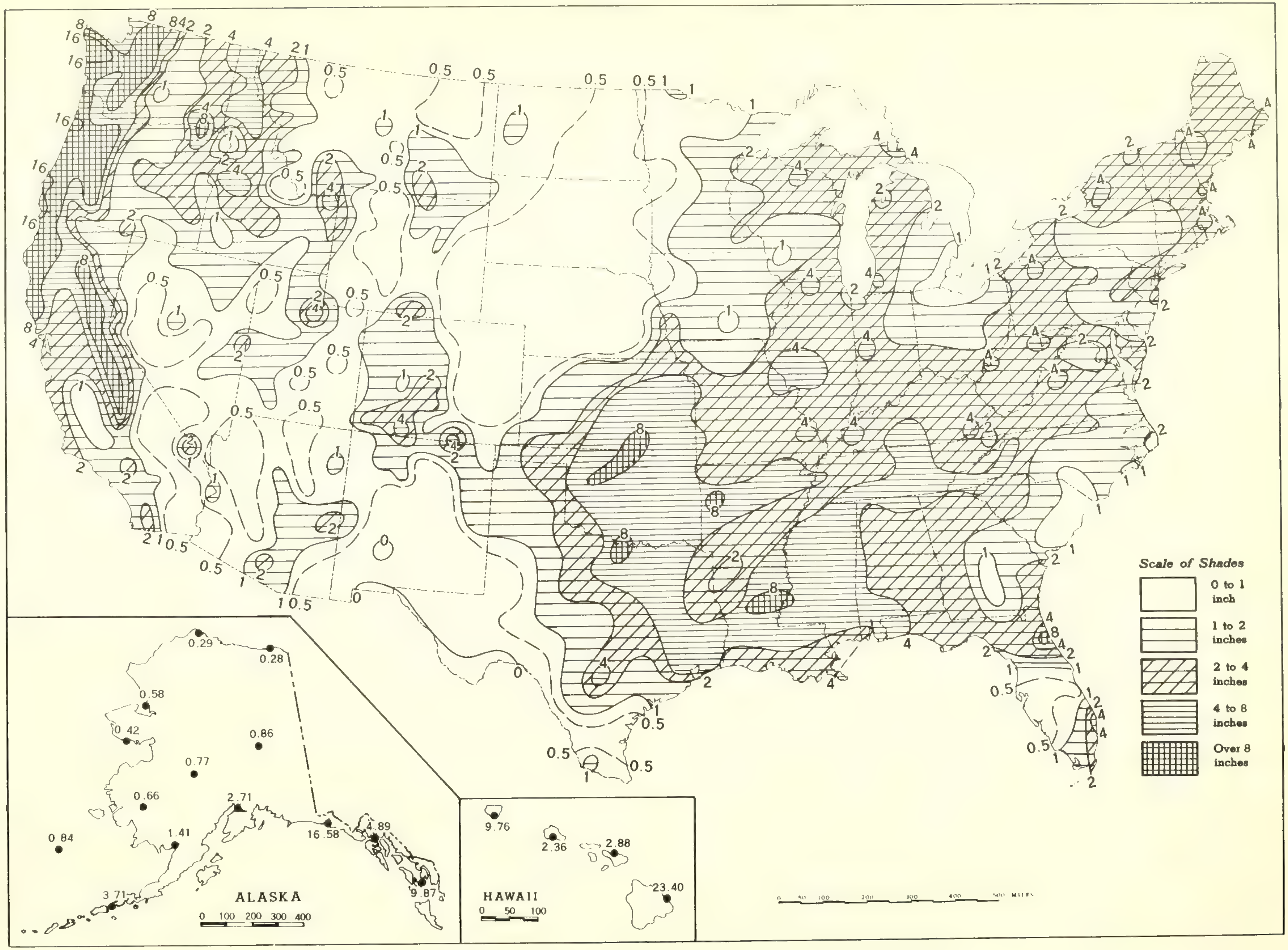
B. Departure of Average Temperature from Normal (°F.), November 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

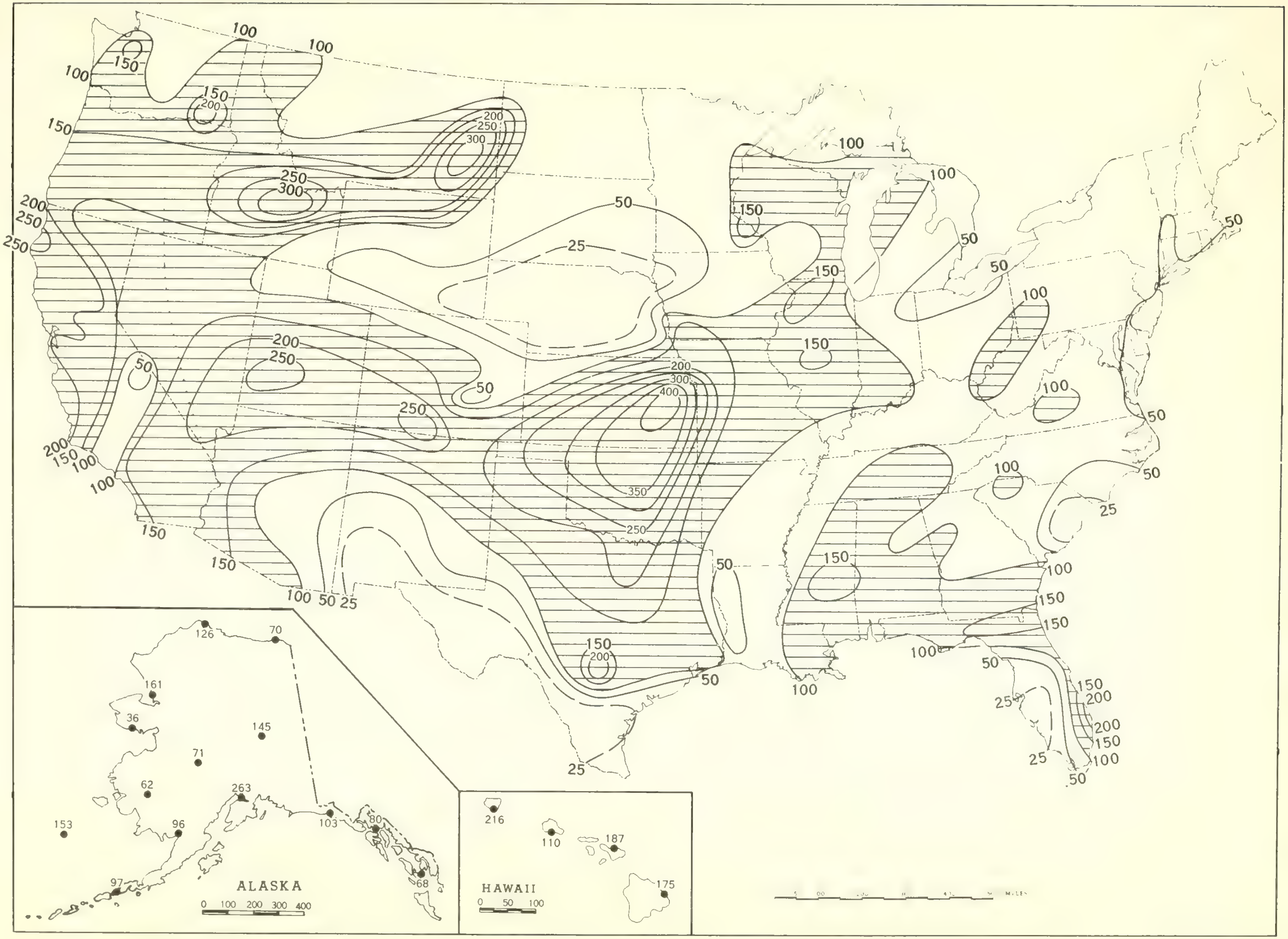
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), November 1964.



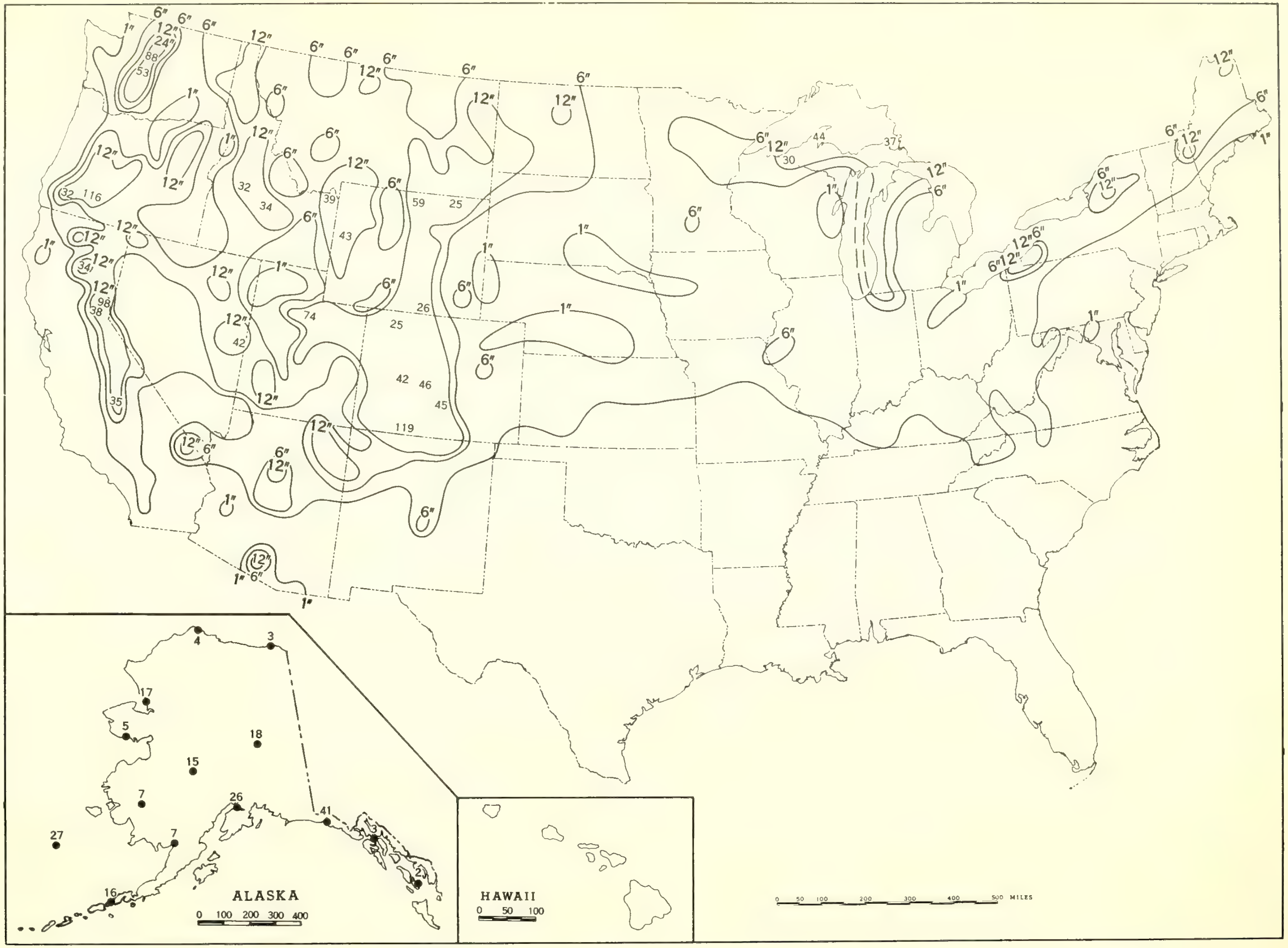
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, November 1964.



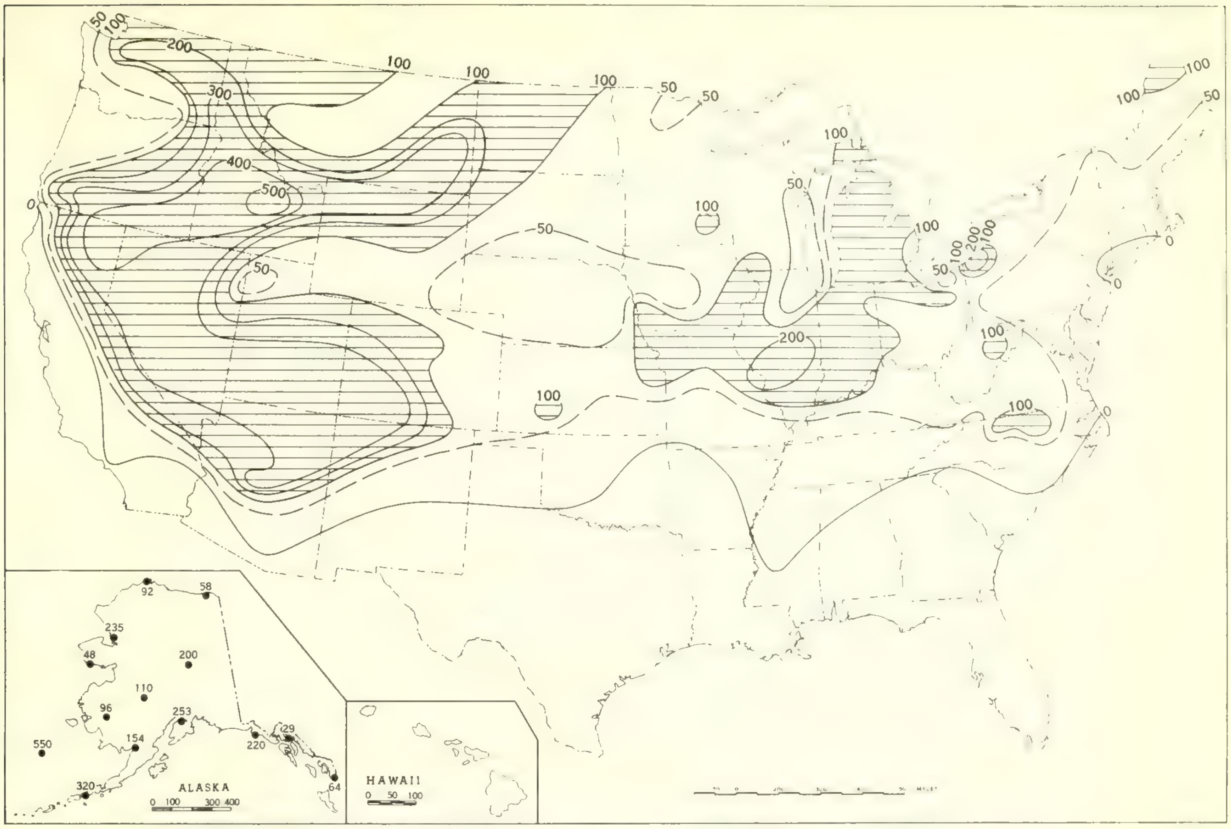
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), November 1964.

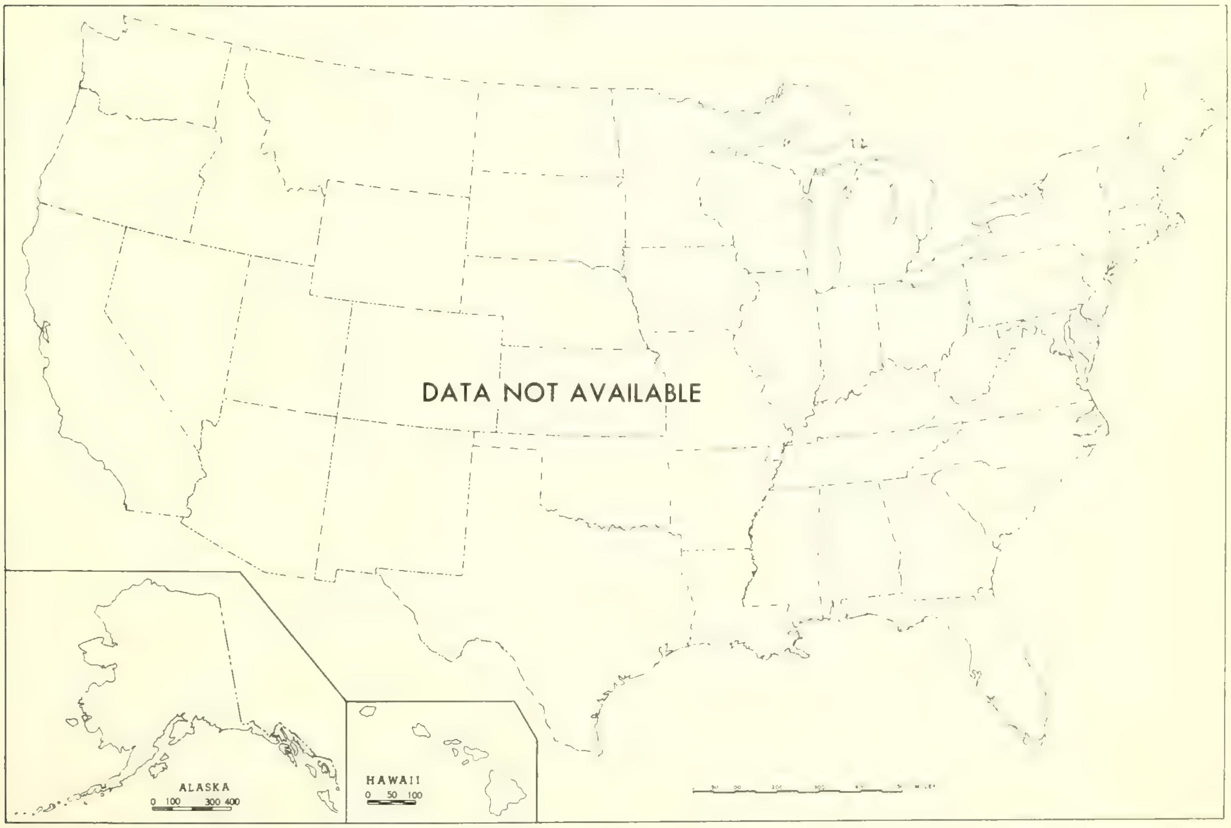


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, November 1964.

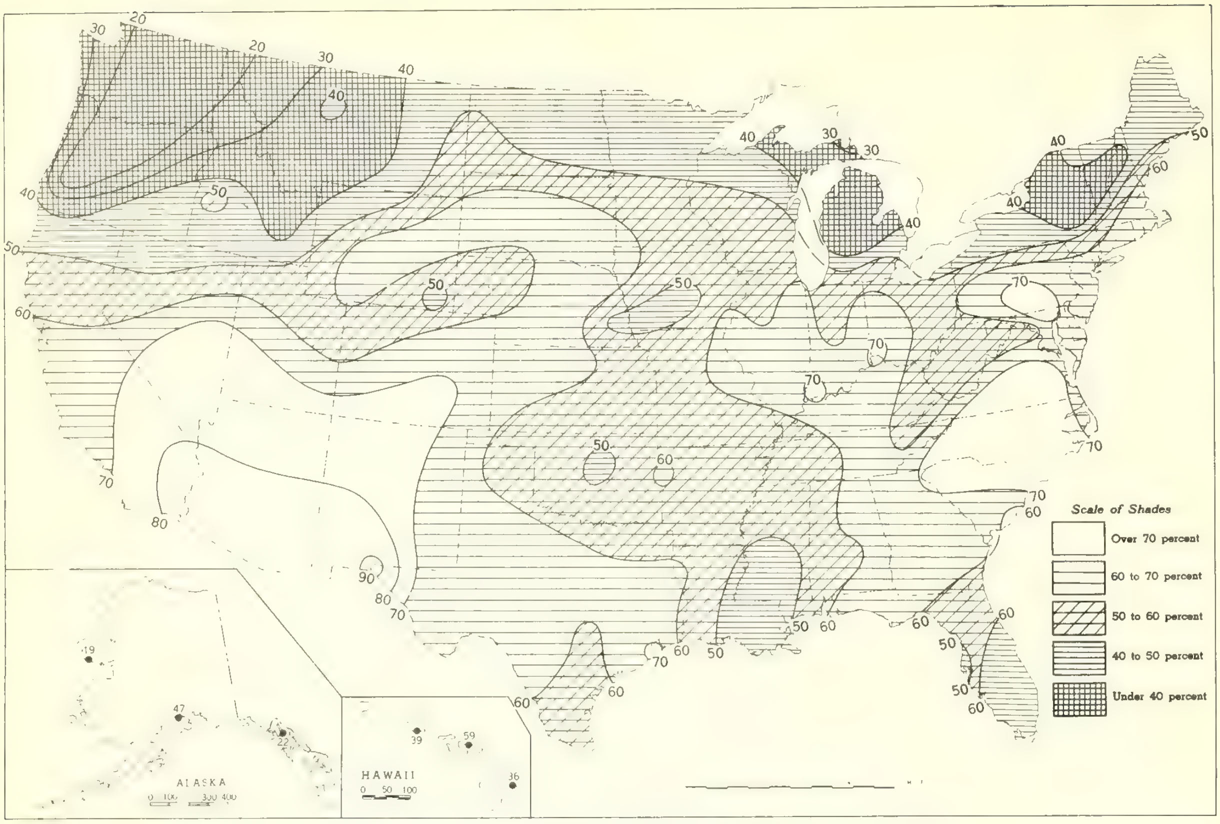


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., November 1964.

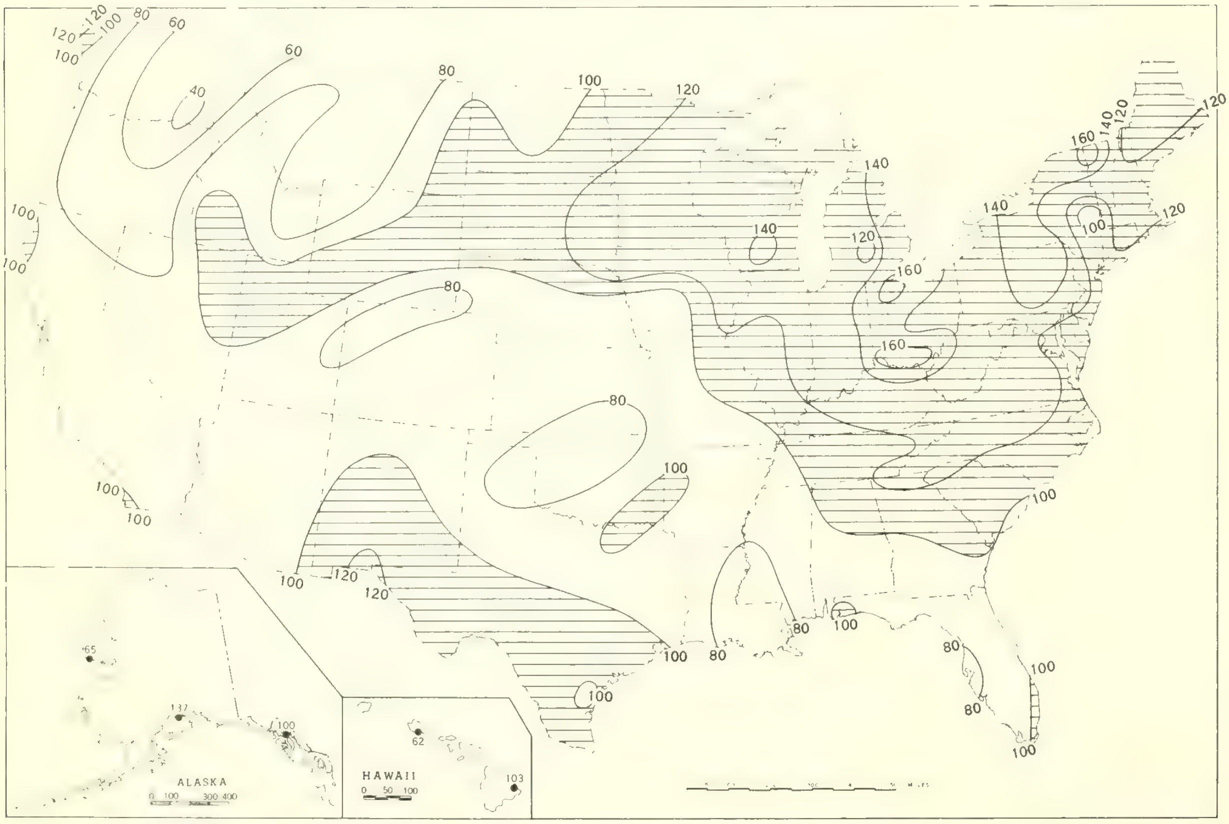

DATA NOT AVAILABLE

A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a. m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, November 1964.

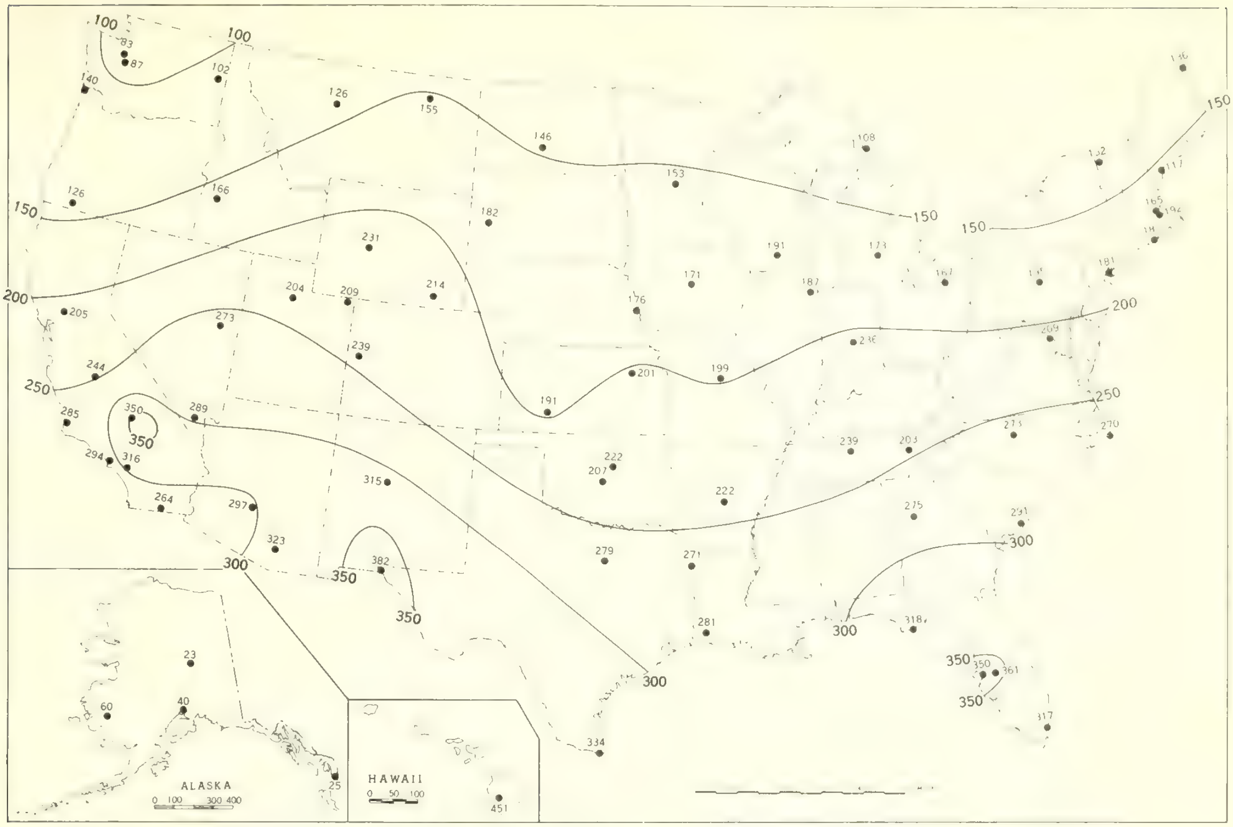


B. Percentage of Mean Monthly Sunshine, November 1964.

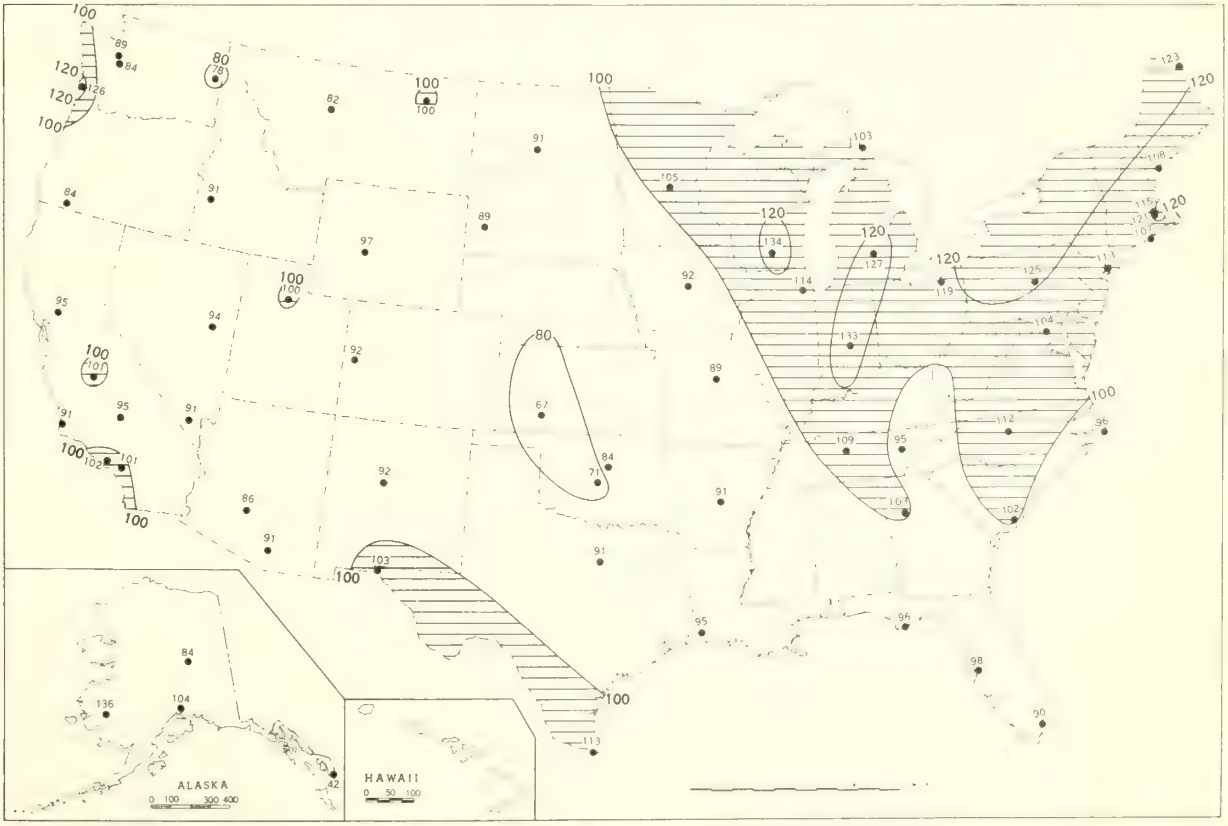


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, November 1964.

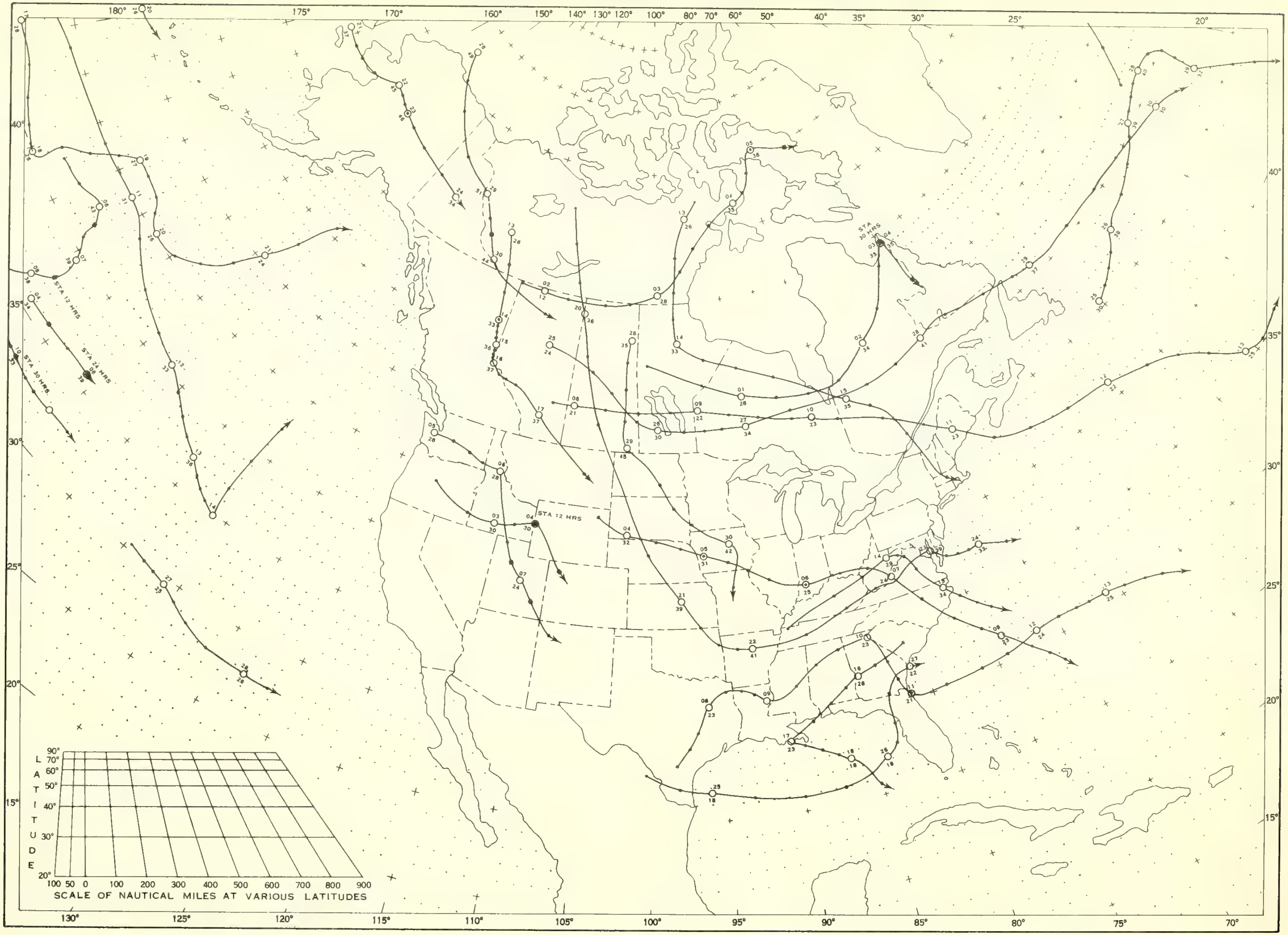


B. Percentage of Mean Daily Solar Radiation, November 1964.



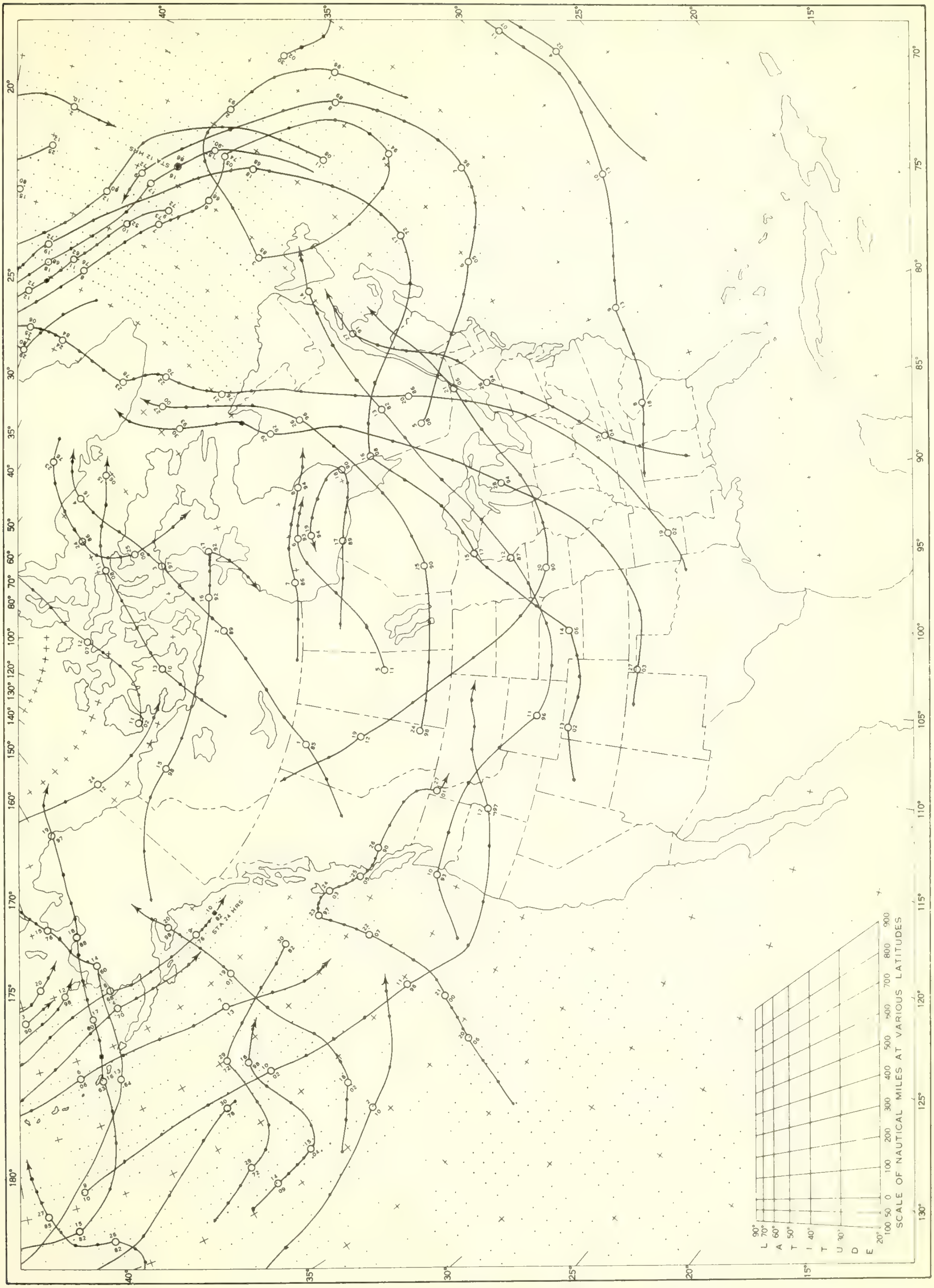
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, November 1964.



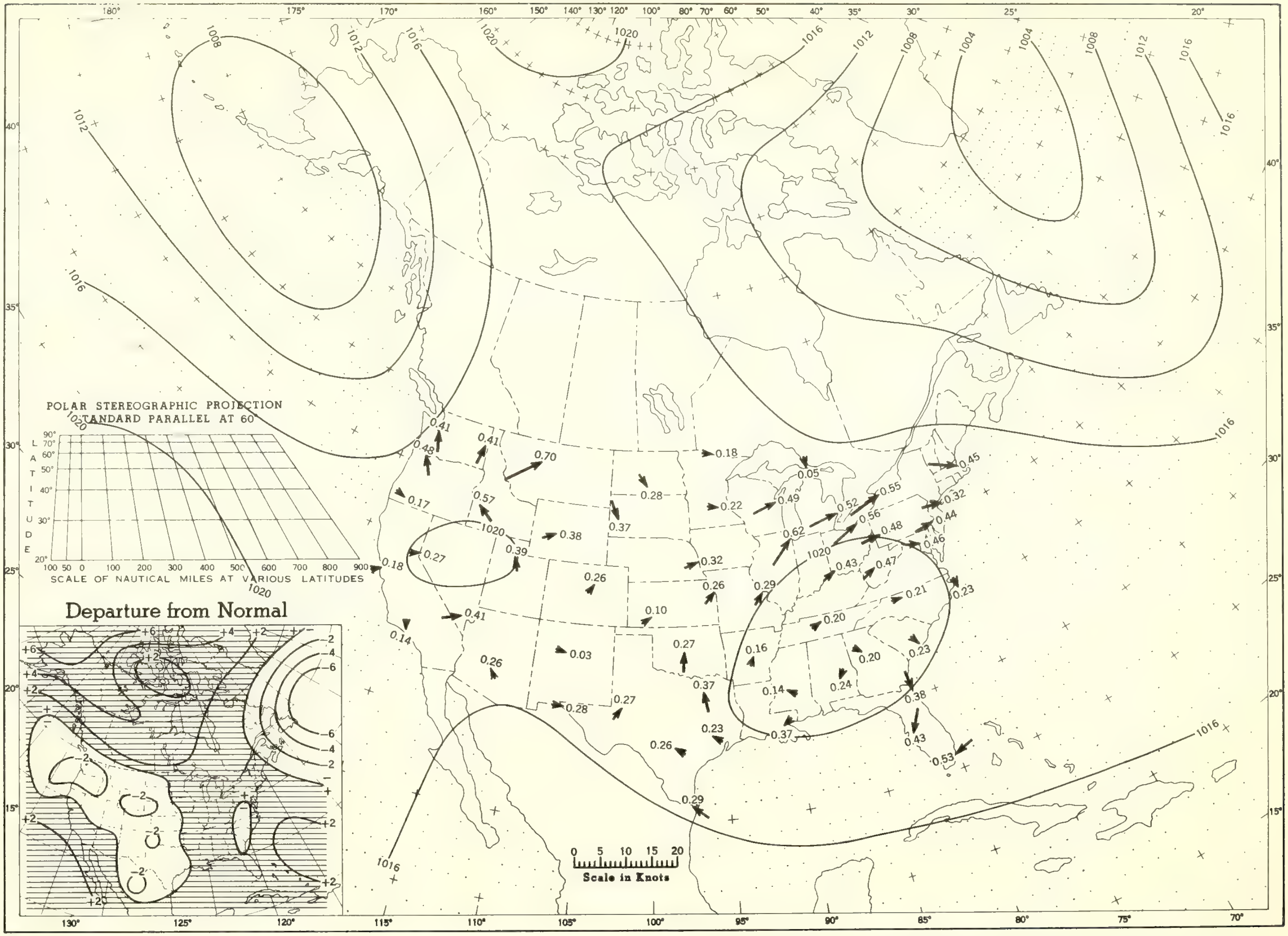
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, November 1964.



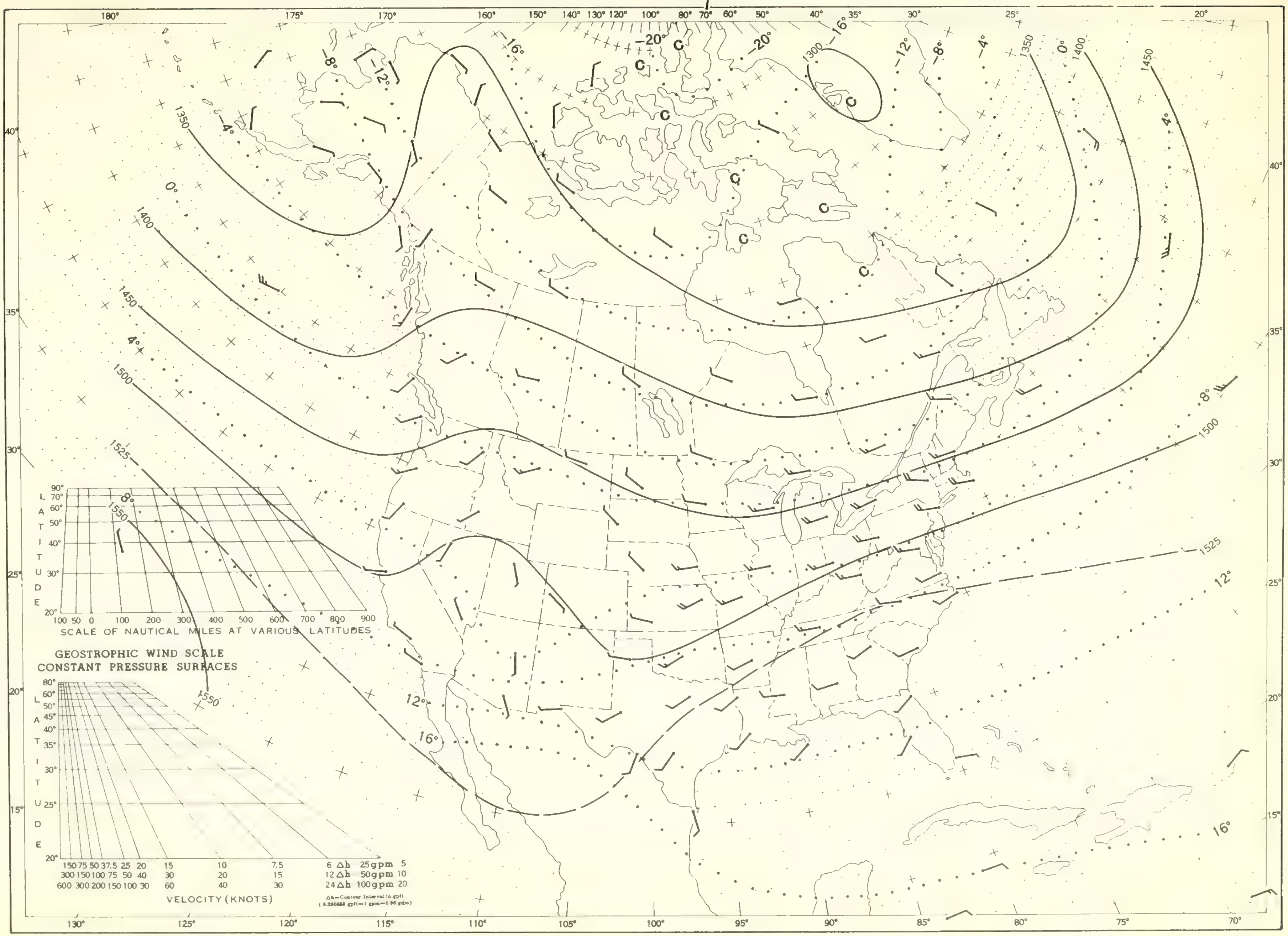
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, November 1964. Inset: Departure of Average Pressure (mb.) from Normal, November 1964.



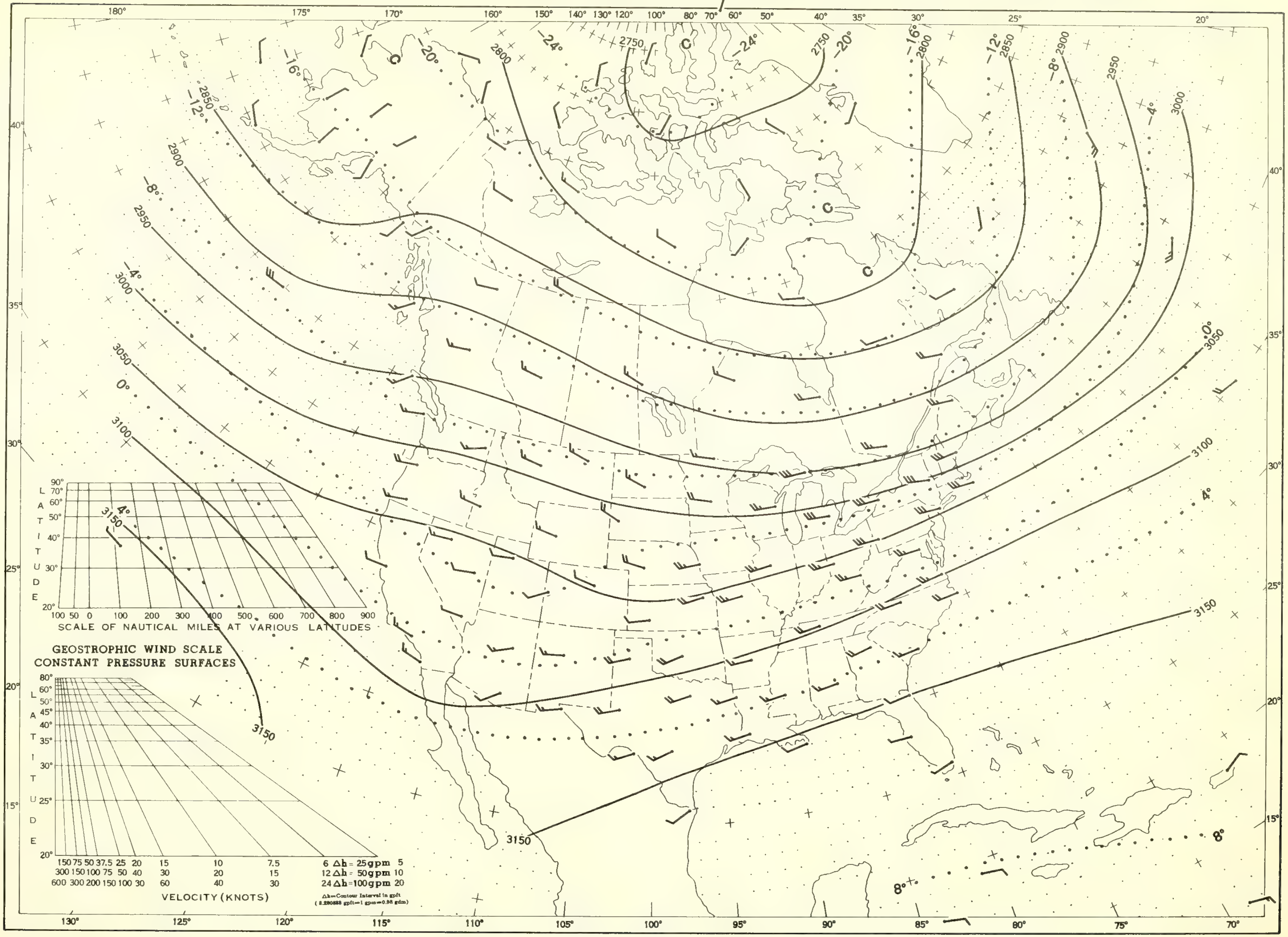
Average sea level pressures are obtained from the averages of 24 hourly readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, November 1964. Average Height and Temperature, and Resultant Winds.



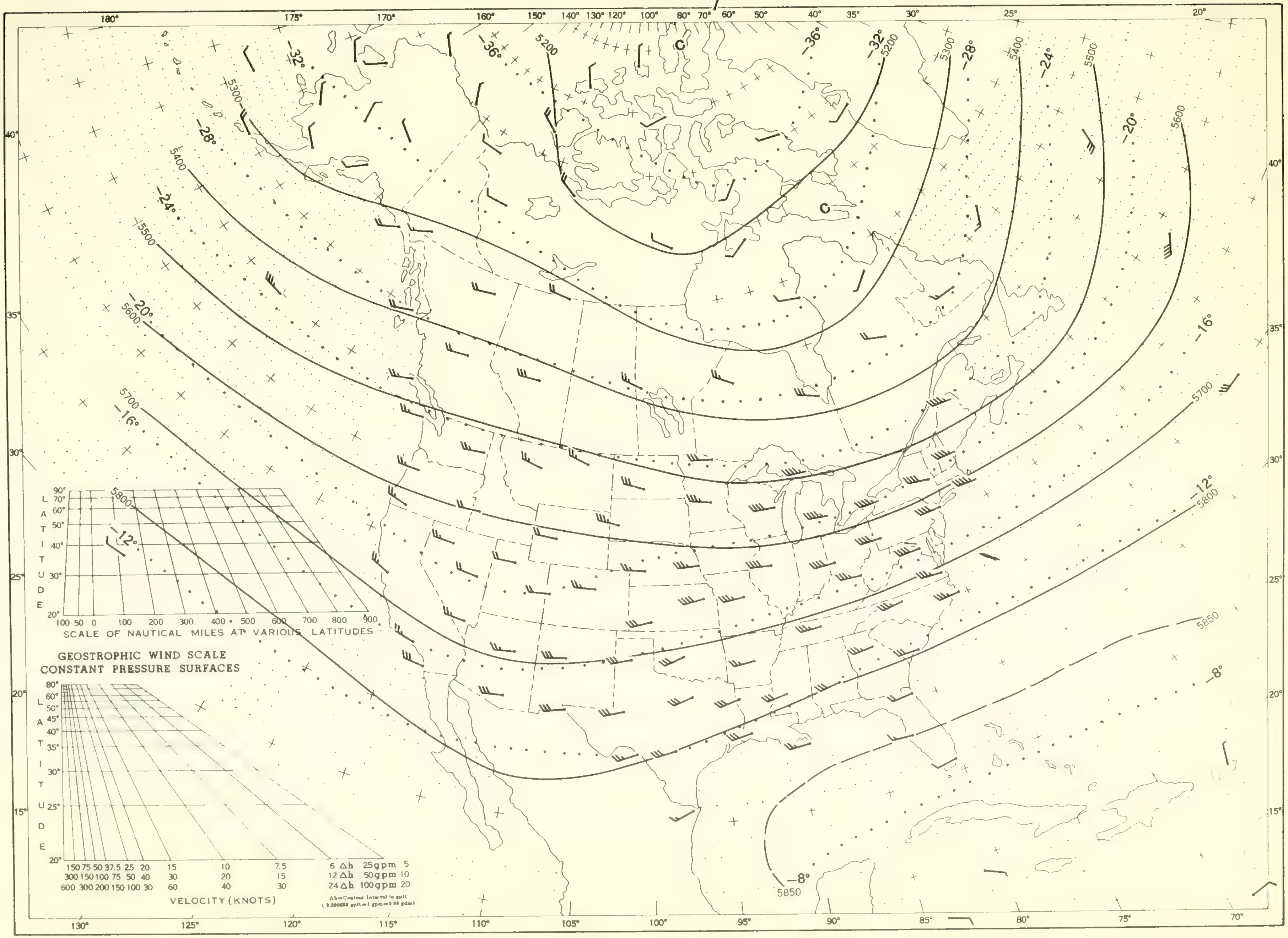
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, November 1964. Average Height and Temperature, and Resultant Winds.



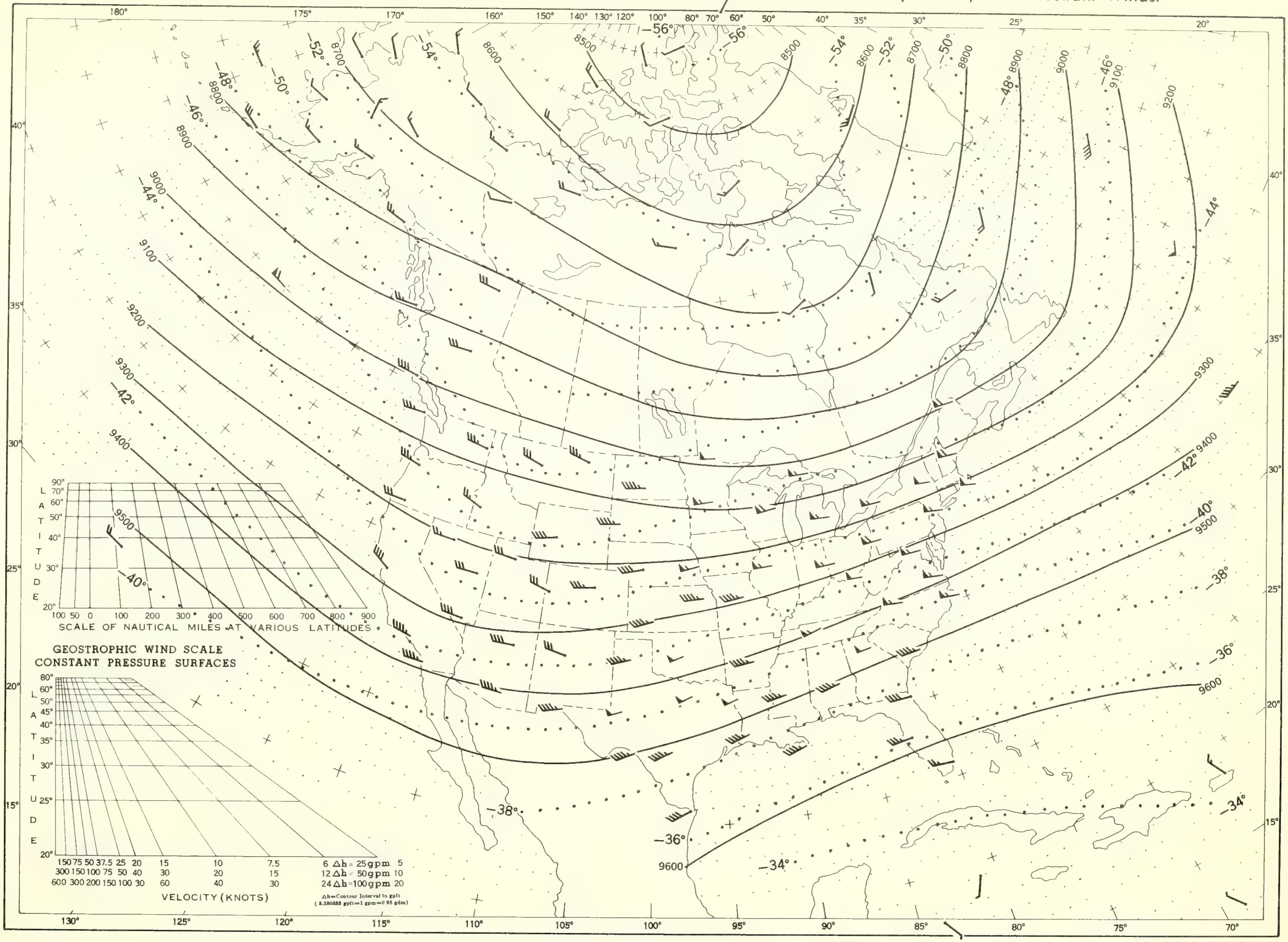
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, November 1964. Average Height and Temperature, and Resultant Winds.



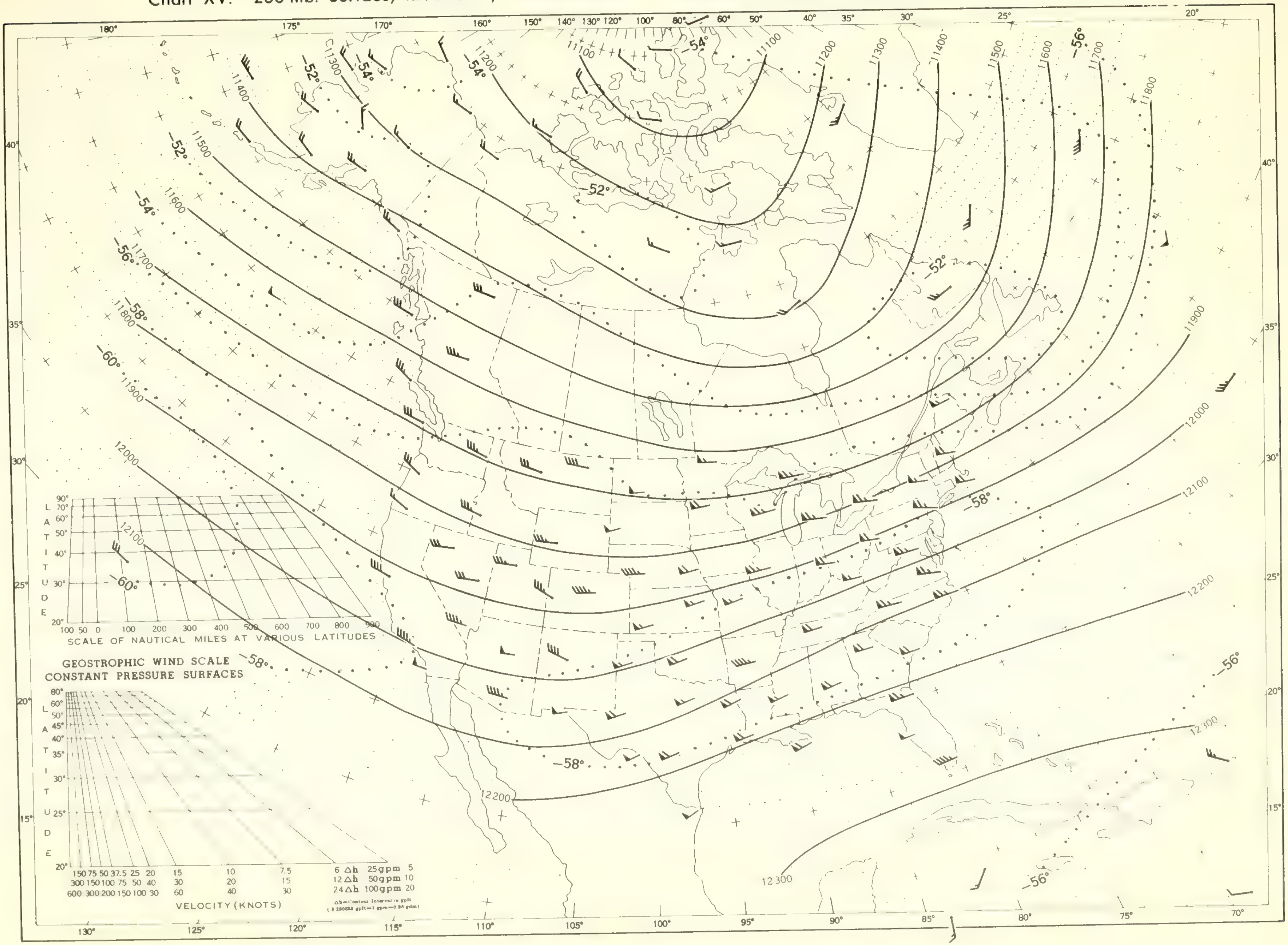
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, November 1964. Average Height and Temperature, and Resultant Winds.



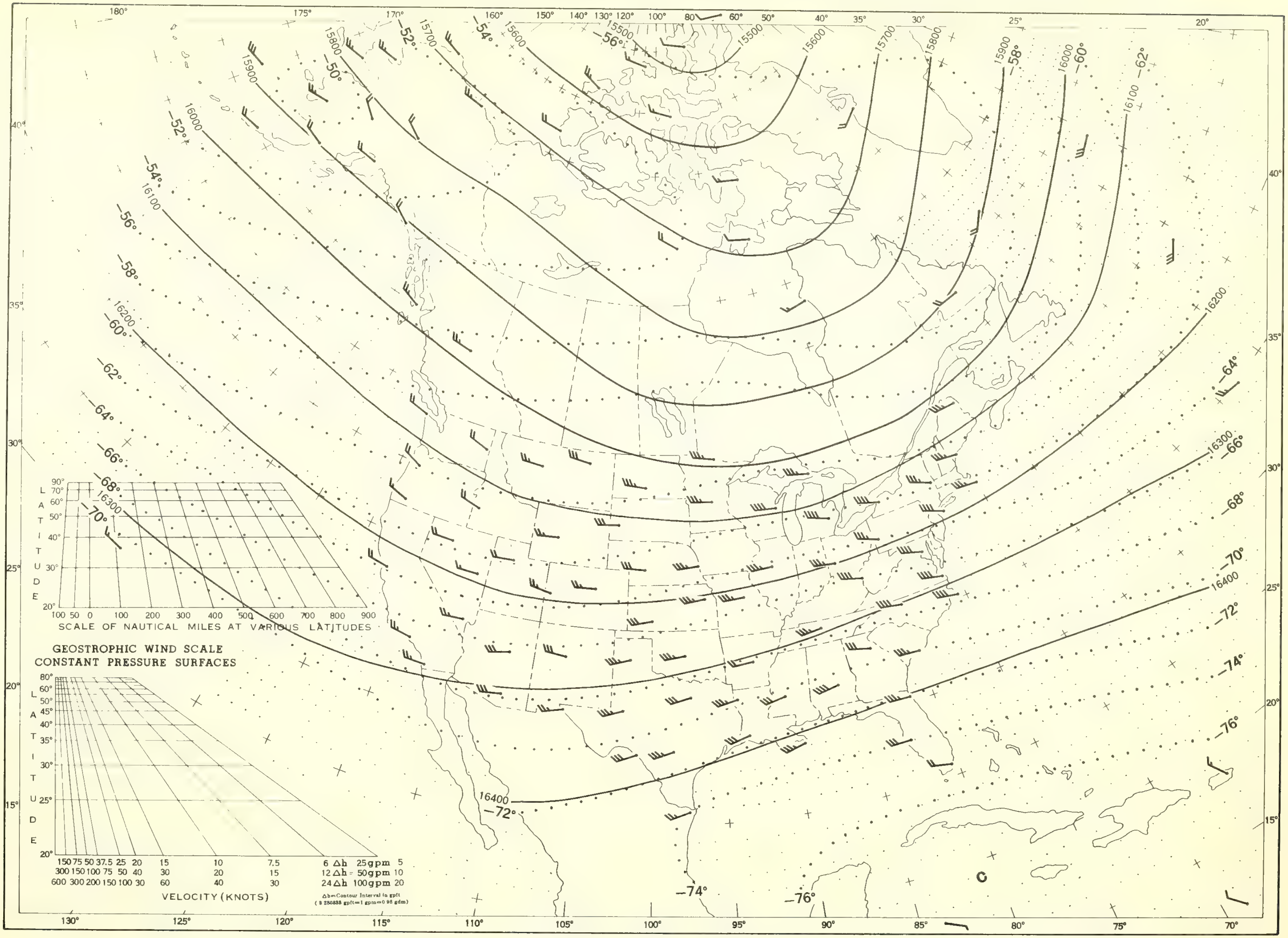
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, November 1964. Average Height and Temperature, and Resultant Winds.



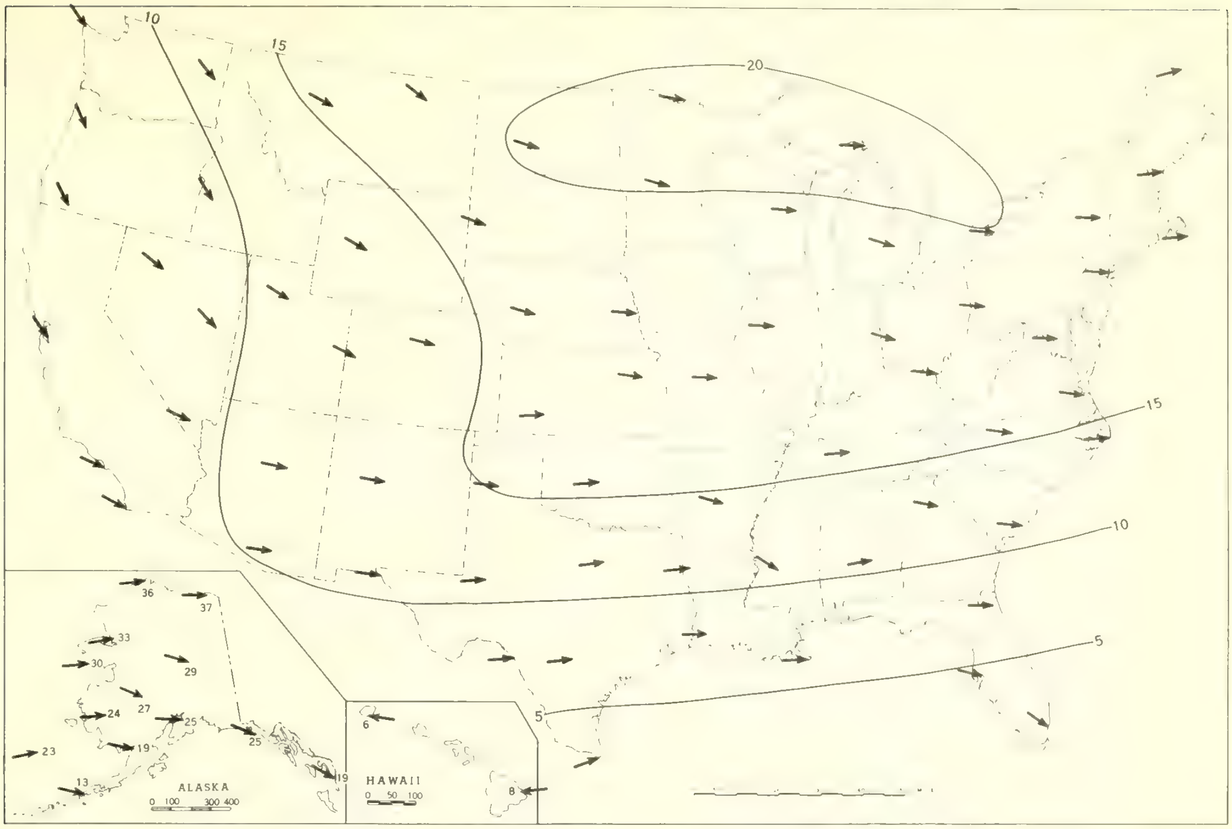
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, November 1964. Average Height and Temperature, and Resultant Winds.

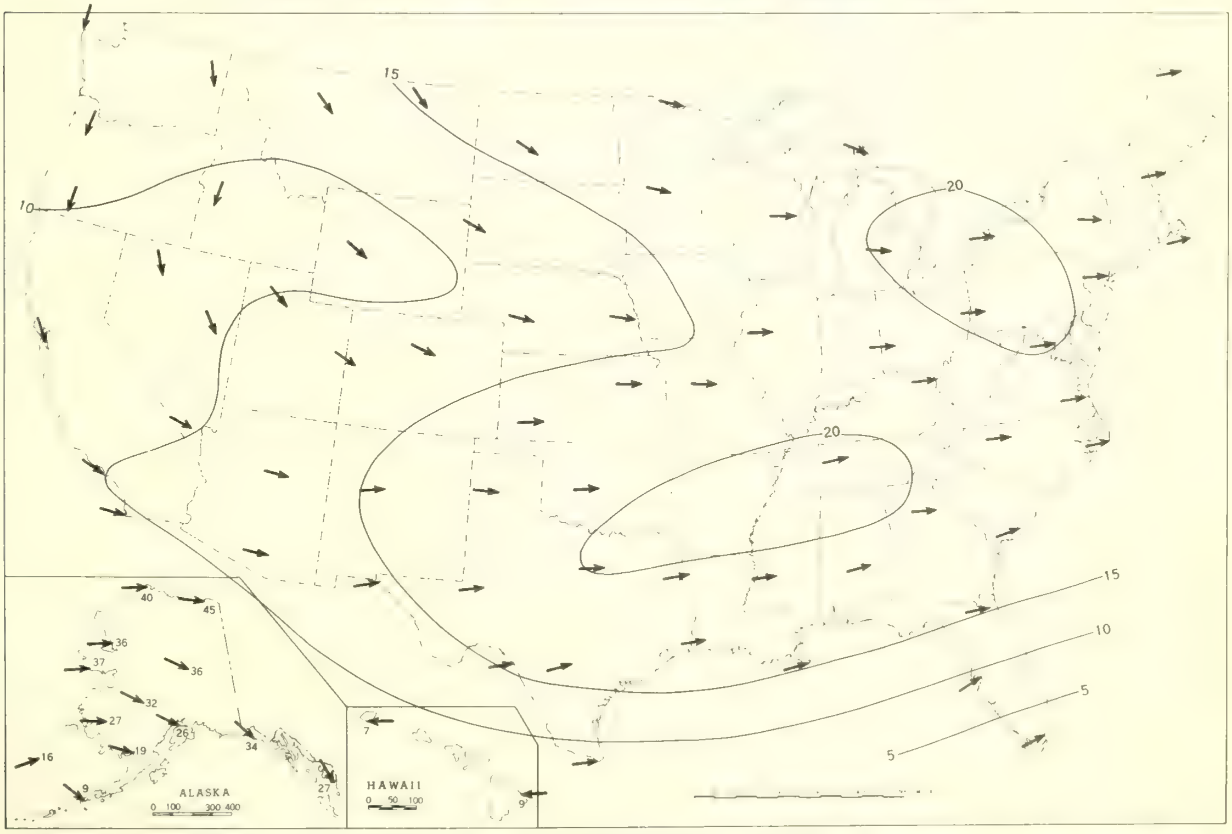


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, November 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, November 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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DECEMBER 1964
Volume 15 No. 12

ASHEVILLE: 1965

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 12

DECEMBER 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

The two outstanding weather events in December 1964 were the blizzard over the northern Great Plains and the heavy rain and melting snow in western Oregon and northern California that produced severe flooding and drove thousands of persons from their homes.

TEMPERATURE.--Winter held its grip over the northern Great Plains during most of the month. The cold during the first week extended to the Gulf of Mexico. Gradual warming occurred over the East during the second week but the cold intensified over the Great Basin and the central Rocky Mountains. As the arctic air poured southward across the Great Plains, strong winds, blowing snow, and falling temperatures combined in one of the worst blizzards in many years. Temperatures dropped to zero or lower in 18 States on Thursday morning, December 17, and 11 States registered subzero readings in the afternoon. The cold wave brought the season's coldest weather from the Texas Panhandle to the Lower Rio Grande Valley. A chinook on December 23 warmed the temperatures into the 80's in the northern Kansas area before a cold front brought subfreezing weather back to the area. Temperatures for the month averaged below normal from Washington to Michigan and over the Great Plains as far south as northern Texas. The Far Southwest also averaged cooler than normal. Temperatures averaged above normal over most other parts of the Country. Much of Montana and North Dakota averaged more than 10° below seasonal.

December 1964 was the coldest December in several decades over the northern Great Plains. In contrast, it was the warmest December of record at Las Vegas, Nev. Temperatures averaged near normal over the southern Great Plains although record high temperatures were recorded on a few days. Concordia, Kans., registered 82° on the 23d and Corpus Christi, Tex., registered 89° on the 25th. These temperatures exceeded any previous December temperatures of record for those stations. Most eastern States recorded that December 1964 was the mildest December in several years.

PRECIPITATION.--Heavy snow fell from the Oklahoma Panhandle to northern Indiana during the first week of December. Sleet and freezing rain iced the highways south of the snow belt. Heavy rains up to 8 inches or more fell in sections from Louisiana to Georgia and northern Florida. Two inches or more occurred along the Gulf coast of Texas and over the lower Mississippi River Valley in the second week. The Alexandria, La., vicinity received more than 6 inches during the week. Snow fell over the Far Northwest and from the Rocky Mountains to New England during the third week of December. The heaviest snow fell in the higher elevations of Washington and Oregon. The snow over the northern Great Plains was accompanied by strong winds and falling temperatures, resulting in a severe blizzard. Heavy rains fell over western Oregon and northern California during the latter part of December. More than 10 inches fell at some Oregon locations and some California communities received from 10 to 30 inches. The heavy rains and the runoff from melting snowpack produced serious flooding and soil erosion.

CONDENSED CLIMATOLOGICAL SUMMARY

DECEMBER 1964

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			*In.*		*In.*
Alabama	Russellville 2	85	25	Waterloo	9	18	Dothan FAA AP	13.72	Gulf Shores P.O.	1.26
Alaska	Lincoln Rock Light Sta	56	6	Tok	-70	14+	Little Port Walter	33.51	Hughes	.00
Arizona	Bartlett Dam	84	1	Maverick	-11	5	Tonto Creek Fish Htchy	4.42	2 Stations	.00
Arkansas	2 Stations	80	24+	Gravette	-3	18	Star City 4ENE	8.29	Ratcliff	.59
California	Indio US Date Garden	89	1	White Mountain 2	-12	31	Branscomb 2NW	48.07	15 Stations	.00
Colorado	Bonny Dam	79	24	Sugar Loaf Reservoir	-45	30	Wolf Creek Pass 1E	10.25	4 Stations	.00
Connecticut	4 Stations	64	26+	Coventry	-9	8	Norwich Pub Util Plt	6.00	Bridgeport WBAP	2.24
Delaware	Dover	74	26	Selbyville	[illegible]	16	Wilmington Porter Resvr	5.54	Georgetown 5SW	2.34
Florida	Clewiston US Engineer	90	6	De Funiak Springs	22	16+	Wewahitchka	14.68	Nittaw 1S	.30
Georgia	2 Stations	82	26+	Blairsville Exp Sta	8	1	Alapaha Exp Station	13.57	Savannah Beach	2.83
Hawaii	Hilo WBAP	90	21	Mauna Loa Slope Obs.	30	23+	PH Wainiah 1115	29.04	Halepohaku 111	1.90
Idaho	3 Stations	69	22	Island Park Dam	-51	17	Deadwood Dam	16.61	Dubois 34W	.49
Illinois	do	67	24	Rockford WBAP	-10	6	2 Stations	4.65	Gladstone Dam 18	.50
Indiana	Evans Landing Dam 43	71	24	2 Stations	-6	9	Charlestown Ord. Plant	5.81	Terre Haute 8S	1.25
Iowa	Norwich Exp Farm	73	23	Sibley	-23	26	Waterloo WBAP	1.93	Greenfield	.17
Kansas	Winona	86	24	Oberlin	-13	18	La Cygne	2.32	Lenora	.00
Kentucky	Benton 2	76	24	3 Stations	2	18+	Greensburg	8.56	Elkhorn City	2.54
Louisiana	Franklinton 3SW	86	31	4 Stations	19	16+	Oberlin Fire Tower	9.64	Golden Meadow 9NW	.58
Maine	St Francis	58	27	Haynesville	-25	8	Jonesboro	8.39	St Francis	1.79
Maryland	Baltimore WB City	74	26	Oakland 1SE	-7	19	Elkton	5.62	Hancock Fruit Lab	2.07
Massachusetts	Sandwich	68	25	West Medway	-10	10	Nantucket WBAP	6.40	Turners Falls	3.18
Michigan	2 Stations	56	24	2 Stations	-24	27	Eagle Harbor Coast GD	3.32	Harrison	D .57
Minnesota	do	44	11	Crane Lake Ranger Sta	-37	27	Cotton 11E	D 2.10	Springfield 1NW	.21
Mississippi	Columbia	82	25	Ripley	11	18	Montrose	10.53	Standard	2.50
Missouri	Hermitage	74	23	Maryville 2E	-11	1	Portageville	5.81	Bolivar	.25
Montana	Yellowtail Dam	62	23	West Yellowstone	-52	17	Essex	9.72	Ballantine	.07
Nebraska	Beaver City	84	23	Alliance	-33	17	Ellsmere 9ENE	1.17	9 Stations	T
Nevada	Sunrise Manor Las Vegas	74	25	Charleston	-42	17	Mt Rose Highway Sta	33.03	2 Stations	.00
New Hampshire	2 Stations	65	26+	3 Stations	-16	8	Center Harbor	4.38	Northwood	2.37
New Jersey	3 Stations	70	26+	Layton 2	1	19	Bound Brook 2W	6.19	Atlantic City	2.62
New Mexico	Valmora	82	24	Gavilan	-35	13	Chama	2.87	Kelly Ranch	.00
New York	NY Westerleigh Stat Is	70	25	Paul Smiths	-19	16	Slide Mountain	6.82	Paul Smiths	.98
North Carolina	Hot Springs 2	79	25	Banner Elk	1	1	Lake Toxaway 2SW	10.24	Cedar Island	1.34
North Dakota	Amidon	44	11	Dickinson Exp Station	-35	17	Hankinson RR Station	1.58	Medora 22NNW	T
Ohio	Ironton	73	24	Paulding 1NE	-9	10	Wills Creek Dam	6.42	2 Stations	1.37
Oklahoma	Idabel	80	23	Goodwell	-5	5	Signal Mountain Tower	3.10	do	.00
Oregon	Adrian	71	22	Minam 7NE	-38	17	Illahe 2N	41.43	Adrian	1.71
Pennsylvania	Newell	70	25	2 Stations	-4	16+	Sagamore 1S	6.95	Kegg	1.33
Puerto Rico	4 Stations	91	27+	Cayey 1E	48	30	Rio Banco Upper	11.25	5 Stations	.00
Rhode Island	2 Stations	63	25	2 Stations	7	10+	Block Island WBAP	6.61	Kingston	4.45
South Carolina	3 Stations	79	26+	do	10	1	Little Mountain	8.21	Darlington	2.20
South Dakota	Cedar Butte	66	23	Belle Fourche 29NNW	-42	16	Hill City 1E	2.48	Ludlow 2NW	.11
Tennessee	Franklin Sewage Plant	79	24	3 Stations	4	19+	Linden 2	10.78	Bristol WBAP	2.48
Texas	5 Stations	92	26+	Lipscomb	-3	5	Port Arthur	8.25	3 Stations	.00
Utah	Callao	71	23	Strawberry Hwy Station	-28	7	Silver Lake Brighton	12.95	Sandy Ranch	.18
Vermont	Dorset 1S	67	25	West Burke	-17	8	2 Stations	4.82	Huntington Center	1.57
Virginia	Diamond Springs	76	27	Wise 1SE	-1	1	Pennington Gap	5.44	Allisonia	1.61
Washington	Whitman Mission	64	23	Chesaw 4NNW	-37	16	Cougar 6E	30.11	Oroville 1S	1.12
West Virginia	Corton	79	24	Canaan Valley	-10	19	Rowlesburg 1	6.97	Mathias	1.75
Wisconsin	2 Stations	44	16+	Brule Island	-31	27	Drummond	2.91	El Dorado	.19
Wyoming	Pine Bluffs	74	23	Lamor Ranger Station	-51	17	Bondurant 3NW	9.08	Jeffrey City	.05

+ And also on an earlier date or dates

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	620	995.8	1021.7	57	39	48.0	0.7	77	24	19	1	0	9	41	77	5.09	0.07	1.72	12	3	T	0	8.2	15	36	SW	24	8	4	19	7.0	40
HUNTSVILLE	600	997.4	1021.2	53	35	44.0	0.4	75	24	13	18	0	13	36	73	3.45	-1.46	1.40	10	2	T	T	9.4	12	38*	24	24	7	3	21	7.1	
MOBILE	211	1018.3	1020.6	64	44	54.2	0.1	78	26	24	1	0	7	47	81	4.12	-1.34	1.40	10	3	0.0	0	11.6	2	29*	22	24	5	9	17	7.1	
MONTGOMERY	195	1013.3	1021.7	61	40	50.4	2.2	77	24	22	1	0	11	42	74	5.29	0.48	1.88	10	4	0.0	0	8.0	36	34	S	24	7	6	18	6.9	41
ALASKA												8																				
ANCHORAGE	143	1005.8	1011.2	9	-7	1.0		27	4	-30	14	0	31	-7	67	0.64		0.22	6	0	16.2	19	8.4	36	41*	5	22	13	5	13	5.1	58
ANNETTE	110	1001.3	1005.4	31	21	26.0	-10.0	48	5	1	15	0	26	20	79	9.81	-2.30	1.74	21	0	44.8	31	11.6	7	39*	16	7+	4	6	21	7.8	
BARROW	22	1022.5	1023.2	-16	-29	-22.6	-11.4	23	20	-44	26	0	31	-33	59	0.17	0.00	0.13	3	0	2.4	12	11.1	30	33*	31	21	Z	Z	Z		
BARTER ISLAND	39	1020.8	1022.8	-18	-29	-23.2	-12.8	23	21+	-43	5	0	31	-33	58	0.45	0.16	0.22	6	0	4.5	14	14.7	27	44*	28	11	Z	Z	Z		
BETHEL	125	1017.7	1019.3	6	-11	-3.0	-7.8	32	29	-31	12	0	31	-9	72	0.72	-0.30	0.18	12	0	8.3	12	12.6	4	36*	19	29	10	7	14	5.9	
COLD BAY	94	1012.3	1016.4	34	26	30.3	1.5	45	16	16	9	0	25	26	83	1.31	-1.28	0.57	15	0	9.1	12	13.8	35	36*	30	26+	4	4	23	8.0	
FAIRBANKS	436	1002.9	1021.9	-18	-35	-26.5	-18.8	8	4	-56	14	0	31	-30	75	0.34	-0.20	0.10	10	0	14.0	23	2.2	36	18*	24	24	4	8	19	7.2	
JUNEAU	12	1007.0	1007.8	24	10	16.6	-11.8	48	7	-15	30+	0	26	8	72	5.22	1.00	2.33	19	0	54.7	20	11.9	12	45*	13	7	6	2	23	7.9	30
KING SALMON	43	1014.9	1014.9	12	-7	2.8	-10.4	35	3+	-28	31	0	31	-6	67	1.02	0.00	0.53	11	0	10.7	10	8.8	36	32*	4	3	13	4	14	5.2	
KOTZEBUE	10	1021.3	1022.0	-6	-19	-12.3	-8.7	21	21	-40	10	0	31	-19	69	0.39	0.10	0.28	6	0	5.4	16	15.3	11	52*	11	29	13	8	10	4.7	
MC GRATH	334	1006.9	1021.2	-14	-30	-21.7	-14.7	12	24	-55	11	0	31	-32	58	0.30	-0.71	0.11	5	0	14.2	20	2.9	30	18*	27	24	9	10	12	6.2	
NOME	13	1019.3	1020.4	5	-10	-2.5	-8.8	22	23	-31	11	0	31	-10	71	0.64	-0.35	0.42	6	0	7.4	12	12.7	8	52*	9	29	15	5	11	4.5	45
ST. PAUL ISLAND	22	1015.2	1016.5	34	26	29.6	3.2	41	19+	10	9	0	23	27	87	2.24	0.41	0.54	20	0	6.5	10	20.7	2	55*	10	11	2	1	28	9.0	
SHEMYA	122	1003.5	1007.1	37	32	34.5	3.1	42	10	24	7	0	19	31	86	3.67	1.53	1.04	21	0	15.9	2	25.5	20	69*	16	10	0	1	30	9.5	
YAKUTAT	28	1004.0	1004.2	25	6	15.8	-12.3	47	7+	-24	30	0	29	8	72	11.55	-0.72	3.32	15	0	36.1	22	6.2	7	24*	13	6	11	2	18	6.1	
ARIZONA																																
FLAGSTAFF	6993	788.8	1018.4	42	19	30.3	-0.1	55	22	1	30	0	29	19	68	2.74	1.09	1.35	8	0	13.7	6	8.2	20	25*	19	27	13	4	14	5.5	
PHOENIX	1117	977.2	1017.1	64	40	52.0	0.4	69	2+	31	16	0	2	34	58	1.09	0.24	0.67	3	1			5.8	12	31Y	W	28	13	4	14	5.4	79
PRESCOTT	5014	847.0	1018.6	51	26	38.7	-0.6	63	22	11	14	0	23	23	60	0.99	-0.01	0.75	5	0	4.0	3	7.4	19	47	SW	27	12	6	13	5.4	67
TUCSON	2584	927.0	1016.0	65	40	52.4	0.5	74	24+	32	13+	0	2	31	52	0.81	-0.11	0.62	2	1			8.5	14	34	SE	14	12	3	16	5.7	81
WINSLOW	4880	851.9	1020.3	48	21	34.8	2.3	63	1	3	14	0	26	21	64	0.37	-0.15	0.31	4	0	3.5	3	7.7	23	35*	24	28	11	8	12	5.5	
YUMA	194	1011.1	1017.1	68	43	55.8	-1.2	79	24	30	15	0	2	33	48	0.09	-0.23	0.09	1	0			7.6	36	27	S	27	13	7	11	5.3	74
ARKANSAS																																
FORT SMITH	449	1001.6	1019.1	53	29	41.1	-1.2	74	23	8	18	0	18	30	70	1.41	-1.41	0.70	6	2	T	T	8.3	7	23	NW	24	10	6	15	5.9	55
LITTLE ROCK	257	1006.4	1019.9	54	34	43.9	2.0	77	23	13	18	0	16	35	74	4.37	0.28	2.89	7	2	0.2	T	8.7	25	32	S	2	7	4	20	7.2	32
TEXARKANA	372	1005.7	1019.5	58	37	47.7	0.8	80	23	19	18	0	14	38	71	3.07	-1.48	1.75	7	2	0.1	T	8.2	18								
CALIFORNIA																																
BAKERSFIELD	494	1002.2	1020.1	60	42	50.7	1.9	75	24	26	13	0	5	43	76	0.70	-0.27	0.37	10	0	0.0	0	6.8	34	23*	16	19	1	11	19	7.6	
BISHOP	4108	874.0		55	25	39.8	0.5	73	23	9	30+	0	26			0.24	-0.94	0.13	5	0	0.5	T						11	7	13	5.6	
BLUE CANYON	5280	835.3		42	31	36.4	-3.9	53	13	12	31	0	20			41.56	31.32	9.33	21	0	61.2	40	10.9		38*	18	22	6	4	21	7.8	
BURBANK	724	991.8	1018.0	63	45	53.5	-2.1	74	14	34	29	0	0	40	67	1.23	-1.48	0.63	9	0	0.0	0	6.5	15	22*	33	24	8	9	14	6.0	
EUREKA U	43	1014.5		53	44	48.5	-0.4	65	22	32	31+	0	2			10.96	4.25	2.31	23	3	0.3	T	9.6		42	SW	22	4	5	22	8.1	32
FRESNO	328	1008.0	1020.1	57	41	49.0	2.0	70	24+	30	18	0	4	45	87	2.63	0.66	0.53	13	1	0.0	0	6.1	12	25	SE	19	1	7	23	8.4	38
LONG BEACH	34	1017.2	1018.7	61	47	53.8	-2.2	74	14	35	8	0	0	44	74	1.43	-0.54	0.63	8		0.0	0	6.1	10	21*	26	28+	8	7	16	6.6	
LOS ANGELES	97	1014.9	1018.8	62	48	55.2	-1.7	74	14	39	29	0	0	46	76	1.95	-0.44	0.86	7	0	0.0	0	7.8	11	23Y	32	28	8	7	16	6.6	
MT SHASTA R	3544	890.5		42	30	35.9	0.0	56	23	9	31	0	19			13.03	6.81	4.80	22	0	31.7	17						4	3	24	7.9	
OAKLAND	6	1018.7	1019.1	56	48	52.3	2.8	62	23+	38	31+	0	0	46	78	5.31	1.73	0.92	23	0	0.0	0	9.4	17	29*	16	19	6	6	19	7.5	
RED BLUFF	341	1003.9	1016.9	56	43	49.5	2.4	67	24+	27	13	0	3	41	74	4.49	0.28	1.58	18	0	0.0	0	12.0	16	49	S	21	6	7	18	7.0	46
SACRAMENTO	17	1017.8	1019.2	56	43	49.7	3.3	66	23+	31	13	0	1	44	82	6.03	2.79	2.04	21	0	0.0	0	9.0	16	30	S	26+	5	8	18	7.3	42
SACRAMENTO U	19			57	45	51.0	3.7	66	24+	32	13	0	1			5.69	2.14	1.89	20		0.0	0										
SANDBERG R	4517	863.5		45	35	40.0	-2.7	57	24+	21	31	0	13			1.23	-1.26	0.65	10	0	1.0	1	16.2		38*	31	22	3	8	20	7.7	
SAN DIEGO	13	1015.0	1018.4	63	48	55.6	-1.5	70	14+	38	14	0	0	44	71	1.17	-0.88	0.72	4	0	0.0	0	5.9	18	24	SW	28	7	9	15	6.8	59
SAN FRANCISCO	8	1018.5	1019.3	56	46	51.3	1.2	64	22	36	14	0	0	45	82	5.42	1.33	1.16	22	0	0.0	0	10.4	29	35	SW	22	6	3	22	7.6	
SAN FRANCISCO U	52			57	50	53.7	1.2	65	22	40	31	0	0			5.35	1.08				0.0	0	8.2	SW#	35	SW	22					
SANTA CATALINA	1568	961.9		58	49	53.7	-2.4	68	14	41	31	0	0			0.95	-1.62	0.54	7	0	0.0	0						5	8	18	7.0	
SANTA MARIA	238	1010.6		61	43	52.0	-0.4	72	8	28	13	0	4			1.34	-1.24	0.34	12	0	0.0	0						11	6	14	5.9	
STOCKTON	22	1018.1	1019.7	57	44	50.1	4.2	67	23	28	13	0	3	44	82	5.33	2.67	1.38	17	1	0.0	0	9.6	16	33*	16	19	3	5	23	8.1	
COLORADO																																
ALAMOSA	7536	768.8		23	-10	6.7	-12.5	47	23	-42	14	0	31			1.52	1.27	0.93	8	0	27.0	18						10	11	10	5.4	
COLORADO SPRINGS	6145	805.7	1014.3	45	21	32.8	1.1	71	23	-4	17	0	27	11	46	0.22	-0.02	0.17	4	0	4.9	4	10.3	2	43*	34	24	11	5	15	5.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	F.	F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
DENVER	5283	832.4	1012.5	46	20	33.2	1.6	71	23	-8	17	0	27	15	54	0.40	-0.07	0.13	8	0	4.4	1	9.2	20	43	SW	15	9	7	15	5.9	73
GRAND JUNCTION	4855	859.6	1019.5	39	22	30.4	1.3	58	27	8	15	0	28	19	67	0.53	-0.04	0.31	7	0	3.0	2	5.3	13	30	NW	24	8	6	17	6.4	49
PUEBLO	4684	853.1	1014.5	51	20	35.5	2.3	77	23	-7	18	0	27	13	44	0.08	-0.22	0.06	3	0	0.9	T	11.8	29	70	W	15	11	8	12	5.5	75
CONNECTICUT																																
BRIDGEPORT	7	1018.0	1021.0	41	28	34.1	0.9	59	25	13	19	0	20	28	79	2.24	-1.27	0.54	12	0	3.9	3	12.8	31	52*	33	1	9	7	15	6.3	
HARTFORD	169	1014.0	1020.2	37	22	29.7	0.8	64	25	-3	8	0	27	23	78	4.51	1.04	1.29	17	0	12.3	8	8.1	36	42	NW	31	7	7	17	6.9	40
NEW HAVEN	6	1019.9		41	27	33.9	1.5	61	25	13	8	0	22			4.56	0.54	1.46	14	0	5.7	4	8.5		38	NW	31+	10	6	15	6.3	48
DELAWARE																																
WILMINGTON	78	1017.7	1021.0	45	30	37.3	2.2	70	26	13	19	0	20	30	77	4.70	1.67	1.53	9	1	1.6	1	9.1	29	29*	30	31+	8	6	17	6.6	
DIST.OF COLUMBIA																																
WASHINGTON U	72			47	33	40.4		71	25	19	19	0	15			3.11																
WASH NATL AP	14	1016.5	1020.9	48	32	39.9	1.8	72	25	15	19	0	16	30	71	2.87	0.09	1.02	8	0	0.5	1	9.3	18	38	NNW	18	8	5	18	6.8	40
FLORIDA																																
APALACHICOLA U	13	1019.0		64	51	57.3	1.5	73	3	30	1	0	1			6.14	3.18	3.09	9	5	0.0	0	7.4					5	10	16	6.7	44
DAYTONA BEACH	31	1020.4	1022.1	72	54	62.9	2.6	83	4	37	1	0	0	56	80	2.52	0.57	1.86	6	4	0.0	0	8.1	18	24*	3	18+	9	11	11	5.8	
FORT MYERS	15	1019.6		79	58	68.4	3.4	85	26+	40	1	0	0			1.06	-0.23	1.06	1	0	0.0	0	9.9		25*	27	27+	9	14	8	5.4	
JACKSONVILLE	24	1019.8	1021.6	69	50	59.5	3.4	81	13	30	1	0	1	52	79	4.83	2.61	2.33	9	4	0.0	0	9.1	34	35	NE	19	4	13	14	6.7	53
KEY WEST	4	1018.2	1019.3	78	70	73.9	3.3	83	4	61	1	0	0	68	83	3.59	1.90	2.76	10	3	0.0	0	13.1	5	27	E	2	10	10	11	5.5	54
LAKELAND U	214			74	55	64.3	1.9	83	4	36	1	0	0			2.05	0.19	1.36	5	5	0.0	0	7.6					13	7	11	5.5	60
MIAMI BEACH	9			76	68	72.1	1.8	85	18	49	1	0	0			2.29	0.51	1.20	6	0	0.0	0						5	15	11	6.0	
MIAMI	7	1018.7	1019.9	78	67	72.2	4.1	83	5+	49	1	0	0	64	76	6.24	4.57	4.38	5	2	0.0	0	10.2	9	29*	29	5	4	14	13	6.5	
ORLANDO	108	1017.1	1021.8	74	55	64.4	3.5	81	25	38	1	0	0	56	78	1.91	0.02	1.55	5	2	0.0	0	9.2	36	23*	13	11+	11	7	13	5.3	
PENSACOLA	112			65	47	55.6	1.3	78	4	27	1	0	4			5.27	1.05	4.52	12	3	0.0	0	9.4		40	S	24					55
TALLAHASSEE	58	1019.2	1021.9	66	45	55.7	1.6	78	23	26	2	0	7	48	80	12.65	9.21	9.26	11	5	0.0	0	9.2	18	30*	19	4	6	7	18	6.9	
TAMPA	19	1019.1	1020.7	73	53	63.2	0.9	81	11+	32	1	0	1	54	77	3.19	1.30	2.02	4	2	0.0	0	11.4	6	25*	2	15	12	7	12	5.6	71
WEST PALM BEACH	15	1019.5	1020.6	77	63	70.4	2.2	83	5+	47	1	0	0	62	76	3.39	0.82	1.65	7	3	0.0	0	10.9	7	27*	7	19	8	10	13	6.0	
GEORGIA																																
ATHENS	802	992.4	1022.0	57	38	47.6	3.0	77	24	16	1	0	11	39	75	3.68	-0.85	1.19	12	3	0.0	0	7.6	6	21*	21	24+	9	2	20	6.9	
ATLANTA	1005	978.4	1021.9	56	37	46.5	2.4	72	24	18	1	0	12	38	77	4.93	0.55	1.50	13	3	T	T	8.2	8	30	NW	18	8	6	17	6.7	53
AUGUSTA	143	1015.0	1021.9	62	40	50.9	3.7	80	26+	21	2+	0	9	42	77	3.90	0.57	1.25	9	3	0.0	0	7.0	18	25*	33	26	7	8	16	6.8	
COLUMBUS	385	1007.2		62	41	51.5	3.8	78	24	21	1	0	11			6.64	2.08	3.53	12	4	0.0	0			35*	22	26	6	7	18	6.8	
MACON	354	1008.2	1022.1	62	40	50.6	1.6	77	24	18	1	0	9	43	80	5.74	1.69	2.68	10	3	0.0	0	7.6	33	35	SW	26	7	7	17	6.8	45
ROME	637	998.3		55	34	44.9	2.5	77	24	13	19	0	13			4.21	-0.92	1.67	14	3	0.0	0									6.2	
SAVANNAH	46	1019.8	1022.4	65	43	53.7	2.3	78	26	25	2+	0	6	45	75	4.16	1.35	3.47	8	2	0.0	0	7.8	18	25	N	18	5	10	16	6.9	56
HAWAII																																
HILO	31	1013.5	1014.7	82	65	73.2	1.7	90	21	60	18	1	0	65	79	9.65	-5.53	2.37	22	4	0.0	0	8.9	24	31*	16	9	8	12	11	6.0	35
HONOLULU	7	1013.4	1013.8	80	70	74.9	1.3	84	8	64	17+	0	0	65	73	5.57	2.58	1.96	15	3	0.0	0	8.4	6	33	SW	19	5	10	16	6.7	74
KAHULUI	48	1010.4	1013.6	80	65	72.2	-0.5	85	27+	58	7	0	0	66	84	3.66	0.96	0.87	11	2	0.0	0	9.7	6	44	NE	16	12	7	12	5.4	64
LIHUE	115	1008.7	1014.5	77	69	73.0	0.8	81	23	60	17+	0	0	67	83	6.08	0.90	1.81	20	4	0.0	0	10.4	6	36	SW	21	8	7	16	6.4	47
IDAHO																																
BOISE	2838	917.6	1015.4	42	28	35.2	3.0	65	22	1	17	0	21	27	72	3.19	1.87	0.78	17	1	8.7	2	9.5	13	40	SW	20	4	2	25	8.0	36
IDAHO FALLS 42NW R	4790			31	10	20.1	1.3	51	24	-32	17	0	29			2.43	1.82	0.74	14				7.0		35A	SW	20					
IDAHO FALLS 46W R	4933	843.9		32	12	22.0	1.2	51	22	-33	17	0	27			3.43	2.84	1.18	16	0	12.8	4	9.8		40A	SSW	20					
LEWISTON	1413	960.5		39	24	31.5	-3.4	57	22	-11	17	0	23			3.28	1.91	0.72	15	0	16.2	7						3	4	24	8.4	
POCATELLO	4454	860.0	1016.4	37	22	29.1	1.7	59	23	-15	17	0	22	22	74	2.95	1.95	0.84	20	0	6.9	2	15.1	18	41	SW	23	3	7	21	8.2	26
ILLINOIS																																
CAIRO U	314	1006.5		47	32	39.8	0.3	67	24	8	18	0	18			4.15	0.48	1.56	10	2	T	T	10.5	S#	33	SW	24	5	7	19	7.4	32
CHICAGO O HARE	658	993.0	1018.7	33	17	24.7	-2.7	48	23	-3	6	0	28	20	82	1.51	-0.32	0.36	13	0	11.1	7	10.5	18	32*	5	4	9	0	22	7.2	
CHICAGO MIDWAY	607	995.2	1019.1	34	21	27.4	-1.7	48	23	2	18	0	27	21	78	1.87	-0.03	0.46	12	0	13.4	10	11.7	18	29	S	22+	6	3	22	7.5	36
MOLINE	582	996.6	1019.3	32	17	24.8	-2.1	50	23	-4	27	0	28	19	77	1.27	-0.38	0.37	13	0	11.7	7	10.6	29	27	NW	14	8	1	22	7.1	33
PEORIA	652	995.9	1019.2	33	19	25.7	-3.4	50	23	-1	18	0	27	21	81	1.12	-0.82	0.35	12	0	7.2	6	10.4	18	29	N	4	7	2	22	7.5	27
ROCKFORD	728	990.2	1018.5	31	14	22.9	-2.7	43	29+	-10	6	0	28	19	79	0.91	-0.79	0.23	10	0	10.3	8	11.5	18	24*	3	4	9	3	19	6.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

DECEMBER 1964

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
SPRINGFIELD	588	995.0	1019.2	37	22	29.4	- 2.6	54	23	1	18	0	27	24	79	1.01	- 0.88	0.28	11	0	1.6	2	12.7	16	26	NW	24+	5	6	20	7.5	36
INDIANA																																
EVANSVILLE	381	1004.0	1020.4	45	27	36.3	0.2	69	24	6	18	0	23	31	80	4.09	1.01	1.70	10	1	T	T	7.8	18	25	NW	24+	5	4	22	7.7	29
FORT WAYNE	791	987.1	1019.5	37	19	27.9	- 0.5	57	24	- 5	9+	0	27	24	80	1.77	- 0.32	0.48	16	0	7.9	6	10.9	21	30	W	14	2	6	23	8.6	25
INDIANAPOLIS	793	988.5	1019.5	40	25	32.2	1.1	62	24	1	18	0	26	27	82	3.05	0.37	1.54	13	0	1.1	1	10.4	22	29	SW	16	2	6	23	8.4	28
SOUTH BEND	773	989.7	1018.7	35	20	27.5	- 1.2	52	24	4	1	0	28	24	85	2.54	0.35	0.68	19	0	18.5	9	12.2	23	28*	30	14	1	5	25	8.7	
IOWA																																
BURLINGTON	694	992.8	1019.5											20	76								11.5	31	32	NW	24					
DES MOINES	938	986.6	1019.2	32	15	23.3	- 2.2	59	23	- 9	17	0	29	18	79	0.87	- 0.27	0.61	9	0	2.6	2	12.2	32	30	NW	16+	5	10	16	6.8	45
DUBUQUE	1065	992.6		27	13	20.0	- 3.5	40	22	- 8	18+	0	30			1.16	- 0.74	0.32	10	0	9.5	5						8	2	21	7.3	
SIOUX CITY	1095	975.2	1018.6	28	9	18.8	- 6.2	47	11	-13	18	0	31	13	77	0.82	0.08	0.33	11	0	10.1	4	11.0	12	34	NW	24+	7	7	17	6.6	49
WATERLOO	868	984.8	1018.3	27	11	19.1	- 4.1	42	23	-11	27+	0	31	15	83	1.93	0.80	1.35	9	0	4.8	3	11.1	30	32*	29	16	6	3	22	7.4	
KANSAS																																
CONCORDIA	1470	965.0	1017.5	40	18	29.0	- 3.0	82	23	- 5	17	0	30	19	71	0.77	0.06	0.65	4	0	1.4	1	11.5	18	33	N	16	10	8	13	5.8	60
DODGE CITY	2582	926.1	1017.2	42	20	30.9	- 3.8	66	22	- 3	17	0	29	20	71	0.58	0.11	0.36	6	0	5.4	4	14.2	21	37	S	19	6	9	16	6.5	53
GOODLAND	3645	884.9	1015.4	47	14	30.4	0.0	83	23	-10	17	0	29	13	55	0.02	- 0.42	0.02	2	0	0.8	1	13.2	23	38*	18	18	10	7	14	5.7	
TOPEKA	876	981.3	1018.4	39	20	29.8	- 3.6	60	23	- 1	17	0	29	21	73	0.94	- 0.45	0.46	4	1	4.3	4	9.4	18	30	W	19	6	11	14	6.3	53
WICHITA	1321	967.0	1017.5	41	22	31.2	- 4.6	58	28	2	18+	0	28	24	76	1.03	0.09	0.59	3	0	5.4	5	12.0	18	45	N	16	8	7	16	6.5	58
KENTUCKY																																
COVINGTON	869	986.8	1019.4	45	26	35.5	2.2	70	24	2	18	0	23	30	80	4.92	2.17	1.73	13	2	0.9	1	9.0	21	24*	31	17	2	6	23	8.4	
LEXINGTON	979	983.7	1020.3	46	29	37.4	1.5	68	24	4	18	0	20	31	78	6.18	2.73	1.86	14	2	0.7	T	10.9	18	28*	19	16	5	6	20	7.4	
LOUISVILLE	474	1000.3	1019.9	47	29	38.0	1.7	70	24	5	18	0	20	33	80	5.86	2.64	2.21	13	3	0.2	T	9.0	20	35	S	16	2	8	21	8.0	32
LOUISIANA																																
ALEXANDRIA	92	1015.8	1020.3	60	41	50.6	- 0.7	77	31+	23	8+	0	10	44	80	7.30	1.57	6.18	8	3	0.0	0	6.8	18	29*	1	17	4	9	18	7.6	
BATON ROUGE	64	1017.5	1020.7	64	44	53.7	0.0	80	30+	26	1	0	8	45	77	3.24	- 1.86	1.32	8	1	0.0	0	8.9	12	23*	22	24+	4	7	20	7.8	
LAKE CHARLES	14	1018.8	1020.3	63	45	54.2	- 0.4	80	30	29	1	0	2	47	80	5.84	0.08	4.59	9	3	0.0	0	9.8	18	25*	22	24	3	9	19	7.7	
NEW ORLEANS	3	1018.4	1020.7	65	47	56.4	1.0	79	25	29	15+	0	4	50	81	3.10	- 1.00	2.52	8	1	0.0	0	8.6	36	23*	20	24+	3	10	18	7.2	
NEW ORLEANS AUDUBON	6	1013.6		67	48	57.4	0.8	80	30+	29	1	0	1			2.96	- 1.63	2.35	8	1	0.0	0	5.3		17	NW	17	3	13	15	7.1	43
SHREVEPORT	252	1010.9	1020.3	60	40	50.1	0.5	83	25	23	6+	0	12	42	76	2.55	- 2.39	1.72	9	2	T	0	11.4	18	35*	25	24	9	9	13	6.3	50
MAINE																																
CARIBOU	624	994.8		24	9	16.9	1.4	53	26	-13	8	0	28			2.98	0.55	0.91	17	0	37.2	13						7	5	19	7.5	
PORTLAND	61	1017.3	1019.5	33	18	25.3	- 0.5	51	27	- 4	10	0	28	20	80	3.75	- 0.10	0.90	17	0	20.5	12	7.6	36	37	NW	1	6	6	19	7.1	40
MARYLAND																																
BALTIMORE	148	1016.2	1020.9	48	31	39.1	3.3	73	26	15	19	0	19	30	73	3.94	0.95	1.33	10	0	0.8	1	7.9	30	37	NW	18	7	6	18	6.8	45
BALTIMORE U	14			49	35	41.7	2.7	74	26	19	19	0	13			5.04	1.88	1.99	8													
MASSACHUSETTS																																
BLUE HILL OBS R	629	994.2		37	24	30.3	0.3	59	25	9	19+	0	24			6.37	2.41	2.31	16		11.9	6										41
BOSTON	15	1015.1	1020.0	39	26	32.4	- 0.9	60	25	12	8	0	24	25	75	5.08	1.45	2.09	15	0	12.2	5	13.8	32	42*	NW	1	9	5	17	6.7	44
NANTUCKET	43	1019.0	1019.6	44	32	37.9	1.8	54	27	18	19+	0	17	32	80	6.40	2.47	2.07	14	0	3.2	2	13.7	30	49	N	1	5	5	21	7.7	28
PITTSFIELD	1170			35	20	27.5	2.2	61	26	2	8	0	25			4.17	0.92	1.38	20		13.2	6										
WORCESTER	986	981.0	1019.4	36	21	28.4	1.2	60	25	6	8	0	27	23	79	4.92	1.33	1.66	17	0	11.7	8	10.8	22	39*	31	1	6	9	16	6.6	
MICHIGAN																																
ALPENA	689	994.7		30	16	23.2	- 0.9	42	11	- 1	9	0	29			1.52	- 0.32	0.42	18	0	18.2	4	7.3	23	26	W	14	1	6	24	8.5	30
DETROIT	619	991.4	1019.1	36	25	30.4	0.5	56	24	10	18	0	24	24	76	2.19	0.11	0.59	18	0	8.4	5	11.0	18	34	NW	30	6	5	20	7.5	33
DETROIT M WAYNE CO	633	994.4	1019.7	35	21	28.1	- 1.8	54	24	- 1	9	0	24	22	77	1.92	0.00	0.55	15	0	7.2	5	11.2	18				5	5	21	7.6	
DETROIT WILLOW RUN	711	989.3	1018.7	35	22	28.6	- 0.8	54	24	6	9	0	24	24	82	1.74	- 0.24	0.46	15	0	7.4	5	11.3	20	35*	25	14	4	6	21	7.6	
FLINT	766	990.1	1019.2	34	21	27.6	1.7	54	24	- 4	9	0	24	22	78	1.42	- 0.38	0.34	16	0	10.0	6	10.9	21	27*	26	14	5	4	22	7.9	
GRAND RAPIDS	784	991.8	1018.4	33	19	26.0	- 2.0	45	24	- 1	9	0	27	22	84	2.01	- 0.02	0.63	17	0	13.4	5	10.1	18	30	W	30	3	5	23	8.4	24
LANSING	841	985.4	1018.6	33	19	25.9	- 1.6	52	24	-17	6	0	26	24	89	1.62	- 0.37	0.46	17	0	12.3	7	11.2	18	32	W	14	4	5	22	8.2	31
MARQUETTE U	677	989.4		26	16	21.0	- 3.1	40	11	- 5	17	0	30			2.13	0.21	0.69	23	0	27.9	18	8.3	W#	33	S	21	2	7	22	8.5	30
MUSKEGON	627	994.9	1018.8	35	23	28.9	- 1.0	49	23	10	17	0	25	25	86	1.61	- 0.39	0.48	20	0	31.0	7	12.8	16	28*	28	14+	1	3	27	9.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32 F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
SAULT STE MARIE	721	994.1	1017.9	25	10	17.5	- 3.4	40	11	- 9	3	0	29	13	83	3.18	0.90	0.63	22	0	38.6	19	10.4	7	29*	25	18	5	5	21	7.8	32
MINNESOTA																																
DULUTH	1428	974.5	1018.2	19	- 2	8.4	- 5.6	33	12+	-25	27	0	31	3	72	1.79	0.63	0.65	16	0	24.3	24	9.1	11	37	W	14	5	10	16	7.0	44
INTERNATIONAL FALLS	1179	975.0	1019.0	13	- 8	2.2	- 7.2	31	10	-27	27+	0	31	- 1	84	0.84	0.00	0.24	16	0	15.8	15	9.2	27	25*	14	28+	9	5	17	6.8	
MINNEAPOLIS	834	983.3	1018.6	23	7	14.8	- 3.3	39	11	-13	18+	0	31	10	82	1.08	0.22	0.54	12	0	8.1	5	8.3	12	25	NW	13	5	8	18	7.0	49
ROCHESTER	1297	979.8	1018.8	23	8	15.4	- 3.2	35	23+	-15	17+	0	31	11	80	0.84	- 0.13	0.40	12	0	6.4	2	13.0	30	30*	31	13	5	7	19	7.4	
ST CLOUD	1034	978.3		19	1	10.1	- 6.5	35	11	-19	18	0	31			0.58	- 0.15	0.18	12	0	7.6	10						6	8	17	7.0	
MISSISSIPPI																																
JACKSON	310	1008.6	1020.8	61	40	50.5		78	25	22	1	0	9	43	78	6.95		2.76	11	5	T	0	10.1	14	30*	S	24	6	4	21	7.3	
MERIDIAN	290	1007.3	1021.6	61	39	49.8	1.5	79	25	19	7	0	12	43	81	9.00	3.69	3.41	11	5	0.0	0	7.7	20	29*	22	24	4	6	21	7.3	
VICKSBURG U	234	1011.5		60	42	50.8	0.5	77	25	21	18	0	6			5.12	0.18	2.17	10	6	T	0	9.3		36	SW	24	5	9	17	6.9	48
MISSOURI																																
COLUMBIA	770	988.5	1017.9	41	24	32.4	- 1.4	66	23	- 2	18	0	23	23	73	1.30	- 0.66	0.46	7	1	1.9	2	11.8	16	26	NW	24+	7	8	16	6.3	56
KANSAS CITY	742	981.7	1017.9	41	24	32.3	- 3.5	63	23	1	18+	0	25	22	65	1.73	0.20	0.66	5	1	6.2	4	10.4	18	30	S	15	8	9	14	6.1	58
ST JOSEPH	811	982.5		38	19	28.8	- 2.7	63	23	- 3	17+	0	28			1.33	- 0.03	0.60	6	1	3.8	4	9.5	18	25*	15	19+	9	7	15	6.0	
ST LOUIS	535	997.9	1019.4	40	23	31.9	- 2.9	61	23	2	18	0	26	26	79	1.24	- 0.73	0.34	11	0	0.3	1	11.1	17	26	SE	28+	7	4	20	7.1	40
ST LOUIS RFC	465			41	27	34.1	- 2.4	60	23	3	18	0	23			1.52	- 0.65	0.39	8		0.2	T										
SPRINGFIELD	1265	969.3	1018.2	46	25	35.8	- 0.9	72	23	- 1	18	0	24	26	71	1.66	- 0.53	0.90	10	1	T	T	11.7	16	29	S	15	8	9	14	6.3	52
MONTANA																																
BILLINGS	3567	884.9	1013.5	28	8	17.9	-10.5	49	23+	-26	16	0	31	9	73	0.59	0.00	0.22	9	0	7.8	5	13.2	24	46	W	12	7	9	15	6.4	54
GLASGOW	2277	938.2		10	- 7	1.4	-16.3	38	8	-31	17	0	31			0.78	0.33	0.29	10	0	10.8	11						4	7	20	7.6	
GREAT FALLS	3662	881.9	1016.3	21	1	11.2	-16.1	43	10+	-36	16	0	31	2	68	1.23	0.63	0.33	10	0	13.8	13	10.1	22	43	SW	12	7	6	18	6.9	40
HAVRE	2582	922.4		10	- 9	.8	-20.1	39	10+	-31	17	0	31			1.06	0.59	0.40	15	0	14.1	11	8.8	W#	43	NW	15	7	2	22	7.4	37
HELENA	3828	866.8	1014.4	31	7	19.1	- 5.1	51	22	-38	17	0	30	10	69	0.99	0.46	0.25	10	1	13.2	9	6.7	28	33	W	11	4	7	20	7.6	45
KALISPELL	2965	905.9	1014.0	26	10	18.0	- 7.0	41	23	-24	17	0	30	17	89	4.23	2.90	1.35	21	0	32.0	14	6.7	18	39	2	15	1	3	27	9.1	
MILES CITY	2629		1016.4	16	- 1	7.6	-15.6	33	11	-29	17	0	31	3	81	0.62	0.25	0.23	9	0	7.3	13	8.1	4	29*	31	20+					
MISSOULA	3190	896.3	1015.1	27	11	19.4	- 4.1	43	10	-30	17	0	31	17	90	3.15	2.07	0.94	20	0	31.6	13	5.4	32	34	W	23	3	2	26	8.6	27
NEBRASKA																																
GRAND ISLAND	1841	948.6	1017.7	33	13	23.1	- 4.1	76	23	-11	17+	0	31	14	72	0.16	- 0.40	0.11	2	0	0.8	1	11.4	35	29*	35	24	8	9	14	6.2	
LINCOLN U	1150			36	18	26.5	- 4.1	71	23	- 9	17	0	31			0.51	- 0.39	0.39	5	0	1.5	1	9.5	S#	31	SW	19+	10	6	15	6.2	46
NORFOLK	1544	959.4		29	9	19.2	- 6.0	60	23	-14	17	0	31			0.73	0.00	0.29	6	0	8.4	4						8	10	13	6.1	
NORTH PLATTE	2775	912.9	1015.7	40	10	25.2	- 2.2	74	23	-13	17	0	30	13	66	0.10	- 0.30	0.07	2	0	1.8	1	9.6	31	34	NW	15	7	4	20	7.0	43
OMAHA	978	976.6	1018.2	35	16	25.2	- 3.0	67	23	- 7	17	0	29	17	73	0.84	0.04	0.42	7	0	5.4	3	9.4	15	31	NW	16	11	5	15	6.0	59
OMAHA N OMAHA AP	1323			32	13	22.3	- 4.8	65	23	-11	17	0	31			0.79	- 0.10				5.6	5										
SCOTTSBLUFF	3957	875.0	1015.7	37	13	25.1	- 3.5	63	23	-25	17	0	29	15	71	0.65	0.25	0.32	6	1	8.8	5	10.7	30	46*	28	15	8	6	17	6.5	
VALENTINE	2587	921.5		32	7	19.5	- 5.6	68	23	-19	17	0	30			0.45	0.11	0.26	6	0	4.5	4	9.8	W#	36	W	15	6	11	14	6.2	51
NEVADA																																
ELKO	5050	842.7		40	21	30.3	3.9	57	22	0	28+	0	24			3.30	2.29	0.90	18	0	11.0	3			29*	23	29+	4	8	19	7.7	
ELY	6253	806.5	1017.4	38	14	26.0	- 0.8	56	23	-11	13	0	29	18	71	1.79	1.11	0.39	13	0	17.9	5	6.7	18	42	S	19	7	4	20	7.1	47
LAS VEGAS	2162	950.6	1017.9	57	34	45.3	0.2	69	25	22	14	0	13	23	44	T	- 0.40	T	0	0	T	0	7.6	25	54*	SW	27	13	11	7	4.5	76
RENO	4404	861.1	1017.2	46	26	36.0	4.1	60	21+	0	31	0	21	28	76	2.89	1.81	1.55	12	0	8.0	4	9.2	18	42	SW	24	5	9	17	7.0	80
WINNEMUCCA	4299	865.8		44	26	35.1	5.3	63	22	- 1	31	0	21			1.73	0.79	0.33	15	0	4.5	1	10.5	18	52	W	23	7	4	20	7.2	42
NEW HAMPSHIRE																																
CONCORD	339	1008.9	1020.1	34	17	25.1	0.1	56	26	-11	8	0	27	19	80	3.07	- 0.18	1.05	15	0	12.4	10	6.8	31	46*	32	1	8	6	17	6.6	40
MT WASHINGTON OBS	6262			22	6	13.6	4.8	42	26	-22	18	0	29			5.79	- 0.52	0.98	19	0	31.2	10	35.9	W#	112Y	NW	31	5	3	23	7.8	24
NEW JERSEY																																
ATLANTIC CITY	58	1019.5	1021.7	46	28	36.8	0.2	63	25	6	19	0	20	31	81	3.47	0.25	1.12	10	0	1.0	1	10.4	20	32*	33	18	8	5	18	6.7	39
ATLANTIC CITY U	11			46	33	39.4	1.1	58	4	17	19	0	18			2.62	- 0.86						13.4		46*	NW	1					
NEWARK	11	1020.0	1021.2	42	30	35.9	0.6	69	25	15	19	0	19	28	74	4.10	0.88	1.22	16	0	3.9	3	10.3	23	44*	31	31	9	4	18	6.6	
TRENTON U	56	1012.9		43	30	36.8	1.6	68	25	16	19	0	19			4.63	1.76	1.27	14	1	2.4	2	8.8	NW#	37	NW	18	8	7	16	6.6	46

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90°F. or above	Temperature: No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	848.2	1018.2	46	25	35.5	- 1.5	64	24	9	13	0	25	20	58	0.49	0.03	0.44	3	1	0.3	T	6.2	2	40	NW	28	9	5	17	6.2	63
CLAYTON	4969	842.3		48	21	34.9	- 1.1	73	23+	3	17	0	27			0.23	- 0.12	0.23	2	0	2.7	3						9	7	15	6.3	
RATON	6379	802.2		45	14	29.5	- 1.7	71	23	-14	13	0	30			0.34	0.08	0.14	6	0	4.2	2						8	6	17	6.5	
ROSWELL	3617	893.2		56	24	39.7	0.7	80	23	6	14	0	27			0.24	- 0.30	0.14	2	0	1.9	1			41	W	25	10	10	11	5.7	61
SILVER CITY	5373	835.9		53	27	40.0	- 1.5	66	1	10	14	0	24			0.50	- 0.15	0.27	4	1	1.9	1						12	8	11	5.0	
NEW YORK																																
ALBANY	277	1017.1	1020.9	35	21	27.9	1.4	62	25	3	7	0	26	22	79	3.28	0.69	1.21	13	0	11.2	5	9.7	18	35	NW	31	4	7	20	8.0	29
BINGHAMTON	1590	958.7	1019.7	34	22	28.0	1.2	58	25	6	18	0	26	24	86	3.18	0.62	0.77	22	0	15.0	4	10.8	19	31	NW	31	2	5	24	8.6	22
BUFFALO	705	989.5	1018.7	36	23	29.5	1.8	59	25+	6	7	0	26	24	82	2.58	- 0.42	0.63	21	0	15.2	7	11.3	20	30	W	31	1	6	24	8.8	21
NEW YORK U	132	1009.2		42	31	36.4	0.5	60	27+	17	19	0	18			4.16	0.90	1.31	15	0	3.1	3	9.1	SW#	36	NW	18	10	5	16	6.3	39
NEW YORK LA GUARDIA	11	1018.8	1020.8	41	32	36.7	0.3	58	25	20	19	0	18	29	75	4.25	0.86	1.41	17	0	3.1	3	11.4	31	34	NW	18	7	7	17	6.7	
ROCHESTER	547	1000.0	1019.9	37	22	29.6	0.9	59	26	5	7	0	25	25	82	2.04	- 0.34	0.50	19	1	11.6	5	10.1	18	35	W	13	2	4	25	8.7	26
SCHENECTADY	217			35	22	28.4	0.8	60	25	8	7	0	26			3.13	0.51	1.25	12	0	10.0	5						8	9	14		
SYRACUSE	417	996.6	1019.5	37	22	29.6	1.8	64	25	6	1	0	25	25	81	2.87	- 0.28	0.63	20	0	18.3	5	10.8	9	38	NW	31	3	5	23	8.5	20
NORTH CAROLINA																																
ASHEVILLE	2140	940.4	1021.4	51	30	40.5		68	24	8	19	0	18	33	80	3.71		1.26	10	1	T	0	9.2	35	37*	35	18	8	8	15	6.2	49
CAPE HATTERAS R	7	1021.0	1021.7	59	45	52.0	3.8	74	26	25	2	0	4	45	79	3.19	- 1.39	1.18	11	0	0.0	0	9.5	2	36	NNE	18	5	8	18	7.2	48
CHARLOTTE	735	993.0	1021.7	54	37	45.3	2.6	71	26	15	1	0	13	37	75	3.18	- 0.44	1.70	10	1	0.0	0	6.9	18	26	SW	26+	10	2	19	6.6	51
GREENSBORO	897	989.3	1022.0	52	34	42.6	2.7	71	24	11	19	0	15	36	80	3.20	0.07	1.53	10	1	T	T	6.7	18	27	SW	25+	8	6	17	6.6	40
RALEIGH	433	1007.6	1021.7	54	33	43.3	1.4	72	24	11	19	0	18	36	79	4.13	1.11	1.70	10	2	0.0	T	8.0	18	30*	31	18	5	9	17	6.8	46
WILMINGTON	28	1019.8	1022.7	62	42	52.2	4.0	78	26	23	19	0	11	43	75	4.54	1.12	3.00	9	3	0.0	0	6.8	22	34	NW	18	5	10	16	6.6	62
WINSTON SALEM	963	985.6	1021.6	51	36	43.3	2.4	68	24	15	19	0	13	36	76	3.29	- 0.06	1.64	10	1	0.0	1	6.8	23	32*	16	6	8	7	16	6.3	
NORTH DAKOTA																																
BISMARCK	1647	953.9	1018.2	13	- 6	3.5	-14.3	36	9	-24	26	0	31	- 4	67	0.65	0.29	0.15	12	0	10.7	10	10.5	6	40	NW	16	6	9	16	6.8	34
FARGO	896	982.2	1019.0	12	- 5	3.8	-10.6	31	11	-24	26	0	31	- 1	76	0.91	0.33	0.34	10	0	11.9	11	10.0	36	38	SE	28	8	7	16	6.7	44
WILLISTON	1899	1013.1		10	-10	.0	-16.2	35	9	-27	26+	0	31			1.28	0.78	0.45	10	0	12.8	12			56	W	16	9	8	14	6.5	49
OHIO																																
AKRON	1208	980.6	1019.8	40	24	31.9	1.4	63	24	6	1	0	24	26	79	4.54	2.27	1.27	17	1	9.2	8	10.4	21	27*	31	14	2	6	23	8.3	
CINCINNATI OBS	761			43	28	35.7	0.4	68	24	3	18	0	23			4.38	1.61	1.58	13	2	T	1	6.6		20	W	30					32
CINCINNATI U	553	995.7		46	30	37.9	0.7	71	24	5	18	0	16			4.36	1.63	1.62	12	2	T											
CLEVELAND	777	990.5	1019.1	39	26	32.2	2.3	65	24	10	19+	0	24	26	78	2.67	0.33	0.59	20	0	8.7	4	11.1	18	29	SW	16	2	6	23	8.2	31
COLUMBUS	812	988.9	1020.4	41	27	33.9	2.4	65	24	6	18	0	23	28	78	4.09	1.75	1.34	17	2	3.2	1	9.8	18	29	SW	24+	3	2	26	8.8	24
COLUMBUS U	724			42	29	35.3	1.8	65	24	7	18	0	22			3.66	1.42				1.7	1										
DAYTON	1002	986.2	1019.7	41	26	33.5	2.2	66	24	4	1	0	23	28	78	3.33	0.96	1.01	16	2	2.1	1	11.1	20	28	W	30+	1	4	26	8.8	28
MANSFIELD	1297			38	23	30.6	1.4	62	24	4	18	0	25			2.88	0.23	0.80	17	0	8.2	5						3	5	23	8.3	
TOLEDO	676	995.5	1019.5	36	20	27.8	- 0.5	59	24	- 3	9	0	25	24	82	2.20	0.25	0.69	18	0	7.4	5	10.1	18	26	SE	15+	3	4	24	8.2	37
YOUNGSTOWN	1178	975.7	1019.7	38	24	31.1	1.7	63	24	8	19	0	24	26	80	4.58	1.90	1.30	21	1	14.2	7	11.0	22	25*	27	30	3	6	22	8.5	
OKLAHOMA																																
OKLAHOMA CITY	1280	973.1	1017.9	49	27	37.9	- 2.4	67	29	5	18	0	23	28	71	0.62	- 0.79	0.52	3	0	T	T	13.2	18	42	SW	19	12	5	14	5.7	71
TULSA	650	993.1	1018.2	50	28	39.1	- 0.5	71	29	4	18	0	22	27	66	1.67	0.05	1.12	10	1	T	T	12.0	18	40	S	15	12	6	13	5.3	62
OREGON																																
ASTORIA	8	1010.4	1011.0	45	35	40.0	- 3.1	55	22	15	17+	0	8	35	81	13.67	0.02	2.24	27	1	19.0	4	10.0	9	32*	24	11	1	5	25	8.8	
BURNS U	4151	868.2		37	21	29.1	0.0	53	22	-10	17	0	26			5.47	4.04	2.15	21	0	15.6	5						4	7	20	7.6	
EUGENE	359	999.8	1013.3	45	36	40.5	- 1.3	62	22	10	17	0	9	38	89	20.99	14.38	3.71	27	1	10.2	6	8.8	18	29*	36	16	0	6	25	9.2	
MEACHAM	4050			32	20	26.0	- 3.8	50	22	-22	16	0	29			8.13	3.60	1.56	22	0	44.4	19						3	2	26	8.5	
MEDFORD	1298	967.2	1015.5	48	35	41.5	4.6	66	22	20	17	0	11	37	85	12.72	9.34	3.75	21	0	9.3	3	4.8	2	29*	23	22	0	5	26	8.9	
PFNDLETON	1482	959.1	1013.9	40	26	32.9	- 3.6	61	22	-12	17+	0	21	27	81	3.23	1.74	0.67	20	0	4.9	3	10.0	26	46*	25	14	3	4	24	8.6	
PORTLAND	21	1007.2	1012.8	43	31	37.0	- 4.3	59	22	6	16	0	13	31	79	9.92	3.54	2.09	25	0	11.0	11	11.8	12	31	NE	16	2	1	28	9.2	24
PORTLAND U	30			46	35	40.3	- 2.8	61	22	10	17+	0	6			11.45	4.03	2.16	23		13.4	10										
ROSEBURG	515	995.8		48	37	42.5	0.5	64	22	17	17	0	10			14.07	8.38	2.44	27	0	5.5	3	4.2	S#	22	SW	23	0	3	28	9.2	12
SALEM	196	1006.1	1013.4	45	34	39.6	- 1.9	61	22	9	17	0	9	37	91	12.40	5.03	2.72	26	0	5.7	2	10.2	18	30*	18	26	1	3	27	8.9	
SEXTON SUMMIT R	3836	879.5		37	29	33.4	- 3.4	53	22	19	31+	0	21			20.03	15.27	4.43	24	0	38.5	27	14.9					1	2	28	9.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90°F. or above	Min. 32°F. or below	Average dew point		Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft.	Mb.	Mb.	°F.	F.	°F.	°F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
PACIFIC AREA																																
CANTON ISLAND	8	1007.8	1007.9	86	77	81.5	- 1.6	88	31+	75	13+	0	0	71	70	0.04	- 2.50	0.03	2	0	0.0	0	12.8	6				9	15	7	5.5	
ENIWETOK	13	1009.0		86	77	81.7	- 0.3	88	10+	71	18	0	0			1.58	- 1.05	0.41	12	1	0.0	0	15.8									
TAGUAC GUAM R	361	998.6		84	72	78.0	- 0.7	86	20+	66	2	0	0			6.92	0.81	1.19	24	1	0.0	0	8.1	E#	29	E	11					58
JOHNSTON	7	1010.0	1011.4	82	73	77.3	- 0.8	83	21+	62	12	0	0	70	79	13.04	10.04	9.23	16	5	0.0	0	12.1	9	35	SE	12	9	13	9	5.3	61
KOROR R	94	1006.1	1008.7	87	75	81.0	0.1	90	1	73	22+	1	0	76	87	11.45	- 0.27	4.36	20	3	0.0	0	6.9	6	42	SW	12	0	0	31	9.9	53
KWAJALEIN	8	1008.0	1008.9	86	75	80.4	- 0.4	88	4	72	23+	0	0	73	80	12.60	3.64	4.48	18	0	0.0	0	15.8	6	32*	10	1	1	4	26	8.7	
PONAPE R	123	1003.9	1008.4	85	74	79.6	- 0.6	89	22+	71	30+	0	0	74	85	18.22	- 0.12	4.14	26	1	0.0	0	6.3	4	27	NE	2	0	8	23	8.7	47
TRUK MOEN ISLAND	5	1008.6		85	75	80.2	- 0.6	89	23	72	26	0	0	74	81	17.73	4.49	4.54	25	7	0.0	0	9.2	4	28	SW	10	0	2	29	9.4	46
WAKE	11	1013.5		81	72	76.3	- 2.6	84	20+	66	28+	0	0	65	69	1.67	- 0.15	0.66	12	0	0.0	0	12.1	6	30*	1	31	10	17	4	4.9	
YAP R	55	1007.1	1007.9	86	75	80.7	- 0.3	89	14+	72	11+	0	0	75	84	10.98	0.82	3.05	20	5	0.0	0	9.1	4	47	NE	11	0	2	29	9.5	34
PENNSYLVANIA																																
ALLENTOWN	376	1006.6	1021.3	40	26	32.8	1.5	65	26+	13	19+	0	23	26	77	4.48	1.21	1.35	16	0	2.2	2	10.2	7	48*	30	31	9	4	18	6.9	
ERIE	732	992.3	1019.3	40	27	33.2	2.5	66	25+	14	19	0	23	27	79	3.21	0.60	0.86	21	0	13.5	6	16.1	18	38*	17	11	2	2	27	8.9	
HARRISBURG	335	1007.1	1021.5	41	27	33.9	0.9	65	25	13	19	0	20	25	73	3.11	0.20	0.90	13	0	1.4	1	8.7	14	32	NW	31	8	3	20	7.2	39
PHILADELPHIA	5	1016.7	1021.2	45	30	37.5	3.6	68	26+	15	19	0	18	29	73	5.13	2.19	1.58	14	0	2.6	1	8.8	18	34	NW	18	8	6	17	6.7	41
PITTSBURGH	1137	988.5	1019.8	42	26	34.0	3.3	65	24	9	7+	0	23	27	76	4.26	1.86	1.25	19	2	6.1	4	9.2	17	30*	28	14	1	8	22	8.3	30
PITTSBURGH U	749			45	30	37.1	2.1	68	24	13	19	0	20			3.75	1.21	1.23	16		2.6											19
READING U	266	1008.5		43	30	36.5	1.8	68	25	18	19	0	18			4.99	1.85	1.35	16	0	1.7	1	10.2	NW#	42	NW	18	9	6	16	6.5	38
SCRANTON	930	985.5	1020.7	38	25	31.6	2.2	62	25	8	19	0	25	26	79	3.67	1.20	1.39	16	0	4.1	2	8.2	20	33	W	31	3	6	22	8.2	29
WILLIAMSPORT	527	1001.7	1021.4	38	25	31.5	1.1	58	25	7	19	0	26	26	80	2.66	- 0.38	0.62	16	0	1.8	T	7.7	28	29*	18	25	4	7	20	7.7	
RHODE ISLAND																																
BLOCK ISLAND	110	1015.0		42	30	36.2	0.3	54	25	16	19	0	19			6.61	3.02	2.40	17	0	1.1	1						6	8	17	7.3	
PROVIDENCE	51	1013.8	1020.0	40	26	33.2	1.2	63	25	12	19+	0	25	26	75	5.46	1.84	2.07	15	0	6.9	5	10.6	36	37*	31	31	6	9	16	6.9	40
SOUTH CAROLINA																																
CHARLESTON	41	1020.0	1022.0	63	43	52.9	2.9	77	26	23	2	0	8	44	74	3.01	0.16	1.99	10	3	0.0	0	9.4	20	44Y	NW	18	4	9	18	7.2	50
CHARLESTON U	9			62	48	54.6	2.9	74	13	29	1	0	2			3.21	0.47	2.32	8		0.0	0	10.3		34	N	18					
COLUMBIA	217	1008.8	1021.9	60	39	49.8	3.4	77	26	21	1	0	10	42	77	4.58	1.06	2.90	10	3	0.0	0	6.6	36	27*	21	26	7	8	16	6.7	42
FLORENCE	146	1016.0	1021.9	60	40	50.0	2.8	75	25	20	19	0	9	41	74	2.58	- 0.48	1.23	9	1	0.0	0	8.0	18	23*	32	26+	6	7	18	6.9	
GNVLE SPARTANBURG	957	983.8	1021.7	55	36	45.3	1.3	71	24	16	19	0	11	35	72	3.62	- 0.41	1.60	12	3	0.0	T	6.4	23	43	SE	25	10	3	18	6.5	42
SOUTH DAKOTA																																
HURON	1282	968.1	1018.0	21	- 1	10.1	- 8.7	41	11	-26	26	0	31	5	76	0.69	0.13	0.35	9	0	10.1	7	11.8	30	34	NW	15	8	5	18	6.9	46
RAPID CITY	3165	896.9	1015.6	31	7	18.9	- 8.3	60	23+	-23	17	0	30	11	71	0.78	0.48	0.24	12	1	7.8	4	10.9	12	56	N	16+	6	6	19	7.0	50
SIOUX FALLS	1418	964.2	1018.0	25	6	15.5	- 5.6	43	11	-20	26	0	31	8	74	0.59	- 0.15	0.43	7	0	6.5	5	10.9	5	25*	32	17+	6	7	18	7.2	
TENNESSEE																																
BRISTOL	1507	965.3	1020.9	51	32	41.6	3.3	72	24	9	1	0	14	34	76	2.48	- 0.73	0.92	15	1	T	T	5.4	29	29*	22	25	7	7	17	6.9	
CHATTANOOGA	670	993.3	1021.7	53	35	43.9	1.4	75	24	17	19	0	13	37	80	3.59	- 1.60	1.43	10	2	0.0	0	6.3	14	28	SW	24	7	5	19	7.1	43
KNOXVILLE	980	985.2	1021.6	52	35	43.5	1.9	73	24	16	19	0	13	34	72	4.02	- 0.21	1.94	13	1	T	T	7.2	4	42	W	24	5	7	19	7.1	33
MEMPHIS	263	1005.2	1020.2	53	36	44.3	1.8	73	24	13	18	0	13	35	72	7.97	3.04	4.15	10	2	T	T	9.8	20	35	W	24	7	3	21	7.3	35
MEMPHIS U				52	37	44.6	0.5	72	24	15	18	0	12			7.23	2.54				T											
NASHVILLE	577	1000.1	1020.3	52	33	42.7	1.3	76	24	8	18	0	16	35	76	5.15	0.96	1.69	13	4	0.0	0	10.5	18	35	SW	24	7	5	19	7.4	35
OAK RIDGE	905	988.4		50	33	41.7	1.6	73	24	15	19	0	12			5.62	- 0.28	1.96	15	1	T	T	4.3		50Y		24	6	3	22	7.3	
TEXAS																																
ABILENE	1762	955.3	1017.6	61	36	48.6	2.5	84	23	17	18	0	13	28	50	0.17	- 1.09	0.15	2	0	T	T	12.0	18	31	N	12	15	4	12	4.7	71
AMARILLO	3604	887.3	1015.6	52	26	39.1	- 0.2	76	23	2	17	0	23	22	58	0.79	0.02	0.52	6	0	0.5	T	13.7	24	34	SW	27	8	8	15	6.1	72
AUSTIN	597	997.0	1019.4	63	42	52.2	- 0.5	82	24	26	18	0	9	40	69	0.88	- 1.65	0.82	3	0	0.0	0	9.3	18	29	N	17	10	7	14	5.8	53
BROWNSVILLE	16	1015.6	1018.3	69	51	60.3	- 2.6	89	3	32	18	0	1	53	81	2.76	1.04	2.43	7	0	T	0	12.9	18	34	S	2	9	7	15	6.3	49
CORPUS CHRISTI	41	1017.8	1019.1	67	48	57.6	- 1.6	89	25	30	18	0	2	49	78	2.45	0.37	1.43	6	0	0.0	0	12.6	2	41	N	17	8	6	17	6.7	40
DALLAS	481	1000.0	1019.1	59	38	48.6	0.5	81	23	15	18	0	10	36	65	0.86	- 1.81	0.69	4	1	T	T	11.8	18	31	S	15	12	9	10	5.2	61
DEL RIO	1026	983.3	1018.7	64	39	51.3		84	25+	26	18	0	6	37	64	0.25		0.15	3	1	T	T	7.9	34	23	33	17	10	9	12	5.3	
EL PASO	3918	887.2	1017.2	55	33	44.0	- 0.1	70	2	11	14	0	18	25	53	0.52	0.03	0.40	3	0	T	T	7.7	27	45	W	24	9	11	11	5.7	70
FORT WORTH	537	997.4	1018.9	59	35	47.1	- 0.6	81	23+	15	18	0	16	35	67	1.25	- 1.10	1.10	6	1	T	T	10.6	18	28*	17	28+	12	8	11	5.3	
GALVESTON U	7			61	50	55.5	- 1.7	72	24	33	18	0	0			7.12	3.23	5.43	6		0.0	0	10.5		34	NE	18					47
HOUSTON U	41			65	49	57.2	0.7	82	25	32	18+	0	2			3.78	- 0.32	3.02	7		0.0	0										
HOUSTON	50		1019.4	66	46	55.9	0.2	82	30+	31	18+	0	4	48	78	5.57	1.21				0.0	0	10.3	36	29*	20	24+					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure		Temperature										Average dew point	Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 90° F or above	Min. 32° F. or below			Total	Departure from normal	Greatest in 24 hours	.01 inch or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	Ft	Mb.	Mb	F	F	F.	F	F		F				F	%	In	In	In			In	In.	M p.h.		M p.h							%
TEXAS																																
LAREDO	500	1003.0	1018.6	69	46	57.7	- 1.5	89	25	32	14	0	1	43	64	0.20	- 0.97	0.13	4	0	0.0	0	8.6	15	32*	35	13	10	10	11	5.6	
LUBBOCK	3243	903.3	1017.1	56	30	42.8	1.8	80	23	12	18+	0	18	27	61	0.90	0.25	0.72	4	0	0.1	T	12.7	27	37*	4	12	7	13	11	6.0	
MIDLAND	2851	916.1	1016.0	63	35	49.0	3.1	81	23	20	18	0	15	31	58	0.40	- 0.26	0.37	3	0	T	T	10.5	24	29*	30	25	12	7	12	5.4	
PORT ARTHUR	16	1018.0	1019.5	63	35	54.7	- 0.1	81	30	29	15	0	6	48	82	5.06	- 0.03	3.74	7	1	0.0	0	10.1	36	37	SW	23	4	11	16	7.2	40
SAN ANGELO	1903	949.4	1017.8	62	36	48.9	1.2	79	23+	20	18	0	14	33	60	0.27	- 0.58	0.20	2	1	T	T	8.8	21	26*	21	15	13	9	9	4.7	
SAN ANTONIO	788	994.3	1019.2	64	40	52.3	- 1.4	83	25+	24	15	0	9	39	66	1.22	- 0.53	1.13	4	0	0.2	0	8.4	2	32	N	17	10	7	14	5.7	62
VICTORIA	104	1014.6		66	46	56.1	- 1.1	88	25	30	18+	0	7			1.81	- 0.80	1.11	8	1	T	0	9.9		44Y		2	8	4	19	6.6	
WACO	500	997.4	1019.0	63	38	50.6	0.3	81	31+	22	18	0	13	38	67	0.90	- 1.84	0.88	2	0	T	0	11.6	18	29*	35	17+	12	8	11	5.0	
WICHITA FALLS	994	980.3	1018.3	54	30	42.1	- 2.5	75	23	11	18	0	20	29	66	0.60	- 0.85	0.53	4	0	T	T	11.4	36	31*	19	1	12	6	13	5.5	
UTAH																																
MILFORD	5028	843.1		43	23	32.7	4.5	61	24	6	13	0	24			0.56	- 0.15	0.24	10	1	5.1	2						7	7	17	6.7	
SALT LAKE CITY	4220	866.8	1018.2	41	26	33.3	3.2	57	23+	5	17	0	22	22	65	3.82	2.58	1.41	12	3	6.2	2	9.5	18	34	S	21	5	6	20	7.6	37
WENDOVER	4237	869.2		42	26	33.8	4.0	63	22	3	18+	0	23			0.86	0.57	0.40	9	0	0.3	T						9	10	12	5.8	
VERMONT																																
BURLINGTON	327	1004.4	1019.7	32	18	24.8	3.3	62	25	- 2	7	0	27	19	79	1.63	- 0.50	0.66	15	0	23.0	11	11.1	18	36	S	16	2	9	20	8.2	34
VIRGINIA																																
LYNCHBURG	916	995.5		50	32	40.8	2.3	67	25	8	19	0	17			3.52	0.38	1.53	10	1	T	T	6.1		31	S	25	9	7	15	6.1	45
NORFOLK	26	1020.9	1022.3	55	38	46.5	4.0	75	25	24	16+	0	10	38	73	2.95	0.21	1.60	10	0	0.0	0	11.4	18	36	W	12	8	6	17	6.7	31
RICHMOND	162	1015.4	1021.8	53	33	42.9	3.2	71	26+	15	19	0	17	34	74	3.05	0.08	1.44	12	0	0.0	0	7.8	19	31	NW	18	8	6	17	6.8	46
ROANOKE	1174	977.8	1021.1	50	30	40.0	1.6	70	26	8	19	0	19	31	72	2.73	- 0.25	1.05	11	2	T	T	6.0	31	25*	29	15	9	10	12	6.0	
WASHINGTON																																
OLYMPIA	195	1004.0	1011.4	39	30	34.4	- 6.3	54	1	3	17	0	22	32	89	9.11	0.06	1.97	27	0	16.5	4	8.8	20	32*	19	31	1	3	27	9.1	
SEATTLE TACOMA	400	997.0	1011.1	41	32	36.4	- 4.4	54	1	10	16	0	14	31	81	5.53	- 0.76	1.57	22	0	7.6	3	9.8	12	30*	36	16+	1	5	25	8.7	
SEATTLE U	14			43	36	39.4	- 4.4	54	8+	11	16	0	6			4.86	- 0.56				6.4	3			42	SW	12					
SPOKANE	2356	942.4	1012.4	30	18	24.0	- 6.1	48	1	-20	17	0	28	21	85	5.13	2.70	1.27	21	0	42.0	21	9.4	22	40	SW	12	1	5	25	8.9	10
STAMPEDE PASS R	3958	871.0		25	17	20.7	- 6.3	42	22	-16	17	0	30			15.46	- 0.73	2.57	25	0	83.2	87						2	1	28	9.1	
TATOOSH ISLAND R	101	1005.6	1009.1	43	34	38.6	- 5.8	53	1	14	16	0	11	34	84	7.25	- 4.91	0.84	25	0	20.2	7	19.4	7	59	NW	15	1	8	22	8.4	20
WALLA WALLA U	949	977.2		40	26	32.9	- 4.9	63	22	- 6	17	0	20			4.31	2.46	1.08	18	0	10.8	4	5.1		28	SW	22+	0	4	27	9.0	10
YAKIMA	1052	973.7	1014.1	35	20	27.2	- 4.3	51	3	-17	17	0	26	20	76	4.19	3.07	1.40	15	0	37.5	22	5.6	27	35*	30	15	3	8	20	7.7	
WEST INDIES																																
SAN JUAN P.R.	15	1011.8	1016.3	82	70	75.7	- 0.5	84	9+	63	22	0	0	66	71	2.35	- 3.10	0.31	24	0	0.0	0	10.5	7	31	NE	12	3	21	7	5.9	50
SWAN ISLAND	28	1012.8		83	75	79.2	0.5	85	5+	71	30	0	0			2.45	- 3.19	0.58	13	2	0.0	0						12	11	8	5.2	
WEST VIRGINIA																																
BECKLEY	2504	929.6	1021.1	46	28	36.8		67	24	1	19	0	23	30	78	3.41		1.23	16	1	1.4	3	10.5	15	41*	28	26	6	4	21	7.4	
CHARLESTON	939	984.3	1020.6	49	30	39.2	2.1	73	24	6	19+	0	20	31	73	3.14	- 0.11	0.85	17	1	0.9	1	7.1	22	32*	26	25	5	2	24	7.8	
ELKINS	1970	949.4	1020.6	47	24	35.2	2.2	65	25+	- 4	19	0	23	30	82	3.39	0.31	0.69	20	1	5.7	4	6.9	30	32*	14	27+	4	4	23	8.3	
HUNTINGTON	827	989.6	1020.4	48	30	39.4	2.0	75	24	7	19+	0	19	33	78	3.90	1.09	1.21	17	1	1.1	1	6.5	18	26*	26	25+	5	5	21	7.6	
PARKERSBURG U	615			47	30	38.3	2.5	70	24	9	18	0	18			4.03	1.19	1.43	14	1	0.7	1	7.1		27	W	30					22
WISCONSIN																																
GREEN BAY	682	994.6	1018.5	27	13	19.9	- 2.1	41	11	- 7	17	0	28	15	79	0.70	- 0.48	0.19	12	0	6.3	2	11.0	29	34	W	17	9	3	19	6.8	32
LA CROSSE	652	991.9	1019.6	26	9	17.5	- 4.3	38	11	-19	27	0	30	12	78	0.86	- 0.29	0.30	9	0	6.7	4	8.0	18	23*	31	17+	6	5	20	7.2	
MADISON	858	981.7	1018.7	27	10	18.8	- 3.3	39	11	- 9	17	0	31	15	80	0.34	- 0.97	0.12	8	0	3.5	2	9.5	18	27	W	14	9	2	20	7.0	35
MILWAUKEE	672	992.6	1018.8	30	16	23.2	- 1.4	40	29+	- 2	17	0	31	18	79	0.98	- 0.65	0.36	13	0	8.1	4	10.9	28	30	SE	15	6	3	22	7.5	35
WYOMING																																
CASPER	5319	831.3	1013.5	33	14	23.4	- 3.9	52	23+	-31	17+	0	29	12	60	0.47	- 0.01	0.36	6	0	6.7	4	17.9	23	46*	22	21	6	11	14	6.4	
CHEYENNE	6126	807.2	1013.4	41	18	29.5	0.0	58	23+	-24	17	0	26	9	47	0.16	- 0.29	0.05	6	0	1.6	1	16.7	29	57	W	15+	11	3	17	6.0	54
LANDER	5563	829.2	1013.6	36	14	24.9	1.8	55	22	-22	17	0	26	11	60	0.07	- 0.35	0.05	2	0	0.4	T	9.3	24	73	SW	22	10	9	12	5.6	60
SHERIDAN	3964	878.6	1014.2	32	8	20.0	- 6.3	60	23+	-29	17	0	30	11	66	0.66	0.04	0.14	10	0	9.4	8	10.0	36	50	SW	20	6	5	20	7.1	50

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.

A Maximum hourly average.

B Number of days maximum 70° F. or above for Alaskan Stations.

Y Peak Gust.

Wind direction to 8 compass points only.

+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication

Z Sun continuously below horizon.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	189	995.8	1021.7	13.9	3.9	8.9	0.4	25.0	24	- 7.2	1	0	9	5.0	77	129	2	44	12	3	T	0	3.7	15	16.1	SW	24	8	4	19	7.0	40
HUNTSVILLE	183	997.4	1021.2	11.7	1.7	6.7	0.2	23.9	24	-10.6	18	0	13	2.2	73	88	- 37	36	10	2	T	T	4.2	12	17.0*	24	24	7	3	21	7.1	
MOBILE	64	1018.3	1020.6	17.8	6.7	12.3	0.1	25.6	26	- 4.4	1	0	7	8.3	81	105	- 34	36	10	3	0	0	5.2	2	13.0*	22	24	5	9	17	7.1	
MONTGOMERY	59	1013.3	1021.7	16.1	4.4	10.2	1.2	25.0	24	- 5.6	1	0	11	5.6	74	134	12	48	10	4	0	0	3.6	36	15.2	S	24	7	6	18	6.9	41
ALASKA												B																				
ANCHORAGE	44	1005.8	1011.2	-12.8	-21.7	-17.2		- 2.8	4	-34.4	14	0	31	-21.7	67	16		6	6	0	411	483	3.8	36	18.3*	5	22	13	5	13	5.1	58
ANNETTE	34	1001.3	1005.4	- 0.6	- 6.1	- 3.3	-5.6	8.9	5	-17.2	15	0	26	- 6.7	79	249	- 58	44	21	0	1138	787	5.2	7	17.4*	16	7+	4	6	21	7.8	
BARROW	7	1022.5	1023.2	-26.7	-33.9	-30.3	-6.3	- 5.0	20	-42.2	26	0	31	-36.1	59	4	0	3	3	0	61	305	5.0	30	14.8*	31	21	Z	Z	Z		
BARTER ISLAND	12	1020.8	1022.8	-27.8	-33.9	-30.7	-7.1	- 5.0	21+	-41.7	5	0	31	-36.1	58	11	4	6	6	0	114	356	6.6	27	19.7*	28	11	Z	Z	Z		
BETHEL	38	1017.7	1019.3	-14.4	-23.9	-19.4	-4.3	0.0	29	-35.0	12	0	31	-22.8	72	18	- 8	5	12	0	211	305	5.6	4	16.1*	19	29	10	7	14	5.9	
COLD BAY	29	1012.3	1016.4	1.1	- 3.3	- 0.9	0.8	7.2	16	- 8.9	9	0	25	- 3.3	83	33	- 33	14	15	0	231	305	6.2	35	16.1*	30	26+	4	4	23	8.0	
FAIRBANKS	133	1002.9	1021.9	-27.8	-37.2	-32.5	-10.4	-13.3	4	-48.9	14	0	31	-34.4	75	9	- 5	3	10	0	356	584	1.0	36	8.0*	24	24	4	8	19	7.2	
JUNEAU	4	1007.0	1007.8	- 4.4	-12.2	- 8.6	-6.6	8.9	7	-26.1	30+	0	26	-13.3	72	133	25	59	19	0	1389	508	5.3	12	20.1*	13	7	6	2	23	7.9	30
KING SALMON	13	1014.9	1014.9	-11.1	-21.7	-16.2	-5.8	1.7	3+	-33.3	31	0	31	-21.1	67	26	0	13	11	0	272	254	3.9	36	14.3*	4	3	13	4	14	5.2	
KOTZEBUE	3	1021.3	1022.0	-21.1	-28.3	-24.6	-4.8	- 6.1	21	-40.0	10	0	31	-28.3	69	10	3	7	6	0	137	406	6.8	11	23.2*	11	29	13	8	10	4.7	
MC GRATH	102	1006.9	1021.2	-25.6	-34.4	-29.8	-8.2	-11.1	24	-48.3	11	0	31	-35.6	58	8	- 18	3	5	0	361	508	1.3	30	8.0*	27	24	9	10	12	6.2	
NOME	4	1019.3	1020.4	-15.0	-23.3	-19.2	-4.9	- 5.6	23	-35.0	11	0	31	-23.3	71	16	- 9	11	6	0	188	305	5.7	8	23.2*	9	29	15	5	11	4.5	45
ST. PAUL ISLAND	7	1015.2	1016.5	1.1	- 3.3	- 1.3	1.8	5.0	19+	-12.2	9	0	23	- 2.8	87	57	10	14	20	0	165	254	9.3	2	24.6*	10	11	2	1	28	9.0	
SHEMYA	37	1003.5	1007.1	2.8	0.0	1.4	1.7	5.6	10	- 4.4	7	0	19	- 0.6	86	93	39	26	21	0	404	51	11.4	20	30.8*	16	10	0	1	30	9.5	
YAKUTAT	9	1004.0	1004.2	- 3.9	-14.4	- 9.0	-6.8	8.3	7+	-31.1	30	0	29	-13.3	72	293	- 18	84	15	0	917	559	2.8	7	10.7*	13	6	11	2	18	6.1	
ARIZONA																																
FLAGSTAFF	2131	788.8	1018.4	5.6	- 7.2	- 0.9	-0.1	12.8	22	-17.2	30	0	29	- 7.2	68	70	28	34	8	0	348	152	3.7	20	11.2*	19	27	13	4	14	5.5	
PHOENIX	340	977.2	1017.1	17.8	4.4	11.1	0.2	20.6	2+	- 0.6	16	0	2	1.1	58	28	6	17	3	1	0	0	2.6	12	13.9Y	W	28	13	4	14	5.4	79
PRESCOTT	1528	847.0	1018.6	10.6	- 3.3	3.7	-0.3	17.2	22	-11.7	14	0	23	- 5.0	60	25		19	5	0	102	76	3.3	19	21.0	SW	27	12	6	13	5.4	67
TUCSON	788	927.0	1016.0	18.3	4.4	11.3	0.3	23.3	24+	0.0	13+	0	2	- 0.6	52	21	- 3	16	2	1	0	0	3.8	14	15.2	SE	14	12	3	16	5.7	81
WINSLOW	1487	851.9	1020.3	8.9	- 6.1	1.6	1.3	17.2	1	-16.1	14	0	26	- 6.1	64	9	- 4	8	4	0	89	76	3.4	23	15.6*	24	28	11	8	12	5.5	
YUMA	59	1011.1	1017.1	20.0	6.1	13.2	-0.7	26.1	24	- 1.1	15	0	2	0.6	48	2	- 6	2	1	0	0	0	3.4	36	12.1	S	27	13	7	11	5.3	74
ARKANSAS																																
FORT SMITH	137	1001.6	1019.1	11.7	- 1.7	5.1	-0.7	23.3	23	-13.3	18	0	18	- 1.1	70	36	- 36	18	6	2	T	T	3.7	7	10.3	NW	24	10	6	15	5.9	55
LITTLE ROCK	78	1006.4	1019.9	12.2	1.1	6.6	1.1	25.0	23	-10.6	18	0	16	1.7	74	111	7	73	7	2	5	T	3.9	25	14.3	S	2	7	4	20	7.2	32
TEXARKANA	113	1005.7	1019.5	14.4	2.8	8.7	0.4	26.7	23	- 7.2	18	0	14	3.3	71	78	- 38	44	7	2	3	T	3.7	18								
CALIFORNIA																																
BAKERSFIELD	151	1002.2	1020.1	15.6	5.6	10.4	1.1	23.9	24	- 3.3	13	0	5	6.1	76	18	- 7	9	10	0	0	0	3.0	34	10.3*	16	19	1	11	19	7.6	
BISHOP	1252	874.0		12.8	- 3.9	4.3	0.3	22.8	23	-12.8	30+	0	26			6	- 24	3	5	0	13	T						11	7	13	5.6	
BLUE CANYON	1609	835.3		5.6	- 0.6	2.4	-2.2	11.7	13	-11.1	31	0	20			1056	796	237	21	0	1554	1016	4.9		17.0*	18	22	6	4	21	7.8	
BURBANK	221	991.8	1018.0	17.2	7.2	11.9	-1.2	23.3	14	1.1	29	0	0	4.4	67	31	- 38	16	9	0	0	0	2.9	15	9.8*	33	24	8	9	14	6.0	
EUREKA U	13	1014.5		11.7	6.7	9.2	-0.2	18.3	22	0.0	31+	0	2			278	108	59	23	3	8	T	4.3		18.8	SW	22	4	5	22	8.1	32
FRESNO	100	1008.0	1020.1	13.9	5.0	9.4	1.1	21.1	24+	- 1.1	18	0	4	7.2	87	67	17	13	13	1	0	0	2.7	12	11.2	SE	19	1	7	23	8.4	38
LONG BEACH	10	1017.2	1018.7	16.1	8.3	12.1	-1.2	23.3	14	1.7	8	0	0	6.7	74	36	- 14	16	8		0	0	2.7	10	9.4*	26	28+	8	7	16	6.6	
LOS ANGELES	30	1014.9	1018.8	16.7	8.9	12.9	-0.9	23.3	14	3.9	29	0	0	7.8	76	50	- 11	22	7	0	0	0	3.5	11	10.3Y	32	28	8	7	16	6.6	
MT SHASTA R	1080	890.5		5.6	- 1.1	2.2	0.0	13.3	23	-12.8	31	0	19			331	173	122	22	0	805	432						4	3	24	7.9	
OAKLAND	2	1018.7	1019.1	13.3	8.9	11.3	1.6	16.7	23+	3.3	31+	0	0	7.8	78	135	44	23	23	0	0	0	4.2	17	13.0*	16	19	6	6	19	7.5	
RED BLUFF	104	1003.9	1016.9	13.3	6.1	9.7	1.3	19.4	24+	- 2.8	13	0	3	5.0	74	114	7	40	18	0	0	0	5.4	16	21.9	S	21	6	7	18	7.0	46
SACRAMENTO	5	1017.8	1019.2	13.3	6.1	9.8	1.8	18.9	23+	- 0.6	13	0	1	6.7	82	153	71	52	21	0	0	0	4.0	16	13.4	S	26+	5	8	18	7.3	42
SACRAMENTO U	6			13.9	7.2	10.6	2.1	18.9	24+	0.0	13	0	1			145	54	48	20		0	0										
SANDBERG R	1377	863.5		7.2	1.7	4.4	-1.5	13.9	24+	- 6.1	31	0	13			31	- 32	17	10	0	25	25	7.2		17.0*	31	22	3	8	20	7.7	
SAN DIEGO	4	1015.0	1018.4	17.2	8.9	13.1	-0.8	21.1	14+	3.3	14	0	0	6.7	71	30	- 22	18	4	0	0	0	2.6	18	10.7	SW	28	7	9	15	6.8	59
SAN FRANCISCO	2	1018.5	1019.3	13.3	7.8	10.7	0.7	17.8	22	2.2	14	0	0	7.2	82	138	34	29	22	0	0	0	4.6	29	15.6	SW	22	6	3	22	7.6	
SAN FRANCISCO U	16			13.9	10.0	12.1	0.7	18.3	22	4.4	31	0	0			136	27				0	0	3.7	SW#	15.6	SW	22					
SANTA CATALINA	478	961.9		14.4	9.4	12.1	-1.3	20.0	14	5.0	31	0	0			24	- 41	14	7	0	0	0						5	8	18	7.0	
SANTA MARIA	73	1010.6		16.1	6.1	11.1	-0.2	22.2	8	- 2.2	13	0	4			34	- 31	9	12	0	0	0						11	6	14	5.9	
STOCKTON	7	1018.1	1019.7	13.9	6.7	10.1	2.3	19.4	23	- 2.2	13	0	3	6.7	82	135	68	35	17	1	0	0	4.3	16	14.8*	16	19	3	5	23	8.1	
COLORADO																																
ALAMOSA	2297	768.8		- 5.0	-23.3	-14.1	-6.9	8.3	23	-41.1	14	0	31			39	32	24	8	0	686	457						10	11	10	5.4	
COLORADO SPRINGS	1873	805.7	1014.3	7.2	- 6.1	0.4	0.6	21.7	23	-20.0	17	0	27	-11.7	46	6	- 1	4	4	0	124	102	4.6	2	19.2*	34	24	11	5	15	5.8	
DENVER	1610	832.4	1012.5	7.8	- 6.7	0.7	0.9	21.7	23	-22.2	17	0	27	- 9.4	54	10	- 2	3	8	0	112	25	4.1	20	19.2	SW	15	9	7	15	5.9	73
GRAND JUNCTION	1480	859.6	1019.5	3.9	- 5.6	- 0.9	0.7	14.4	27	-13.3	15	0	28	- 7.2	67	13	- 1	8	7	0	76	51	2.4	13	13.4	NW	24	8	6	17	6.4	49
PUEBLO	1428	853.1	1014.5	10.6	- 6.7	1.9	1.3	25.0	23	-21.7	18	0	27	-10.6	44	2	- 6	2	3	0	23	T	5.3	29	31.3	W	15	11	8	12	5.5	75

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	°C.	C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
CONNECTICUT																																
BRIDGEPORT	2	1018.0	1021.0	5.0	- 2.2	1.2	0.5	15.0	25	-10.6	19	0	20	- 2.2	79	57	- 32	14	12	0	99	76	5.7	31	23.2*	33	1	9	7	15	6.3	
HARTFORD	52	1014.0	1020.2	2.8	- 5.6	- 1.3	0.4	17.8	25	-19.4	8	0	27	- 5.0	78	115	26	33	17	0	312	203	3.6	36	18.8	NW	31	7	7	17	6.9	40
NEW HAVEN	2	1019.9		5.0	- 2.8	1.1	0.8	16.1	25	-10.6	8	0	22			116	14	37	14	0	145	102	3.8		17.0	NW	31+	10	6	15	6.3	48
DELAWARE																																
WILMINGTON	24	1017.7	1021.0	7.2	- 1.1	2.9	1.2	21.1	26	-10.6	19	0	20	- 1.1	77	119	42	39	9	1	41	25	4.1	29	13.0*	30	31+	8	6	17	6.6	
DIST.OF COLUMBIA																																
WASHINGTON U	22			8.3	0.6	4.7		21.7	25	- 7.2	19	0	15			79																
WASH NATL AP	4	1016.5	1020.9	8.9	0.0	4.4	1.0	22.2	25	- 9.4	19	0	16	- 1.1	71	73	2	26	8	0	13	25	4.2	18	17.0	NNW	18	8	5	18	6.8	40
FLORIDA																																
APALACHICOLA U	4	1019.0		17.8	10.6	14.1	0.8	22.8	3	- 1.1	1	0	1			156	81	78	9	5	0	0	3.3					5	10	16	6.7	44
DAYTONA BEACH	9	1020.4	1022.1	22.2	12.2	17.2	1.4	28.3	4	2.8	1	0	0	13.3	80	64	14	47	6	4	0	0	3.6	18	10.7*	3	18+	9	11	11	5.8	
FORT MYERS	5	1019.6		26.1	14.4	20.2	1.9	29.4	26+	4.4	1	0	0			27	- 6	27	1	0	0	0	4.4		11.2*	27	27+	9	14	8	5.4	
JACKSONVILLE	7	1019.8	1021.6	20.6	10.0	15.3	1.9	27.2	13	- 1.1	1	0	1	11.1	79	123	66	59	9	4	0	0	4.1	34	15.6	NE	19	4	13	14	6.7	53
KEY WEST	1	1018.2	1019.3	25.6	21.1	23.3	1.8	28.3	4	16.1	1	0	0	20.0	83	91	48	70	10	3	0	0	5.9	5	12.1	E	2	10	10	11	5.5	54
LAKELAND U	65			23.3	12.8	17.9	1.1	28.3	4	2.2	1	0	0			52	5	35	5	5	0	0	3.4					13	7	11	5.5	60
MIAMI BEACH	3			24.4	20.0	22.3	1.0	29.4	18	9.4	1	0	0			58	13	30	6	0	0	0						5	15	11	6.0	
MIAMI	2	1018.7	1019.9	25.6	19.4	22.3	2.3	28.3	5+	9.4	1	0	0	17.8	76	158	116	111	5	2	0	0	4.6	9	13.0*	29	5	4	14	13	6.5	
ORLANDO	33	1017.1	1021.8	23.3	12.8	18.0	1.9	27.2	25	3.3	1	0	0	13.3	78	49	1	39	5	2	0	0	4.1	36	10.3*	13	11+	11	7	13	5.3	
PENSACOLA	34			18.3	8.3	13.1	0.7	25.6	4	- 2.8	1	0	4			134	27	115	12	3	0	0	4.2		17.9	S	24					55
TALLAHASSEE	18	1019.2	1021.9	18.9	7.2	13.2	0.9	25.6	23	- 3.3	2	0	7	8.9	80	321	234	235	11	5	0	0	4.1	18	13.4*	19	4	6	7	18	6.9	
TAMPA	6	1019.1	1020.7	22.8	11.7	17.3	0.5	27.2	11+	0.0	1	0	1	12.2	77	81	33	51	4	2	0	0	5.1	6	11.2*	2	15	12	7	12	5.6	71
WEST PALM BEACH	5	1019.5	1020.6	25.0	17.2	21.3	1.2	28.3	5+	8.3	1	0	0	16.7	76	86	21	42	7	3	0	0	4.9	7	12.1*	7	19	8	10	13	6.0	
GEORGIA																																
ATHENS	244	992.4	1022.0	13.9	3.3	8.7	1.7	25.0	24	- 8.9	1	0	11	3.9	75	93	- 22	30	12	3	0	0	3.4	6	9.4*	21	24+	9	2	20	6.9	
ATLANTA	306	978.4	1021.9	13.3	2.8	8.1	1.3	22.2	24	- 7.8	1	0	12	3.3	77	125	14	38	13	3	T	T	3.7	8	13.4	NW	18	8	6	17	6.7	53
AUGUSTA	44	1015.0	1021.9	16.7	4.4	10.5	2.1	26.7	26+	- 6.1	2+	0	9	5.6	77	99	14	32	9	3	0	0	3.1	18	11.2*	33	26	7	8	16	6.8	
COLUMBUS	117	1007.2		16.7	5.0	10.8	2.1	25.6	24	- 6.1	1	0	11			169	53	90	12	4	0	0			15.6*	22	26	6	7	18	6.8	
MACON	108	1008.2	1022.1	16.7	4.4	10.3	0.9	25.0	24	- 7.8	1	0	9	6.1	80	146	43	68	10	3	0	0	3.4	33	15.6	SW	26	7	7	17	6.8	45
ROME	194	998.3		12.8	1.1	7.2	1.4	25.0	24	-10.6	19	0	13			107	- 23	42	14	3	0	0									6.2	
SAVANNAH	14	1019.8	1022.4	18.3	6.1	12.1	1.3	25.6	26	- 3.9	2+	0	6	7.2	75	106	34	88	8	2	0	0	3.5	18	11.2	N	18	5	10	16	6.9	56
HAWAII																																
HILO	9	1013.5	1014.7	27.8	18.3	22.9	0.9	32.2	21	15.6	18	1	0	18.3	79	245	-140	60	22	4	0	0	4.0	24	13.9*	16	9	8	12	11	6.0	35
HONOLULU	2	1013.4	1013.8	26.7	21.1	23.8	0.7	28.9	8	17.8	17+	0	0	18.3	73	141	66	50	15	3	0	0	3.8	6	14.8	SW	19	5	10	16	6.7	74
KAHULUI	15	1010.4	1013.6	26.7	18.3	22.3	-0.3	29.4	27+	14.4	7	0	0	18.9	84	93	24	22	11	2	0	0	4.3	6	19.7	NE	16	12	7	12	5.4	64
LIHUE	35	1008.7	1014.5	25.0	20.6	22.8	0.4	27.2	23	15.6	17+	0	0	19.4	83	154	23	46	20	4	0	0	4.6	6	16.1	SW	21	8	7	16	6.4	47
IDAHO																																
BOISE	865	917.6	1015.4	5.6	- 2.2	1.8	1.7	18.3	22	-17.2	17	0	21	- 2.8	72	81	47	20	17	1	221	51	4.2	13	17.9	SW	20	4	2	25	8.0	36
IDAHO FALLS 42NW R	1460			- 0.6	-12.2	- 6.6	0.7	10.6	24	-35.6	17	0	29			62	46	19	14				3.1		15.6A	SW	20					
IDAHO FALLS 46W R	1504	843.9		0.0	-11.1	- 5.6	0.7	10.6	22	-36.1	17	0	27			87	72	30	16	0	325	102	4.4		17.9A	SSW	20					
LEWISTON	431	960.5		3.9	- 4.4	- 0.3	-1.9	13.9	22	-23.9	17	0	23			83	49	18	15	0	411	178						3	4	24	8.4	
POCATELLO	1358	860.0	1016.4	2.8	- 5.6	- 1.6	0.9	15.0	23	-26.1	17	0	22	- 5.6	74	75	50	21	20	0	175	51	6.8	18	18.3	SW	23	3	7	21	8.2	26
ILLINOIS																																
CAIRO U	96	1006.5		8.3	0.0	4.3	0.2	19.4	24	-13.3	18	0	18			105	12	40	10	2	T	T	4.7	S#	14.8	SW	24	5	7	19	7.4	32
CHICAGO O HARE	201	993.0	1018.7	0.6	- 8.3	- 4.1	-1.5	8.9	23	-19.4	6	0	28	- 6.7	82	38	- 8	9	13	0	282	178	4.7	18	14.3*	5	4	9	0	22	7.2	
CHICAGO MIDWAY	185	995.2	1019.1	1.1	- 6.1	- 2.6	-0.9	8.9	23	-16.7	18	0	27	- 6.1	78	47	- 1	12	12	0	340	254	5.2	18	13.0	S	22+	6	3	22	7.5	36
MOLINE	177	996.6	1019.3	0.0	- 8.3	- 4.0	-1.2	10.0	23	-20.0	27	0	28	- 7.2	77	32	- 10	9	13	0	297	178	4.7	29	12.1	NW	14	8	1	22	7.1	33
PEORIA	199	995.9	1019.2	0.6	- 7.2	- 3.5	-1.9	10.0	23	-18.3	18	0	27	- 6.1	81	28	- 21	9	12	0	183	152	4.6	18	13.0	N	4	7	2	22	7.5	27
ROCKFORD	222	990.2	1018.5	- 0.6	-10.0	- 5.1	-1.5	6.1	29+	-23.3	6	0	28	- 7.2	79	23	- 20	6	10	0	262	203	5.1	18	10.7*	3	4	9	3	19	6.9	
SPRINGFIELD	179	995.0	1019.2	2.8	- 5.6	- 1.4	-1.4	12.2	23	-17.2	18	0	27	- 4.4	79	26	- 22	7	11	0	41	51	5.7	16	11.6	NW	24+	5	6	20	7.5	36
INDIANA																																
EVANSVILLE	116	1004.0	1020.4	7.2	- 2.8	2.4	0.1	20.6	24	-14.4	18	0	23	- 0.6	80	104	26	43	10	1	T	T	3.5	18	11.2	NW	24+	5	4	22	7.7	29
FORT WAYNE	241	987.1	1019.5	2.8	- 7.2	- 2.3	-0.3	13.9	24	-20.6	9+	0	27	- 4.4	80	45	- 8	12	16	0	201	152	4.9	21	13.4	W	14	2	6	23	8.6	25
INDIANAPOLIS	242	988.5	1019.5	4.4	- 3.9	0.1	0.6	16.7	24	-17.2	18	0	26	- 2.8	82	77	9	39	13	0	28	25	4.6	22	13.0	SW	16	2	6	23	8.4	28
SOUTH BEND	236	989.7	1018.7	1.7	- 6.7	- 2.5	-0.7	11.1	24	-15.6	1	0	28	- 4.4	85	65	9	17	19	0	470	229	5.5	23	12.5*	30	14	1	5	25	8.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Average speed	Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile (1.6 kilometers): Direction	Fastest mile (1.6 kilometers): Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
IOWA																																
BURLINGTON	212	992.8	1019.5											- 6.7	76								5.1	31	14.3	NW	24					
DES MOINES	286	986.6	1019.2	0.0	- 9.4	- 4.8	-1.2	15.0	23	-22.8	17	0	29	- 7.8	79	22	- 7	15	9	0	66	51	5.5	32	13.4	NW	16+	5	10	16	6.8	45
DUBUQUE	325	992.6		- 2.8	-10.6	- 6.7	-1.9	4.4	22	-22.2	18+	0	30			29	- 19	8	10	0	241	127						8	2	21	7.3	
SIOUX CITY	334	975.2	1018.6	- 2.2	-12.8	- 7.3	-3.4	8.3	11	-25.0	18	0	31	-10.6	77	21	2	8	11	0	257	102	4.9	12	15.2	NW	24+	7	7	17	6.6	49
WATERLOO	265	984.8	1018.3	- 2.8	-11.7	- 7.2	-2.3	5.6	23	-23.9	27+	0	31	- 9.4	83	49	20	34	9	0	122	76	5.0	30	14.3*	29	16	6	3	22	7.4	
KANSAS																																
CONCORDIA	448	965.0	1017.5	4.4	- 7.8	- 1.7	-1.7	27.8	23	-20.6	17	0	30	- 7.2	71	20	2	17	4	0	36	25	5.1	18	14.8	N	16	10	8	13	5.8	60
DODGE CITY	787	926.1	1017.2	5.6	- 6.7	- 0.6	-2.1	18.9	22	-19.4	17	0	29	- 6.7	71	15	3	9	6	0	137	102	6.3	21	16.5	S	19	6	9	16	6.5	53
GOODLAND	1111	884.9	1015.4	8.3	-10.0	- 0.9	0.0	28.3	23	-23.3	17	0	29	-10.6	55	1	- 11	1	2	0	20	25	5.9	23	17.0*	18	18	10	7	14	5.7	
TOPEKA	267	981.3	1018.4	3.9	- 6.7	- 1.2	-2.0	15.6	23	-18.3	17	0	29	- 6.1	73	24	- 11	12	4	1	109	102	4.2	18	13.4	W	19	6	11	14	6.3	53
WICHITA	403	967.0	1017.5	5.0	- 5.6	- 0.4	-2.6	14.4	28	-16.7	18+	0	28	- 4.4	76	26	2	15	3	0	137	127	5.4	18	20.1	N	16	8	7	16	6.5	58
KENTUCKY																																
COVINGTON	265	986.8	1019.4	7.2	- 3.3	1.9	1.2	21.1	24	-16.7	18	0	23	- 1.1	80	125	55	44	13	2	23	25	4.0	21	10.7*	31	17	2	6	23	8.4	
LEXINGTON	298	983.7	1020.3	7.8	- 1.7	3.0	0.8	20.0	24	-15.6	18	0	20	- 0.6	78	157	69	47	14	2	18	T	4.9	18	12.5*	19	16	5	6	20	7.4	
LOUISVILLE	144	1000.3	1019.9	8.3	- 1.7	3.3	0.9	21.1	24	-15.0	18	0	20	0.6	80	149	67	56	13	3	5	T	4.0	20	15.6	S	16	2	8	21	8.0	32
LOUISIANA																																
ALEXANDRIA	28	1015.8	1020.3	15.6	5.0	10.3	-0.4	25.0	31+	- 5.0	8+	0	10	6.7	80	185	40	157	8	3	0	0	3.0	18	13.0*	1	17	4	9	18	7.6	
BATON ROUGE	20	1017.5	1020.7	17.8	6.7	12.1	0.0	26.7	30+	- 3.3	1	0	8	7.2	77	82	- 47	34	8	1	0	0	4.0	12	10.3*	22	24+	4	7	20	7.8	
LAKE CHARLES	4	1018.8	1020.3	17.2	7.2	12.3	-0.2	26.7	30	- 1.7	1	0	2	8.3	80	148	2	117	9	3	0	0	4.4	18	11.2*	22	24	3	9	19	7.7	
NEW ORLEANS	1	1018.4	1020.7	18.3	8.3	13.6	0.6	26.1	25	- 1.7	15+	0	4	10.0	81	79	- 25	64	8	1	0	0	3.8	36	10.3*	20	24+	3	10	18	7.2	
NEW ORLEANS AUDUBON	2	1013.6		19.4	8.9	14.1	0.4	26.7	30+	- 1.7	1	0	1			75	- 41	60	8	1	0	0	2.4		7.6	NW	17	3	13	15	7.1	43
SHREVEPORT	77	1010.9	1020.3	15.6	4.4	10.1	0.3	28.3	25	- 5.0	6+	0	12	5.6	76	65	- 61	44	9	2	T	0	5.1	18	15.6*	25	24	9	9	13	6.3	50
MAINE																																
CARIBOU	190	994.8		- 4.4	-12.8	- 8.4	0.8	11.7	26	-25.0	8	0	28			76	14	23	17	0	945	330						7	5	19	7.5	
PORTLAND	19	1017.3	1019.5	0.6	- 7.8	- 3.7	-0.3	10.6	27	-20.0	10	0	28	- 6.7	80	95	- 3	23	17	0	521	305	3.4	36	16.5	NW	1	6	6	19	7.1	40
MARYLAND																																
BALTIMORE	45	1016.2	1020.9	8.9	- 0.6	3.9	1.8	22.8	26	- 9.4	19	0	19	- 1.1	73	100	24	34	10	0	20	25	3.5	30	16.5	NW	18	7	6	18	6.8	45
BALTIMORE U	4			9.4	1.7	5.4	1.5	23.3	26	- 7.2	19	0	13			128	48	51	8													
MASSACHUSETTS																																
BLUE HILL OBS R	192	994.2		2.8	- 4.4	- 0.9	0.2	15.0	25	-12.8	19+	0	24			162	61	59	16		302	152										41
BOSTON	5	1015.1	1020.0	3.9	- 3.3	0.2	-0.5	15.6	25	-11.1	8	0	24	- 3.9	75	129	37	53	15	0	310	127	6.2	32	18.8*	NW	1	9	5	17	6.7	44
NANTUCKET	13	1019.0	1019.6	6.7	0.0	3.3	1.0	12.2	27	- 7.8	19+	0	17	0.0	80	163	63	53	14	0	81	51	6.1	30	21.9	N	1	5	5	21	7.7	28
PITTSFIELD	357			1.7	- 6.7	- 2.5	1.2	16.1	26	-16.7	8	0	25			106	23	35	20		335	152										
WORCESTER	301	981.0	1019.4	2.2	- 6.1	- 2.0	0.7	15.6	25	-14.4	8	0	27	- 5.0	79	125	34	42	17	0	297	203	4.8	22	17.4*	31	1	6	9	16	6.6	
MICHIGAN																																
ALPENA	210	994.7		- 1.1	- 8.9	- 4.9	-0.5	5.6	11	-18.3	9	0	29			39	- 8	11	18	0	462	102	3.3	23	11.6	W	14	1	6	24	8.5	30
DETROIT	189	991.4	1019.1	2.2	- 3.9	- 0.9	0.3	13.3	24	-12.2	18	0	24	- 4.4	76	56	3	15	18	0	213	127	4.9	18	3.4	NW	30	6	5	20	7.5	33
DETROIT M WAYNE CO	193	994.4	1019.7	1.7	- 6.1	- 2.2	-1.0	12.2	24	-18.3	9	0	24	- 5.6	77	49	0	14	15	0	183	127	5.0	18				5	5	21	7.6	
DETROIT WILLOW RUN	217	989.3	1018.7	1.7	- 5.6	- 1.9	-0.4	12.2	24	-14.4	9	0	24	- 4.4	82	44	- 6	12	15	0	188	127	5.1	20	15.6*	25	14	4	6	21	7.6	
FLINT	233	990.1	1019.2	1.1	- 6.1	- 2.4	0.9	12.2	24	-20.0	9	0	24	- 5.6	78	36	- 10	9	16	0	254	152	4.9	21	12.1*	26	14	5	4	22	7.9	
GRAND RAPIDS	239	991.8	1018.4	0.6	- 7.2	- 3.3	-1.1	7.2	24	-18.3	9	0	27	- 5.6	84	51	- 1	16	17	0	340	127	4.5	18	13.4	W	30	3	5	23	8.4	24
LANSING	256	985.4	1018.6	0.6	- 7.2	- 3.4	-0.9	11.1	24	-27.2	6	0	26	- 4.4	89	41	- 9	12	17	0	312	178	5.0	18	14.3	W	14	4	5	22	8.2	31
MARQUETTE U	206	989.4		- 3.3	- 8.9	- 6.1	-1.7	4.4	11	-20.6	17	0	30			54	5	18	23	0	709	457	3.7	W#	14.8	S	21	2	7	22	8.5	30
MUSKEGON	191	994.9	1018.8	1.7	- 5.0	- 1.7	-0.6	9.4	23	-12.2	17	0	25	- 3.9	86	41	- 10	12	20	0	787	178	5.7	16	12.5*	28	14+	1	3	27	9.0	
SAULT STE MARIE	220	994.1	1017.9	- 3.9	-12.2	- 8.1	-1.9	4.4	11	-22.8	3	0	29	-10.6	83	81	23	16	22	0	980	483	4.6	7	13.0*	25	18	5	5	21	7.8	32
MINNESOTA																																
DULUTH	435	974.5	1018.2	- 7.2	-18.9	-13.1	-3.1	0.6	12+	-31.7	27	0	31	-16.1	72	45	16	17	16	0	617	610	4.1	11	16.5	W	14	5	10	16	7.0	44
INTERNATIONAL FALLS	359	975.0	1019.0	-10.6	-22.2	-16.6	-4.0	- 0.6	10	-32.8	27+	0	31	-18.3	84	21	0	6	16	0	401	381	4.1	27	11.2*	14	28+	9	5	17	6.8	
MINNEAPOLIS	254	983.3	1018.6	- 5.0	-13.9	- 9.6	-1.8	3.9	11	-25.0	18+	0	31	-12.2	82	27	6	14	12	0	206	127	3.7	12	11.2	NW	13	5	8	18	7.0	49
ROCHESTER	395	979.8	1018.8	- 5.0	-13.3	- 9.2	-1.8	1.7	23+	-26.1	17+	0	31	-11.7	80	21	- 3	10	12	0	163	51	5.8	30	13.4*	31	13	5	7	19	7.4	
ST CLOUD	315	978.3		- 7.2	-17.2	-12.2	-3.6	1.7	11	-28.3	18	0	31			15	- 4	5	12	0	193	254						6	8	17	7.0	
MISSISSIPPI																																
JACKSON	94	1008.6	1020.8	16.1	4.4	10.3		25.6	25	- 5.6	1	0	9	6.1	78	177		70	11	5	T	0	4.5	14	13.4*	S	24	6	4	21	7.3	
MERIDIAN	88	1007.3	1021.6	16.1	3.9	9.9	0.8	26.1	25	- 7.2	7	0	12	6.1	81	229	94	87	11	5	0	0	3.4	20	13.0*	22	24	4	6	21	7.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
VICKSBURG U	71	1011.5		15.6	5.6	10.4	0.3	25.0	25	- 6.1	18	0	6			130	5	55	10	6	T	0	4.2		16.1	SW	24	5	9	17	6.9	48
MISSOURI																																
COLUMBIA	237	988.5	1017.9	5.0	- 4.4	0.2	-0.8	18.9	23	-18.9	18	0	23	- 5.0	73	33	- 17	12	7	1	48	51	5.3	16	11.6	NW	24+	7	8	16	6.3	56
KANSAS CITY	226	981.7	1017.9	5.0	- 4.4	0.2	-1.9	17.2	23	-17.2	18+	0	25	- 5.6	65	44	5	17	5	1	157	102	4.6	18	13.4	S	15	8	9	14	6.1	58
ST JOSEPH	247	982.5		3.3	- 7.2	- 1.8	-1.5	17.2	23	-19.4	17+	0	28			34	- 1	15	6	1	97	102	4.2	18	11.2*	15	19+	9	7	15	6.0	
ST LOUIS	163	997.9	1019.4	4.4	- 5.0	- 0.1	-1.6	16.1	23	-16.7	18	0	26	- 3.3	79	31	- 19	9	11	0	8	25	5.0	17	11.6	SE	28+	7	4	20	7.1	40
ST LOUIS RFC	142			5.0	- 2.8	1.2	-1.3	15.6	23	-16.1	18	0	23			39	- 17	10	8		5	T										
SPRINGFIELD	386	969.3	1018.2	7.8	- 3.9	2.1	-0.5	22.2	23	-18.3	18	0	24	- 3.3	71	42	- 13	23	10	1	T	T	5.2	16	13.0	S	15	8	9	14	6.3	52
MONTANA																																
BILLINGS	1087	884.9	1013.5	- 2.2	-13.3	- 7.8	-5.8	9.4	23+	-32.2	16	0	31	-12.8	73	15	0	6	9	0	198	127	5.9	24	20.6	W	12	7	9	15	6.4	54
GLASGOW	694	938.2		-12.2	-21.7	-17.0	-9.1	3.3	8	-35.0	17	0	31			20	8	7	10	0	274	279						4	7	20	7.6	
GREAT FALLS	1116	881.9	1016.3	- 6.1	-17.2	-11.6	-8.9	6.1	10+	-37.8	16	0	31	-16.7	68	31	16	8	10	0	351	330	4.5	22	19.2	SW	12	7	6	18	6.9	40
HAVRE	787	922.4		-12.2	-22.8	-17.3	-11.2	3.9	10+	-35.0	17	0	31			27	15	10	15	0	358	279	3.9	W#	19.2	NW	15	7	2	22	7.4	37
HELENA	1167	866.8	1014.4	- 0.6	-13.9	- 7.2	-2.8	10.6	22	-38.9	17	0	30	-12.2	69	25	12	6	10	1	335	229	3.0	28	14.8	W	11	4	7	20	7.6	45
KALISPELL	904	905.9	1014.0	- 3.3	-12.2	- 7.8	-3.9	5.0	23	-31.1	17	0	30	- 8.3	89	107	74	34	21	0	813	356	3.0	18	17.4	2	15	1	3	27	9.1	
MILES CITY	801		1016.4	- 8.9	-18.3	-13.6	-8.7	0.6	11	-33.9	17	0	31	-16.1	81	16	6	6	9	0	185	330	3.6	4	13.0*	31	20+					
MISSOULA	972	896.3	1015.1	- 2.8	-11.7	- 7.0	-2.3	6.1	10	-34.4	17	0	31	- 8.3	90	80	53	24	20	0	803	330	2.4	32	15.2	W	23	3	2	26	8.6	27
NEBRASKA																																
GRAND ISLAND	561	948.6	1017.7	0.6	-10.6	- 4.9	-2.3	24.4	23	-23.9	17+	0	31	-10.0	72	4	- 10	3	2	0	20	25	5.1	35	13.0*	35	24	8	9	14	6.2	
LINCOLN U	351			2.2	- 7.8	- 3.1	-2.3	21.7	23	-22.8	17	0	31			13	- 10	10	5	0	38	25	4.2	S#	13.9	SW	19+	10	6	15	6.2	46
NORFOLK	471	959.4		- 1.7	-12.8	- 7.1	-3.3	15.6	23	-25.6	17	0	31			19	0	7	6	0	213	102						8	10	13	6.1	
NORTH PLATTE	846	912.9	1015.7	4.4	-12.2	- 3.8	-1.2	23.3	23	-25.0	17	0	30	-10.6	66	3	- 8	2	2	0	46	25	4.3	31	15.2	NW	15	7	4	20	7.0	43
OMAHA	298	976.6	1018.2	1.7	- 8.9	- 3.8	-1.7	19.4	23	-21.7	17	0	29	- 8.3	73	21	1	11	7	0	137	76	4.2	15	13.9	NW	16	11	5	15	6.0	59
OMAHA N OMAHA AP	403			0.0	-10.6	- 5.4	-2.7	18.3	23	-23.9	17	0	31			20	- 3				142	127										
SCOTTSBLUFF	1206	875.0	1015.7	2.8	-10.6	- 3.8	-1.9	17.2	23	-31.7	17	0	29	- 9.4	71	17	6	8	6	1	224	127	4.8	30	20.6*	28	15	8	6	17	6.5	
VALENTINE	789	921.5		0.0	-13.9	- 6.9	-3.1	20.0	23	-28.3	17	0	30			11	3	7	6	0	114	102	4.4	W#	16.1	W	15	6	11	14	6.2	51
NEVADA																																
ELKO	1539	842.7		4.4	- 6.1	- 0.9	2.2	13.9	22	-17.8	28+	0	24			84	58	23	18	0	279	76			13.0*	23	29+	4	8	19	7.7	
ELY	1906	806.5	1017.4	3.3	-10.0	- 3.3	-0.4	13.3	23	-23.9	13	0	29	- 7.8	71	45	28	10	13	0	455	127	3.0	18	18.8	S	19	7	4	20	7.1	47
LAS VEGAS	659	950.6	1017.9	13.9	1.1	7.4	0.1	20.6	25	- 5.6	14	0	13	- 5.0	44	T	- 10	T	0	0	T	0	3.4	25	24.1*	SW	27	13	11	7	4.5	76
RENO	1342	861.1	1017.2	7.8	- 3.3	2.2	2.3	15.6	21+	-17.8	31	0	21	- 2.2	76	73	46	39	12	0	203	102	4.1	18	18.8	SW	24	5	9	17	7.0	80
WINNEMUCCA	1310	865.8		6.7	- 3.3	1.7	2.9	17.2	22	-18.3	31	0	21			44	20	8	15	0	114	25	4.7	18	23.2	W	23	7	4	20	7.2	42
NEW HAMPSHIRE																																
CONCORD	103	1008.9	1020.1	1.1	- 8.3	- 3.8	0.1	13.3	26	-23.9	8	0	27	- 7.2	80	78	- 5	27	15	0	315	254	3.0	31	20.6*	32	1	8	6	17	6.6	40
MT WASHINGTON OBS	1909			- 5.6	-14.4	-10.2	2.7	5.6	26	-30.0	18	0	29			147	- 13	25	19	0	792	254	16.0	W#	50.1Y	NW	31	5	3	23	7.8	24
NEW JERSEY																																
ATLANTIC CITY	18	1019.5	1021.7	7.8	- 2.2	2.7	0.1	17.2	25	-14.4	19	0	20	- 0.6	81	88	6	28	10	0	25	25	4.6	20	14.3*	33	18	8	5	18	6.7	39
ATLANTIC CITY U	3			7.8	0.6	4.1	0.6	14.4	4	- 8.3	19	0	18			67	- 22						6.0		20.6*	NW	1					
NEWARK	3	1020.0	1021.2	5.6	- 1.1	2.2	0.3	20.6	25	- 9.4	19	0	19	- 2.2	74	104	22	31	16	0	99	76	4.6	23	19.7*	31	31	9	4	18	6.6	
TRENTON U	17	1012.9		6.1	- 1.1	2.7	0.9	20.0	25	- 8.9	19	0	19			118	45	32	14	1	61	51	3.9	NW#	16.5	NW	18	8	7	16	6.6	46
NEW MEXICO																																
ALBUQUERQUE	1618	848.2	1018.2	7.8	- 3.9	1.9	-0.8	17.8	24	-12.8	13	0	25	- 6.7	58	12	1	11	3	1	8	T	2.8	2	17.9	NW	28	9	5	17	6.2	63
CLAYTON	1515	842.3		8.9	- 6.1	1.6	-0.6	22.8	23+	-16.1	17	0	27			6	- 3	6	2	0	69	76						9	7	15	6.3	
RATON	1944	802.2		7.2	-10.0	- 1.4	-0.9	21.7	23	-25.6	13	0	30			9	2	4	6	0	107	51						8	6	17	6.5	
ROSWELL	1102	893.2		13.3	- 4.4	4.3	0.4	26.7	23	-14.4	14	0	27			6	- 8	4	2	0	48	25			18.3	W	25	10	10	11	5.7	61
SILVER CITY	1638	835.9		11.7	- 2.8	4.4	-0.8	18.9	1	-12.2	14	0	24			13	- 4	7	4	1	48	25						12	8	11	5.0	
NEW YORK																																
ALBANY	84	1017.1	1020.9	1.7	- 6.1	- 2.3	0.8	16.7	25	-16.1	7	0	26	- 5.6	79	83	18	31	13	0	284	127	4.3	18	15.6	NW	31	4	7	20	8.0	29
BINGHAMTON	485	958.7	1019.7	1.1	- 5.6	- 2.2	0.7	14.4	25	-14.4	18	0	26	- 4.4	86	81	16	20	22	0	381	102	4.8	19	13.9	NW	31	2	5	24	8.6	22
BUFFALO	215	989.5	1018.7	2.2	- 5.0	- 1.4	1.0	15.0	25+	-14.4	7	0	26	- 4.4	82	66	- 11	16	21	0	386	178	5.1	20	13.4	W	31	1	6	24	8.8	21
NEW YORK U	40	1009.2		5.6	- 0.6	2.4	0.3	15.6	27+	- 8.3	19	0	18			106	23	33	15	0	79	76	4.1	SW#	16.1	NW	18	10	5	16	6.3	39
NEW YORK LA GUARDIA	3	1018.8	1020.8	5.0	0.0	2.6	0.2	14.4	25	- 6.7	19	0	18	- 1.7	75	108	22	36	17	0	79	76	5.1	31	15.2	NW	18	7	7	17	6.7	
ROCHESTER	167	1000.0	1019.9	2.8	- 5.6	- 1.3	0.5	15.0	26	-15.0	7	0	25	- 3.9	82	52	- 9	13	19	1	295	127	4.5	18	15.6	W	13	2	4	25	8.7	26
SCHENECTADY	66			1.7	- 5.6	- 2.0	0.4	15.6	25	-13.3	7	0	26			80	13	32	12	0	254	127						8	9	14		
SYRACUSE	127	996.6	1019.5	2.8	- 5.6	- 1.3	1.0	17.8	25	-14.4	1	0	25	- 3.9	81	73	- 7	16	20	0	465	127	4.8	9	17.0	NW	31	3	5	23	8.5	20

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NORTH CAROLINA																																
ASHEVILLE	652	940.4	1021.4	10.6	- 1.1	4.7		20.0	24	-13.3	19	0	18	0.6	80	94		32	10	1	T	0	4.1	35	16.5*	35	18	8	8	15	6.2	49
CAPE HATTERAS R	2	1021.0	1021.7	15.0	7.2	11.1	2.1	23.3	26	- 3.9	2	0	4	7.2	79	81	- 35	30	11	0	0	0	4.2	2	16.1	NNE	18	5	8	18	7.2	48
CHARLOTTE	224	993.0	1021.7	12.2	2.8	7.4	1.4	21.7	26	- 9.4	1	0	13	2.8	75	81	- 11	43	10	1	0	0	3.1	18	11.6	SW	26+	10	2	19	6.6	51
GREENSBORO	273	989.3	1022.0	11.1	1.1	5.9	1.5	21.7	24	-11.7	19	0	15	2.2	80	81	2	39	10	1	T	T	3.0	18	12.1	SW	25+	8	6	17	6.6	40
RALEIGH	132	1007.6	1021.7	12.2	0.6	6.3	0.8	22.2	24	-11.7	19	0	18	2.2	79	105	28	43	10	2	0	T	3.6	18	13.4*	31	18	5	9	17	6.8	46
WILMINGTON	9	1019.8	1022.7	16.7	5.6	11.2	2.2	25.6	26	- 5.0	19	0	11	6.1	75	115	28	76	9	3	0	0	3.0	22	15.2	NW	18	5	10	16	6.6	62
WINSTON SALEM	294	985.6	1021.6	10.6	2.2	6.3	1.3	20.0	24	- 9.4	19	0	13	2.2	76	84	- 2	42	10	1	0	25	3.0	23	14.3*	16	6	8	7	16	6.3	
NORTH DAKOTA																																
BISMARCK	502	953.9	1018.2	-10.6	-21.1	-15.8	-7.9	2.2	9	-31.1	26	0	31	-20.0	67	17	7	4	12	0	272	254	4.7	6	17.9	NW	16	6	9	16	6.8	34
FARGO	273	982.2	1019.0	-11.1	-20.6	-15.7	-5.9	- 0.6	11	-31.1	26	0	31	-18.3	76	23	8	9	10	0	302	279	4.5	36	17.0	SE	28	8	7	16	6.7	44
WILLISTON	579	1013.1		-12.2	-23.3	-17.8	-9.0	1.7	9	-32.8	26+	0	31			33	20	11	10	0	325	305			25.0	W	16	9	8	14	6.5	49
OHIO																																
AKRON	368	980.6	1019.8	4.4	- 4.4	- 0.1	0.8	17.2	24	-14.4	1	0	24	- 3.3	79	115	58	32	17	1	234	203	4.6	21	12.1*	31	14	2	6	23	8.3	
CINCINNATI OBS	232			6.1	- 2.2	2.1	0.2	20.0	24	-16.1	18	0	23			111	41	40	13	2	T	25	3.0		8.9	W	30					32
CINCINNATI U	169	995.7		7.8	- 1.1	3.3	0.4	21.7	24	-15.0	18	0	16			111	41	41	12	2	T											
CLEVELAND	237	990.5	1019.1	3.9	- 3.3	0.1	1.3	18.3	24	-12.2	19+	0	24	- 3.3	78	68	8	15	20	0	221	102	5.0	18	13.0	SW	16	2	6	23	8.2	31
COLUMBUS	247	988.9	1020.4	5.0	- 2.8	1.1	1.3	18.3	24	-14.4	18	0	23	- 2.2	78	104	44	34	17	2	81	25	4.4	18	13.0	SW	24+	3	2	26	8.8	24
COLUMBUS U	221			5.6	- 1.7	1.8	1.0	18.3	24	-13.9	18	0	22			93	36				43	25										
DAYTON	305	986.2	1019.7	5.0	- 3.3	0.8	1.2	18.9	24	-15.6	1	0	23	- 2.2	78	85	24	26	16	2	53	25	5.0	20	12.5	W	30+	1	4	26	8.8	28
MANSFIELD	395			3.3	- 5.0	- 0.8	0.8	16.7	24	-15.6	18	0	25			73	6	20	17	0	208	127						3	5	23	8.3	
TOLEDO	206	995.5	1019.5	2.2	- 6.7	- 2.3	-0.3	15.0	24	-19.4	9	0	25	- 4.4	82	56	6	18	18	0	188	127	4.5	18	11.6	SE	15+	3	4	24	8.2	37
YOUNGSTOWN	359	975.7	1019.7	3.3	- 4.4	- 0.5	0.9	17.2	24	-13.3	19	0	24	- 3.3	80	116	48	33	21	1	361	178	4.9	22	11.2*	27	30	3	6	22	8.5	
OKLAHOMA																																
OKLAHOMA CITY	390	973.1	1017.9	9.4	- 2.8	3.3	-1.3	19.4	29	-15.0	18	0	23	- 2.2	71	16	- 20	13	3	0	T	T	5.9	18	18.8	SW	19	12	5	14	5.7	71
TULSA	198	993.1	1018.2	10.0	- 2.2	3.9	-0.3	21.7	29	-15.6	18	0	22	- 2.8	66	42	1	28	10	1	T	T	5.4	18	17.9	S	15	12	6	13	5.3	62
OREGON																																
ASTORIA	2	1010.4	1011.0	7.2	1.7	4.4	-1.7	12.8	22	- 9.4	17+	0	8	1.7	81	347	1	57	27	1	483	102	4.5	9	14.3*	24	11	1	5	25	8.8	
BURNS U	1265	868.2		2.8	- 6.1	- 1.6	0.0	11.7	22	-23.3	17	0	26			139	103	55	21	0	396	127						4	7	20	7.6	
EUGENE	109	999.8	1013.3	7.2	2.2	4.7	-0.7	16.7	22	-12.2	17	0	9	3.3	89	533	365	94	27	1	259	152	3.9	18	13.0*	36	16	0	6	25	9.2	
MEACHAM	1234			0.0	- 6.7	- 3.3	-2.1	10.0	22	-30.0	16	0	29			207	91	40	22	0	1128	483						3	2	26	8.5	
MEDFORD	396	967.2	1015.5	8.9	1.7	5.3	2.6	18.9	22	- 6.7	17	0	11	2.8	85	323	237	95	21	0	236	76	2.1	2	13.0*	23	22	0	5	26	8.9	
PENDLETON	452	959.1	1013.9	4.4	- 3.3	0.5	-2.0	16.1	22	-24.4	17+	0	21	- 2.8	81	82	44	17	20	0	124	76	4.5	26	20.6*	25	14	3	4	24	8.6	
PORTLAND	6	1007.2	1012.8	6.1	- 0.6	2.8	-2.4	15.0	22	-14.4	16	0	13	- 0.6	79	252	90	53	25	0	279	279	5.3	12	13.9	NE	16	2	1	28	9.2	24
PORTLAND U	9			7.8	1.7	4.6	-1.6	16.1	22	-12.2	17+	0	6			291	102	55	23		340	254										
ROSEBURG	157	995.8		8.9	2.8	5.8	0.3	17.8	22	- 8.3	17	0	10			357	213	62	27	0	140	76	1.9	S#	9.8	SW	23	0	3	28	9.2	12
SALEM	60	1006.1	1013.4	7.2	1.1	4.2	-1.1	16.1	22	-12.8	17	0	9	2.8	91	315	128	69	26	0	145	51	4.6	18	13.4*	18	26	1	3	27	8.9	
SEXTON SUMMIT R	1169	879.5		2.8	- 1.7	0.8	-1.9	11.7	22	- 7.2	31+	0	21			509	388	113	24	0	978	686	6.7					1	2	28	9.1	
PACIFIC AREA																																
CANTON ISLAND	2	1007.8	1007.9	30.0	25.0	27.5	-0.9	31.1	31+	23.9	13+	0	0	21.7	70	1	- 64	1	2	0	0	0	5.7	6				9	15	7	5.5	
ENIWETOK	4	1009.0		30.0	25.0	27.6	-0.2	31.1	10+	21.7	18	0	0			40	- 27	10	12	1	0	0	7.1									
TAGUAC GUAM R	110	998.6		28.9	22.2	25.6	-0.4	30.0	20+	18.9	2	0	0			176	21	30	24	1	0	0	3.6	E#	13.0	E	11					58
JOHNSTON	2	1010.0	1011.4	27.8	22.8	25.2	-0.4	28.3	21+	16.7	12	0	0	21.1	79	331	255	234	16	5	0	0	5.4	9	15.6	SE	12	9	13	9	5.3	61
KOROR R	29	1006.1	1008.7	30.6	23.9	27.2	0.1	32.2	1	22.8	22+	1	0	24.4	87	291	- 7	111	20	3	0	0	3.1	6	18.8	SW	12	0	0	31	9.9	53
KWAJALEIN	2	1008.0	1008.9	30.0	23.9	26.9	-0.2	31.1	4	22.2	23+	0	0	22.8	80	320	92	114	18	0	0	0	7.1	6	14.3*	10	1	1	4	26	8.7	
PONAPE R	37	1003.9	1008.4	29.4	23.3	26.4	-0.3	31.7	22+	21.7	30+	0	0	23.3	85	463	- 3	105	26	1	0	0	2.8	4	12.1	NE	2	0	8	23	8.7	47
TRUK MOEN ISLAND	2	1008.6		29.4	23.9	26.8	-0.3	31.7	23	22.2	26	0	0	23.3	81	450	114	115	25	7	0	0	4.1	4	12.5	SW	10	0	2	29	9.4	46
WAKE	3	1013.5		27.2	22.2	24.6	-1.4	28.9	20+	18.9	28+	0	0	18.3	69	42	- 4	17	12	0	0	0	5.4	6	13.4*	1	31	10	17	4	4.9	
YAP R	17	1007.1	1007.9	30.0	23.9	27.1	-0.2	31.7	14+	22.2	11+	0	0	23.9	84	279	21	77	20	5	0	0	4.1	4	21.0	NE	11	0	2	29	9.5	34
PENNSYLVANIA																																
ALLENTOWN	115	1006.6	1021.3	4.4	- 3.3	0.4	0.8	18.3	26+	-10.6	19+	0	23	- 3.3	77	114	31	34	16	0	56	51	4.6	7	21.5*	30	31	9	4	18	6.9	
ERIE	223	992.3	1019.3	4.4	- 2.8	0.7	1.4	18.9	25+	-10.0	19	0	23	- 2.8	79	82	15	22	21	0	343	152	7.2	18	17.0*	17	11	2	2	27	8.9	
HARRISBURG	102	1007.1	1021.5	5.0	- 2.8	1.1	0.5	18.3	25	-10.6	19	0	20	- 3.9	73	79	5	23	13	0	36	25	3.9	14	14.3	NW	31	8	3	20	7.2	39
PHILADELPHIA	2	1016.7	1021.2	7.2	- 1.1	3.1	2.0	20.0	26+	- 9.4	19	0	18	- 1.7	73	130	56	40	14	0	66	25	3.9	18	15.2	NW	18	8	6	17	6.7	41
PITTSBURGH	347	988.5	1019.8	5.6	- 3.3	1.1	1.8	18.3	24	-12.8	7+	0	23	- 2.8	76	108	47	32	19	2	155	102	4.1	17	13.4*	28	14	1	8	22	8.3	30
PITTSBURGH U	228			7.2	- 1.1	2.8	1.2	20.0	24	-10.6	19	0	20			95	31	31	16		66											19
READING U	81	1008.5		6.1	- 1.1	2.5	1.0	20.0	25	- 7.8	19	0	18			127	47	34	16	0	43	25	4.6	NW#	18.8	NW	18	9	6	16	6.5	38
SCRANTON	283	985.5	1020.7	3.3	- 3.9	- 0.2	1.2	16.7	25	-13.3	19	0	25	- 3.3	79	93	30	35	16	0	104	51	3.7	20	14.8	W	31	3	6	22	8.2	29

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min. 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	.25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
PENNSYLVANIA																																
WILLIAMSPORT	161	1001.7	1021.4	3.3	- 3.9	- 0.3	0.6	14.4	25	-13.9	19	0	26	- 3.3	80	68	- 10	16	16	0	46	T	3.4	28	13.0*	18	25	4	7	20	7.7	
RHODE ISLAND																																
BLOCK ISLAND	34	1015.0		5.6	- 1.1	2.3	0.2	12.2	25	- 8.9	19	0	19			168	77	61	17	0	28	25						6	8	17	7.3	
PROVIDENCE	16	1013.8	1020.0	4.4	- 3.3	0.7	0.7	17.2	25	-11.1	19+	0	25	- 3.3	75	139	47	53	15	0	175	127	4.7	36	16.5*	31	31	6	9	16	6.9	40
SOUTH CAROLINA																																
CHARLESTON	12	1020.0	1022.0	17.2	6.1	11.6	1.6	25.0	26	- 5.0	2	0	8	6.7	74	76	4	51	10	3	0	0	4.2	20	19.7Y	NW	18	4	9	18	7.2	50
CHARLESTON U	3			16.7	8.9	12.6	1.6	23.3	13	- 1.7	1	0	2			82	12	59	8		0	0	4.6		15.2	N	18					
COLUMBIA	66	1008.8	1021.9	15.6	3.9	9.9	1.9	25.0	26	- 6.1	1	0	10	5.6	77	116	27	74	10	3	0	0	3.0	36	12.1*	21	26	7	8	16	6.7	42
FLORENCE	45	1016.0	1021.9	15.6	4.4	10.0	1.6	23.9	25	- 6.7	19	0	9	5.0	74	66	- 12	31	9	1	0	0	3.6	18	10.3*	32	26+	6	7	18	6.9	
GNVLE SPARTANBURG	292	983.8	1021.7	12.8	2.2	7.4	0.7	21.7	24	- 8.9	19	0	11	1.7	72	92	- 10	41	12	3	0	T	2.9	23	19.2	SE	25	10	3	18	6.5	42
SOUTH DAKOTA																																
HURON	391	968.1	1018.0	- 6.1	-18.3	-12.2	-4.8	5.0	11	-32.2	26	0	31	-15.0	76	18	3	9	9	0	257	178	5.3	30	15.2	NW	15	8	5	18	6.9	46
RAPID CITY	965	896.9	1015.6	- 0.6	-13.9	- 7.3	-4.6	15.6	23+	-30.6	17	0	30	-11.7	71	20	12	6	12	1	198	102	4.9	12	25.0	N	16+	6	6	19	7.0	50
SIOUX FALLS	432	964.2	1018.0	- 3.9	-14.4	- 9.2	-3.1	6.1	11	-28.9	26	0	31	-13.3	74	15	- 4	11	7	0	165	127	4.9	5	11.2*	32	17+	6	7	18	7.2	
TENNESSEE																																
BRISTOL	459	965.3	1020.9	10.6	0.0	5.3	1.8	22.2	24	-12.8	1	0	14	1.1	76	63	- 19	23	15	1	T	T	2.4	29	13.0*	22	25	7	7	17	6.9	
CHATTANOOGA	204	993.3	1021.7	11.7	1.7	6.6	0.8	23.9	24	- 8.3	19	0	13	2.8	80	91	- 41	36	10	2	0	0	2.8	14	12.5	SW	24	7	5	19	7.1	43
KNOXVILLE	299	985.2	1021.6	11.1	1.7	6.4	1.1	22.8	24	- 8.9	19	0	13	1.1	72	102	- 5	49	13	1	T	T	3.2	4	18.8	W	24	5	7	19	7.1	33
MEMPHIS	80	1005.2	1020.2	11.7	2.2	6.8	1.0	22.8	24	-10.6	18	0	13	1.7	72	202	77	105	10	2	T	T	4.4	20	15.6	W	24	7	3	21	7.3	35
MEMPHIS U				11.1	2.8	7.0	0.3	22.2	24	- 9.4	18	0	12			184	65				T											
NASHVILLE	176	1000.1	1020.3	11.1	0.6	5.9	0.7	24.4	24	-13.3	18	0	16	1.7	76	131	24	43	13	4	0	0	4.7	18	15.6	SW	24	7	5	19	7.4	35
OAK RIDGE	276	988.4		10.0	0.6	5.4	0.9	22.8	24	- 9.4	19	0	12			143	- 7	50	15	1	T	T	1.9		22.4Y		24	6	3	22	7.3	
TEXAS																																
ABILENE	537	955.3	1017.6	16.1	2.2	9.2	1.4	28.9	23	- 8.3	18	0	13	- 2.2	50	4	- 28	4	2	0	T	T	5.4	18	13.9	N	12	15	4	12	4.7	71
AMARILLO	1098	887.3	1015.6	11.1	- 3.3	3.9	-0.1	24.4	23	-16.7	17	0	23	- 5.6	58	20	1	13	6	0	13	T	6.1	24	15.2	SW	27	8	8	15	6.1	72
AUSTIN	182	997.0	1019.4	17.2	5.6	11.2	-0.3	27.8	24	- 3.3	18	0	9	4.4	69	22	- 42	21	3	0	0	0	4.2	18	13.0	N	17	10	7	14	5.8	53
BROWNSVILLE	5	1015.6	1018.3	20.6	10.6	15.7	-1.4	31.7	3	0.0	18	0	1	11.7	81	70	26	62	7	0	T	0	5.8	18	15.2	S	2	9	7	15	6.3	49
CORPUS CHRISTI	12	1017.8	1019.1	19.4	8.9	14.2	-0.9	31.7	25	- 1.1	18	0	2	9.4	78	62	9	36	6	0	0	0	5.6	2	18.3	N	17	8	6	17	6.7	40
DALLAS	147	1000.0	1019.1	15.0	3.3	9.2	0.3	27.2	23	- 9.4	18	0	10	2.2	65	22	- 46	18	4	1	T	T	5.3	18	13.9	S	15	12	9	10	5.2	61
DEL RIO	313	983.3	1018.7	17.8	3.9	10.7		28.9	25+	- 3.3	18	0	6	2.8	64	6		4	3	1	T	T	3.5	34	10.3	33	17	10	9	12	5.3	
EL PASO	1194	887.2	1017.2	12.8	0.6	6.7	-0.1	21.1	2	-11.7	14	0	18	- 3.9	53	13	1	10	3	0	T	T	3.4	27	20.1	W	24	9	11	11	5.7	70
FORT WORTH	164	997.4	1018.9	15.0	1.7	8.4	-0.3	27.2	23+	- 9.4	18	0	16	1.7	67	32	- 28	28	6	1	T	T	4.7	18	12.5*	17	28+	12	8	11	5.3	
GALVESTON U	2			16.1	10.0	13.1	-0.9	22.2	24	0.6	18	0	0			181	82	138	6		0	0	4.7		15.2	NE	18					47
HOUSTON U	12			18.3	9.4	14.0	0.4	27.8	25	0.0	18+	0	2			96	- 8	77	7		0	0										
HOUSTON	15		1019.4	18.9	7.8	13.3	0.1	27.8	30+	- 0.6	18+	0	4	8.9	78	141	31				0	0	4.6	36	13.0*	20	24+					
LAREDO	152	1003.0	1018.6	20.6	7.8	14.3	-0.8	31.7	25	0.0	14	0	1	6.1	64	5	- 25	3	4	0	0	0	3.8	15	14.3*	35	13	10	10	11	5.6	
LUBBOCK	988	903.3	1017.1	13.3	- 1.1	6.0	1.0	26.7	23	-11.1	18+	0	18	- 2.8	61	23	6	18	4	0	3	T	5.7	27	16.5*	4	12	7	13	11	6.0	
MIDLAND	869	916.1	1016.0	17.2	1.7	9.4	1.7	27.2	23	- 6.7	18	0	15	- 0.6	58	10	- 7	9	3	0	T	T	4.7	24	13.0*	30	25	12	7	12	5.4	
PORT ARTHUR	5	1018.0	1019.5	17.2	1.7	12.6	-0.1	27.2	30	- 1.7	15	0	6	8.9	82	129	- 1	95	7	1	0	0	4.5	36	16.5	SW	23	4	11	16	7.2	40
SAN ANGELO	580	949.4	1017.8	16.7	2.2	9.4	0.7	26.1	23+	- 6.7	18	0	14	0.6	60	7	- 15	5	2	1	T	T	3.9	21	11.6*	21	15	13	9	9	4.7	
SAN ANTONIO	240	994.3	1019.2	17.8	4.4	11.3	-0.8	28.3	25+	- 4.4	15	0	9	3.9	66	31	- 13	29	4	0	5	0	3.8	2	14.3	N	17	10	7	14	5.7	62
VICTORIA	32	1014.6		18.9	7.8	13.4	-0.6	31.1	25	- 1.1	18+	0	7			46	- 20	28	8	1	T	0	4.4		19.7Y		2	8	4	19	6.6	
WACO	152	997.4	1019.0	17.2	3.3	10.3	0.2	27.2	31+	- 5.6	18	0	13	3.3	67	23	- 47	22	2	0	T	0	5.2	18	13.0*	35	17+	12	8	11	5.0	
WICHITA FALLS	303	980.3	1018.3	12.2	- 1.1	5.6	-1.4	23.9	23	-11.7	18	0	20	- 1.7	66	15	- 22	13	4	0	T	T	5.1	36	13.9*	19	1	12	6	13	5.5	
UTAH																																
MILFORD	1533	843.1		6.1	- 5.0	0.4	2.5	16.1	24	-14.4	13	0	24			14	- 4	6	10	1	130	51						7	7	17	6.7	
SALT LAKE CITY	1286	866.8	1018.2	5.0	- 3.3	0.7	1.8	13.9	23+	-15.0	17	0	22	- 5.6	65	97	66	36	12	3	157	51	4.2	18	15.2	S	21	5	6	20	7.6	37
WENDOVER	1291	869.2		5.6	- 3.3	1.0	2.2	17.2	22	-16.1	18+	0	23			22	14	10	9	0	8	T						9	10	12	5.8	
VERMONT																																
BURLINGTON	100	1004.4	1019.7	0.0	- 7.8	- 4.0	1.8	16.7	25	-18.9	7	0	27	- 7.2	79	41	- 13	17	15	0	584	279	5.0	18	16.1	S	16	2	9	20	8.2	34
VIRGINIA																																
LYNCHBURG	279	995.5		10.0	0.0	4.9	1.3	19.4	25	-13.3	19	0	17			89	10	39	10	1	T	T	2.7		13.9	S	25	9	7	15	6.1	45
NORFOLK	8	1020.9	1022.3	12.8	3.3	8.1	2.2	23.9	25	- 4.4	16+	0	10	3.3	73	75	5	41	10	0	0	0	5.1	18	16.1	W	12	8	6	17	6.7	31
RICHMOND	49	1015.4	1021.8	11.7	0.6	6.1	1.8	21.7	26+	- 9.4	19	0	17	1.1	74	77	2	37	12	0	0	0	3.5	19	13.9	NW	18	8	6	17	6.8	46
ROANOKE	358	977.8	1021.1	10.0	- 1.1	4.4	0.9	21.1	26	-13.3	19	0	19	- 0.6	72	69	- 6	27	11	2	T	T	2.7	31	11.2*	29	15	9	10	12	6.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure		Temperature											Average relative humidity	Precipitation							Wind						No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
												No. of days							No. of days		Snow, Sleet				Fastest mile (1.6 kilometers)							
		Station Ø	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Max 32.2 °C or above	Min 0 C or lower	Average dew point		Total	Departure from normal	Greatest in 24 hours	25 mm. or more	With thunderstorms	Total	Maximum depth on ground	Average speed	Prevailing direction	Speed	Direction	Date	Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10		
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
WASHINGTON																																
OLYMPIA	59	1004.0	1011.4	3.9	- 1.1	1.3	-3.5	12.2	1	-16.1	17	0	22	0.0	89	231	2	50	27	0	419	102	3.9	20	14.3*	19	31	1	3	27	9.1	
SEATTLE TACOMA	122	997.0	1011.1	5.0	0.0	2.4	-2.4	12.2	1	-12.2	16	0	14	- 0.6	81	140	- 19	40	22	0	193	76	4.4	12	13.4*	36	16+	1	5	25	8.7	
SEATTLE U	4			6.1	2.2	4.1	-2.4	12.2	8+	-11.7	16	0	6			123	- 14				163	76			18.8	SW	12					
SPOKANE	718	942.4	1012.4	- 1.1	- 7.8	- 4.4	-3.4	8.9	1	-28.9	17	0	28	- 6.1	85	130	69	32	21	0	1067	533	4.2	22	17.9	SW	12	1	5	25	8.9	10
STAMPEDE PASS R	1206	871.0		- 3.9	- 8.3	- 6.3	-3.5	5.6	22	-26.7	17	0	30			393	- 19	65	25	0	2113	2210						2	1	28	9.1	
TATOOSH ISLAND R	31	1005.6	1009.1	6.1	1.1	3.7	-3.2	11.7	1	-10.0	16	0	11	1.1	84	184	-125	21	25	0	513	178	8.7	7	26.4	NW	15	1	8	22	8.4	20
WALLA WALLA U	289	977.2		4.4	- 3.3	0.5	-2.7	17.2	22	-21.1	17	0	20			109	62	27	18	0	274	102	2.3		12.5	SW	22+	0	4	27	9.0	10
YAKIMA	321	973.7	1014.1	1.7	- 6.7	- 2.7	-2.4	10.6	3	-27.2	17	0	26	- 6.7	76	106	78	36	15	0	953	559	2.5	27	15.6*	30	15	3	8	20	7.7	
WEST INDIES																																
SAN JUAN P.R.	5	1011.8	1016.3	27.8	21.1	24.3	-0.3	28.9	9+	17.2	22	0	0	18.9	71	60	- 79	8	24	0	0	0	4.7	7	13.9	NE	12	3	21	7	5.9	50
SWAN ISLAND	9	1012.8		28.3	23.9	26.2	0.3	29.4	5+	21.7	30	0	0			62	- 81	15	13	2	0	0						12	11	8	5.2	
WEST VIRGINIA																																
BECKLEY	763	929.6	1021.1	7.8	- 2.2	2.7		19.4	24	-17.2	19	0	23	- 1.1	78	87		31	16	1	36	76	4.7	15	18.3*	28	26	6	4	21	7.4	
CHARLESTON	286	984.3	1020.6	9.4	- 1.1	4.0	1.2	22.8	24	-14.4	19+	0	20	- 0.6	73	80	- 3	22	17	1	23	25	3.2	22	14.3*	26	25	5	2	24	7.8	
ELKINS	600	949.4	1020.6	8.3	- 4.4	1.8	1.2	18.3	25+	-20.0	19	0	23	- 1.1	82	86	8	18	20	1	145	102	3.1	30	14.3*	14	27+	4	4	23	8.3	
HUNTINGTON	252	989.6	1020.4	8.9	- 1.1	4.1	1.1	23.9	24	-13.9	19+	0	19	0.6	78	99	28	31	17	1	28	25	2.9	18	11.6*	26	25+	5	5	21	7.6	
PARKERSBURG U	187			8.3	- 1.1	3.5	1.4	21.1	24	-12.8	18	0	18			102	30	36	14	1	18	25	3.2		12.1	W	30					22
WISCONSIN																																
GREEN BAY	208	994.6	1018.5	- 2.8	-10.6	- 6.7	-1.2	5.0	11	-21.7	17	0	28	- 9.4	79	18	- 12	5	12	0	160	51	4.9	29	15.2	W	17	9	3	19	6.8	32
LA CROSSE	199	991.9	1019.6	- 3.3	-12.8	- 8.1	-2.4	3.3	11	-28.3	27	0	30	-11.1	78	22	- 7	8	9	0	170	102	3.6	18	10.3*	31	17+	6	5	20	7.2	
MADISON	262	981.7	1018.7	- 2.8	-12.2	- 7.3	-1.8	3.9	11	-22.8	17	0	31	- 9.4	80	9	- 25	3	8	0	89	51	4.2	18	12.1	W	14	9	2	20	7.0	35
MILWAUKEE	205	992.6	1018.8	- 1.1	- 8.9	- 4.9	-0.8	4.4	29+	-18.9	17	0	31	- 7.8	79	25	- 17	9	13	0	206	102	4.9	28	13.4	SE	15	6	3	22	7.5	35
WYOMING																																
CASPER	1621	831.3	1013.5	0.6	-10.0	- 4.8	-2.2	11.1	23+	-35.0	17+	0	29	-11.1	60	12		9	6	0	170	102	8.0	23	20.6*	22	21	6	11	14	6.4	
CHEYENNE	1867	807.2	1013.4	5.0	- 7.8	- 1.4	0.0	14.4	23+	-31.1	17	0	26	-12.8	47	4	- 7	1	6	0	41	25	7.5	29	25.5	W	15+	11	3	17	6.0	54
LANDER	1696	829.2	1013.6	2.2	-10.0	- 3.9	1.0	12.8	22	-30.0	17	0	26	-11.7	60	2	- 9	1	2	0	10	T	4.2	24	32.6	SW	22	10	9	12	5.6	60
SHERIDAN	1208	878.6	1014.2	0.0	-13.3	- 6.7	-3.5	15.6	23+	-33.9	17	0	30	-11.7	66	17	1	4	10	0	239	203	4.5	36	22.4	SW	20	6	5	20	7.1	50

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Precipitation data in column headed "Greatest in 24 hours" are computed on a 24-hour basis without regard to calendar day and may include precipitation from the last day of the previous month or the first day of the following month.

Wind directions under prevailing direction and fastest mile are to 8, 16, or 36 points of the compass. Directions to 36 points are printed in tens of degrees.

* Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which "Fastest Mile" data can be evaluated.
A Maximum hourly average.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
Y Peak Gust.
# Wind direction to 8 compass points only.
+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Data in this table are obtained by conversion from data in the English Units table.

Z Sun continuously below horizon.

HEATING DEGREE DAYS

(Base 65°F.)

DECEMBER 1964

State and station	Current season		Normals
	This month	Period July through this month	July through this month
ALABAMA			
Birmingham	520	1021	1017
Huntsville	644	1292	1228
Mobile	347	592	592
Montgomery	454	847	925
ALASKA			
Anchorage	1980	5246	4838
Annette	1200	3556	2981
Barrow	2723	9214	8511
Barter Island	2741	8897	8260
Bethel	2108	5890	5667
Cold Bay	1068	4355	4236
Cordova FAA	1633	4634	4298
Fairbanks	2841	6866	6435
Juneau	1496	4214	3903
King Salmon	1929	5352	4952
Kotzebue	2400	6810	6654
McGrath	2692	6648	6386
Nome	2090	6065	6039
St. Paul Is.	1091	4779	4778
Shemya	936	4392	4255
Yakutat	1520	4588	3955
ARIZONA			
Flagstaff	1070	2814	2813
Phoenix (U)	318	549	
Phoenix	396	677	671
Prescott	807	1667	1648
Tucson	383	681	662
Winslow	927	1873	1970
Yuma	278	477	372
ARKANSAS			
Ft. Smith	733	1267	1293
Little Rock	646	1171	1317
Texarkana	534	904	984
CALIFORNIA			
Bakersfield	438	863	821
Bishop	777	1625	1663
Blue Canyon	881	2115	1896
Burbank	350	631	527
Eureka (U)	505	2042	2027
Fresno	492	949	975
Long Beach	342	638	496
Los Angeles (U)	256	447	398
Los Angeles	301	536	559
Mt. Shasta (R)	896	2285	2186
Oakland	385	1013	1065
Red Bluff	472	970	926
Sacramento (U)	427	882	1033
Sacramento	469	968	963
Sandberg (R)	765	1620	1403
San Diego	280	475	432
San Francisco (U)	343	1204	1205
San Francisco	416	1160	1130
San Jose (U)	396	896	
Santa Catalina	344	666	519
Santa Maria	395	1301	1095
Stockton	452	973	
COLORADO			
Alamosa	1807	3998	3567
Colorado Springs	992	2340	2504
Denver	981	2238	2280
Grand Junction	1067	2127	2242
Pueblo	905	1976	2116
CONNECTICUT			
Bridgeport	952	1976	1974
Hartford	1084	2293	2307
Middletown	1054	2393	
New Haven	955	2059	2105
DELAWARE			
Wilmington	854	1798	1836
DIST. OF COLUMBIA			
Washington (U)	757	1518	
Washington	771	1515	1603
FLORIDA			
Apalachicola (U)	239	361	488
Daytona Beach	126	166	286
Fort Myers	26	26	133
Jacksonville	213	318	466
Key West	0	0	28
Lakeland (U)	92	124	221
Miami	4	4	65
Miami Beach	5	5	40
Orlando	84	105	270
Pensacola	304	518	567
Tallahassee	304	543	586
Tampa	114	160	231
West Palm Beach	9	9	71
GEORGIA			
Athens	539	1027	1164
Atlanta	567	1058	1207
Augusta	442	829	963
Columbus	418	780	963
Macon	446	861	870
Rome	617	1256	1360
Savannah	355	628	730
IDAHO			
Boise	916	2349	2356
Idaho Falls 46W (R)	1325	3498	3369
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	1387	3579	3525
Lewiston	1034	2357	2215
Pocatello	1105	2768	2731
ILLINOIS			
Cairo (U)	777	1413	1504
Chicago (Midway)	1160	2335	2273
Chicago (O'Hare)	1240	2670	2483
Moline	1241	2429	2398
Peoria	1212	2402	2291
Rockford	1298	2735	2587
Springfield	1100	2086	2082
INDIANA			
Evansville	885	1830	1788
Ft. Wayne	1145	2408	2410
Indianapolis	1009	2086	2180
South Bend	1157	2498	2391
IOWA			
Burlington	1187	2278	2318
Des Moines	1286	2578	2518
Dubuque	1391	2871	2842
Sioux City	1424	2823	2593
Waterloo	1417	2986	2802
KANSAS			
Concordia	1107	2116	2061
Dodge City	1051	2021	1889
Goodland	1065	2354	2351
Topeka	1087	2051	1979
Wichita	1038	1804	1785
KENTUCKY			
Lexington	850	1799	1804
Louisville	829	1729	1801
LOUISIANA			
Alexandria	456	848	760
Baton Rouge	372	602	616
Lake Charles	347	546	570
New Orleans (Audubon Park)	279	450	468
New Orleans	297	533	533
Shreveport	479	794	821
MAINE			
Caribou	1484	3948	3790
Greenville (U)	1473	3912	
Portland	1222	3083	2790
MARYLAND			
Baltimore (U)	716	1314	1508
Baltimore	797	1644	1802
MASSACHUSETTS			
Blue Hill Obs. (R)	1066	2369	2286
Boston	1004	2184	1971
Nantucket	833	1959	1995
Pittsfield	1158	2868	2889
Worcester	1122	2603	2583
MICHIGAN			
Alpena	1290	3140	3206
Detroit (City AP)	1066	2206	2273
Detroit (M. Wayne Co.)	1137	2674	2275
Detroit (Willow Run)	1121	2541	2301
Escanaba (U)	1372	3268	3145
Flint	1152	2732	2735
Grand Rapids	1202	2682	2557
Lansing	1206	2714	2573
Marquette (U)	1355	3193	3111
Muskegon	1113	2523	2410
S. Ste. Marie	1467	3564	3378
MINNESOTA			
Duluth	1751	4061	3854
Internat. Falls	1944	4404	4207
Minneapolis	1551	3247	3215
Rochester	1535	3380	3162
St. Cloud	1700	3609	3414
MISSISSIPPI			
Jackson	465	808	882
Meridian	480	942	938
Vicksburg (U)	454	788	794
MISSOURI			
Columbia	1004	1812	1923
Kansas City	1004	1763	1776
St. Joseph	1114	2097	2098
St. Louis (RFC)	950	1639	1698
St. Louis	1019	1935	1874
Springfield	901	1694	1745
MONTANA			
Billings	1454	3198	2726
Butte	1445	3952	
Glasgow	1974	3941	3526
Great Falls	1666	3461	2972
Havre	1992	4098	3414
Helena	1420	3424	3252
Kalispell	1454	3872	3384
Miles City	1775	3718	2956
Missoula	1406	3727	3384
NEBRASKA			
Grand Island	1294	2706	2501
Lincoln (U)	1187	2298	2174
Norfolk	1412	2506	2624
North Platte	1229	2735	2620
Omaha	1227	2373	2346
Omaha N. Omaha AP	1319	2614	2477
Scottsbluff	1232	2758	2601
Valentine	1403	3081	2858
NEVADA			
Elko	1067	2986	2950
Ely	1203	3142	3020
Las Vegas	606	1062	1082
Reno	892	2227	2651
Tonopah	985	2220	
Winnemucca	919	2553	2747
NEW HAMPSHIRE			
Concord	1230	2960	2800
Mt. Washington Obs. (R)	1590	5987	5889
NEW JERSEY			
Atlantic City	869	1795	1719
Atlantic City (U)	785	1500	
Newark	895	1675	1772
Trenton (U)	867	1746	1821
NEW MEXICO			
Albuquerque	909	1736	1751
Clayton	926	1974	1980
Raton	1094	2451	2467
Roswell	782	1449	1599
Silver City	765	1509	1443
NEW YORK			
Albany	1141	2545	2568
Binghamton	1142	2544	2753
Buffalo	1097	2544	2570
New York (U)	879	1714	1705
New York (LaGuardia)	872	1660	1665
Rochester	1090	2481	2453
Schenectady	1128	2518	2482
Syracuse	1087	2384	2478
NORTH CAROLINA			
Asheville	752	1675	
Cape Hatteras (R)	409	742	872
Charlotte	604	1217	1259
Greensboro	688	1416	1516
Raleigh	665	1360	1351
Wilmington	415	744	886
Winston-Salem	667	1284	1422
NORTH DAKOTA			
Bismarck	1909	4086	3407
Devils Lake (U)	1964	4206	3833
Fargo	1902	3974	3534
Grand Forks FAA	1926	4012	
Pembina	2028	4187	
Williston	2017	4255	3571
OHIO			
Akron	1020	2249	2282
Cincinnati (U)	830	1607	1667
Cincinnati	907	1894	2018
Cincinnati Obs.	903	1824	1835
Cleveland	1009	2275	2349
Columbus	957	2088	2190
Columbus (U)	917	1857	1970
Dayton	968	2012	2135
Mansfield	1061	2316	2420
Toledo	1149	2567	2469
Youngstown	1041	2342	2432
OKLAHOMA			
Oklahoma City	831	1459	1443
Tulsa	797	1362	1485
OREGON			
Astoria	768	2286	2101
Burns (U)	1108	2946	2754
Eugene	753	1886	1867
Meacham	1200	3392	3085
Medford	723	1868	1999
Pendleton	990	2257	2056
Portland (U)	757	1729	1583
Portland	859	2267	1834
Roseburg	692	1724	1752
Salem	783	2125	1840
Sexton Summit (R)	972	2647	2316
PENNSYLVANIA			
Allentown	990	2119	2181
Erie	978	2231	2295
Harrisburg	958	2002	2001
Philadelphia (U)	789	1475	1604
Philadelphia	847	1809	1936
Pittsburgh (U)	858	1792	1896
Pittsburgh	954	2129	2278
Reading (U)	876	1773	1847
Scranton	1028	2265	2451
Williamsport	1032	2197	2285
RHODE ISLAND			
Block Island	884	1920	1882
Providence	981	2121	2167
SOUTH CAROLINA			
Charleston (U)	323	514	669
Charleston	385	673	812
Columbia	473	896	1006
Florence	465	871	945
Greenville-Spartanburg	604	1124	1177
SOUTH DAKOTA			
Huron	1699	3465	3140
Pierre	1629	3236	
Rapid City	1419	3022	2749
Sioux Falls	1528	3257	3007
TENNESSEE			
Bristol	719	1542	1688
Chattanooga	646	1285	1327
Knoxville	657	1356	1415
Memphis (U)	621	1094	1158
Memphis	634	1184	1293
Nashville	685	1369	1415
Oak Ridge	715	1465	1534
TEXAS			
Abilene	505	844	1051
Amarillo	795	1509	1591
Austin	415	590	644
Brownsville	215	272	215
Corpus Christi	289	377	340
Dallas	507	795	907
Del Rio	417	590	
El Paso	643	1110	1146
Fort Worth	550	897	925
Galveston (U)	293	400	408
Houston (U)	284	394	453
Houston	315	460	496
Laredo	267	361	322
Lubbock	677	1256	1449
Midland	493	816	1060
Port Arthur	337	524	558
San Angelo	492	836	922
San Antonio	414	610	598
Victoria	321	445	426
Waco	458	699	769
Wichita Falls	706	1156	1112
UTAH			
Milford	995	2522	2550
Salt Lake City	975	2326	2431
Wendover	959	2281	2333
VERMONT			
Burlington	1238	3105	2886
VIRGINIA			
Lynchburg	743	1608	1636
Norfolk	575	1123	1242
Richmond	676	1162	1529
Roanoke	770	1567	1654
WASHINGTON			
Olympia	944	2655	2148
Seattle (U)	788	1869	1755
Seattle	829	1969	1992
Seattle-Tacoma	882	2266	2054
Spokane	1268	3207	2656
Stampede Pass (R)	1365	4385	3844
Tatoosh Island (R)	815	2716	2459
Walla Walla	983	2287	
Walla Walla (U)	988	2160	1921
Yakima	1167	2776	2473
WEST VIRGINIA			
Beckley	868	2076	
Charleston	791	1682	1773
Elkins	914	2293	2290
Huntington	786	1772	1761
Parkersburg (U)	822	1798	1835
WISCONSIN			
Green Bay	1392	3012	2993
La Crosse	1470	2961	2884
Madison	1127	3069	2973
Milwaukee	1290	2766	2863
WYOMING			
Casper	1283	3205	2819
Cheyenne	1095	2814	2828
Lander	1237	3021	3103
Sheridan	1389	3405	2962

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

DECEMBER 1964

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	5	2	0	0	5					0	0	4	0																
Alaska																										0	0	E4	0
Arizona *																													
Arkansas *																													
California																										18	55	8	4
Colorado										1	8	6	5																
Connecticut *																													
Delaware *																													
Florida	1	1	0	4	6																								
Georgia	4	3	2	20	6	0	0	4	0	0	1	4	0													0	0	6	4
Hawaii																										1	0	°5	5
Idaho												4														1		7	
Illinois																						0	0	4	0				
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky						0	0	?	?	0	0	5	?	0	0	°4	C												
Louisiana	3	1	0	0	4																					0	0	4	0
Maine										0	0	4	0					2	0	4	0	0	0	3	0				
Maryland *																													
Massachusetts										0	25	5	0									0	0	6	0				
Michigan *																													
Minnesota *																													
Mississippi										0	0	4	0									0	0	5	?	0	0	4	0
Missouri *																													
Montana																		2	2	6	0								
Nebraska *																													
Nevada										0	1	5	0													1	0	5	3
New Hampshire										0	0	4	0									0	0	3	0				
New Jersey *																													
New Mexico *																													
New York												5										1		6					
North Carolina	1	1	0	1	3									0	0	4	0												
North Dakota																		0	0	5	0								
Ohio *																													
Oklahoma																		0	0	?	0	0	0	?	0				
Oregon																		0	U	4	1					F18	M	8	6
Pacific Area *																													
Pennsylvania										0	4	4	0																
Puerto Rico *																													
Rhode Island *																													
South Carolina	3	3	0	0	3																								
South Dakota																		0	0	5	0								
Tennessee	1	1	0	0	6	0	0	?	?	0	0	?	?	0	0	?	0					1	S	?	?				
Texas *																													
Utah										0	1	4	3													0	0	5	3
Vermont																						0	0	3	0				
U.S. Virgin Is. *																													
Virginia *																													
Washington																										1		7	
West Virginia	1	1	0	0	4																								
Wisconsin *																													
Wyoming										0	3	5	0																

E Estimated
S Several
M Many
U Unknown
F All deaths and most injuries due to floods
° Includes crop damage
C Crop damage

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

DECEMBER 1964

WEST COAST FLOODS, DECEMBER 1964

Record breaking floods occurred in late December in northern California and in Oregon, on the anniversary and in much the same area struck by the great flood of December 1955. The present flood equalled or exceeded that of 1955 in many places, and exceeded the historical flood of 1861-62 in a number of cases. Preliminary estimates of damages run into hundreds of millions of dollars. The loss of life from the storm and flood, as reported by the American Red Cross, was 45.

Antecedent Conditions

November rains of 10 to 20 inches paved the way for one of the greatest flood disasters to hit this area during Christmas week of 1964. Light rain during the first half of December kept the soil saturated and primed for heavy runoff.

Prior to the beginning of the heavy precipitation in the third week of December, the Pacific Northwest experienced one of the coldest periods in recent years. In many areas the ground was frozen to a depth of several inches. A gradual warming trend and increase in moisture began on the 18th. Precipitation began as snow and covered much of the area even in low elevations. Snow depths ranged from about 8 inches on the Willamette River Valley floor to 3 or 4 feet over the middle elevations of the Cascades by late on the 19th. The warming trend continued and by the 20th snowfall changed to rain in most areas. Freezing levels soared from the surface on the 19th to over 10,000 feet on the 20th. Rainfall amounts increased in intensity with the heaviest amounts falling on the 21st and 22d.

Causes of the Floods

These record breaking floods were due to unprecedented precipitation during the period from the 19th to the 27th falling on frozen ground and snow. Heavy precipitation, exceeding that for any previous December, extended southeastward of a line from Brookings, Oreg., Yakima, Wash., Spokane, Wash., and Kalispell, Mont., into northern California. Several stations in the Deschutes Basin of central Oregon and in the Big Wood Basin of Idaho reported more precipitation this December than the entire annual amounts in one or more of their dry years. A few comparative figures indicate the extreme intensity of the precipitation. For example at Crater Lake, Oreg., 25.24 inches of precipitation fell during the storm as compared with 10.44 inches during the December 1955 storm.

During this period, many places received from two to five times as much rain as they normally do for the whole month of December. The temperature was high, and the precipitation fell as rain even at the highest elevations in the Coastal and Cascade Mountains. At first, the snow and ice on the ground absorbed and stored the rain. Then, as the rain continued and intensified, the snowpack collapsed within a few hours. Because the top layer of earth was frozen, the runoff was very high.

At Government Camp, Oreg., - 3,900 feet up in the Cascade Mountains - the snow cover was 55 inches deep on the morning of December 20. Three days later, only 6 inches of snow remained and, in that 3-day period, 10-1/2 inches of rain had fallen.

At Bend, Oreg., in a normally dry central Oregon area, the rainfall during the storm period was 7.49 inches as compared with 3.75 inches during the storm of December 1955.

In northern California, the rains began on December 18 and over the next few days dumped from 20 to 40 inches of water on already saturated mountain slopes.

Weather Situation

A high level jet associated with a surface storm track persisted over the northeast Pacific Ocean from the middle of the month. This circulation flowed around the north side of a high pressure ridge over Alaska and thence southward to the latitude of central California. Storms following the jet stream produced intermittent precipitation in California north of the Tehachapi Mountains for several days. By December 20 the high pressure ridge was undergoing progressive erosion in the subtropics northeast of Hawaii. This allowed each storm to move across the Pacific at successively lower latitudes before turning toward California. Thus there was established a storm track extending from the western Pacific near Hawaii to northern California and Oregon. Storms on this track picked up huge quantities of heat and moisture from the subtropical waters and transported them toward the West Coast.

Concurrently, there occurred a new outbreak of extremely cold air from the Arctic region and this cold air met the warm moist air about 1,000 miles west of northern California and intensified the storm systems as they moved rapidly toward the California coast. This coupled with the vigorous flow of the warm, moist air over the mountains of northern California and Oregon released copious quantities of moisture over the western slopes. During the period between Christmas and New Year's Day the weather pattern changed to a more northerly flow as a surge of rising pressure moved into the area northeast of Hawaii, and as a result there followed several days of heavy snow that extended down to low elevations, with intermittent rain and hail at sea level.

The Floods

San Joaquin and Sacramento Basins.--Heavy rains commencing about mid-December brought extremely high stages to all rivers and streams in the Sacramento and northern San Joaquin Drainage systems. On tributaries to the Sacramento and Feather Rivers, the December storms brought record high peaks, based on provisional data. The Sacramento River at Red Bluff, Calif., reached a peak stage of 27.7 feet on the evening of December 22, 4.7 feet above flood stage. Practically all of this flow originated below Shasta Dam. Cottonwood Creek, largest tributary between Shasta Dam and Red Bluff, had a peak flow of 56,000 c.f.s., 4,000 c.f.s. higher than the previous record set in 1941. Thomas Creek had a peak flow of 33,000 c.f.s., about 10,000 c.f.s. greater than ever before. Elder Creek had a peak flow of 15,500 c.f.s., about 4,000 c.f.s. greater than the previous peak. These are all west-side creeks. The east-side contribution was less, with no records set in this area. Cow Creek, one of the largest, had a peak of only 30,300 c.f.s. against a previous peak of 45,200 c.f.s. in December 1955. Battle Creek peaked at 8,800 c.f.s., far below the previous peak of 35,000 c.f.s. set in December 1955.

Farther to the south both the east and west sides of the Sacramento Valley Drainage were hard-hit with heavy flows down Stony Creek into the several reservoirs on this stream. Flood control releases of the order of 10,000 c.f.s. were necessary out of Black Butte Reservoir.

Forty inches of rain over the Feather River basin above Oroville Dam brought a new record peak inflow of 245,000 c.f.s. to the reservoir there. Previous record peak was 230,000 in 1907. Even greater amounts of precipitation over the Yuba and American River basins brought record peaks to these streams. At Harry Englebright Dam on the Yuba River, a peak flow of 170,000 c.f.s. was 14,000 c.f.s. greater than the previous peak set in December, 1955.

On the American River the 2-hour average peak inflow from rainfall was about 220,000 c.f.s. Flow from the Rubicon River, a tributary of the American, about 40 river miles above Folsom Reservoir, brought a flood wave that washed out a number of bridges, including the fairly new State Highway 49 bridge at East Auburn. This wave brought a peak 2-hour average inflow to the reservoir of 238,000 c.f.s., a few hours after the rainfall peak. In spite of the low state of Folsom Reservoir at the start of the storm, releases in the order of 115,000 c.f.s. were necessary for more than 50 hours to hold the reservoir contents below uncontrolled spill level. Even then, at times the reservoir was within 100,000 acre-feet of spilling.

The December storms were slightly less severe south of the American River basin but here, too, even with reservoirs at low levels at the start of the storm, substantial releases were necessary at many of the reservoirs and the lower San Joaquin at Vernalis was brought to within 1 foot of the danger stage on this leveed portion of the stream. Even with Camache Reservoir, on the lower Mokelumne River releasing only about 150 c.f.s. during the storm, the contribution down the Consumnes River was in itself enough to put the lower Mokelumne River at Bensons Ferry slightly over the danger level for a few hours. Some flooding of lowlands occurred all along the lower reaches of the Consumnes River and on Dry Creek, adjacent, to the south.

Heavy flows down the tributaries to the lower San Joaquin River brought flooding along the lower portions of these streams down to their confluence with the San Joaquin.

In the delta, the wind-augmented tides brought stages at Rio Visto above the danger level of 9.0 feet at the highest high tide on the 25th, 26th, 27th, 28th, and 29th. Peak stages of 9.5 feet were reported on the 26th and 27th. These high tides with the strong winds that accompanied them brought serious threats to a number of leveed tracts in the delta.

Russian Basin.--Rains during the first half of December were sporadic and light over the Russian Basin. Heavy rains began on the 19th and reached torrential proportions in the Russian and Napa Basins during the period, from the 21st to the 23d. During the 3-day period the rainfall ranged from 7.57 inches at Guerneville to 19.00 inches at Howard Forest in the headwaters. During the 6-day period from the 19th to the 24th, the rainfall ranged from 10.62 inches at Guerneville to 22.88 inches at Howard Forest. Severe flooding occurred on the Russian River with crest stages comparable to the record-breaking flood of December 1955. It is believed that the December 1964 Russian River Flood would have significantly exceeded the 1955 record, had not the Coyote Dam (in use since January 1959) impounded the waters of the East Fork of the Russian River. The Coyote Dam did not reach full capacity and have to spill water until the crests had already passed downstream to Guerneville, Calif., according to the U. S. Corps of Engineers.

Eel, Klamath, and Other North California Coastal Basins.--Nearly continuous heavy rain for 5 days beginning on December 19 produced the greatest floods ever officially recorded in the Eel and Klamath Basins. Richardson Grove State Park, south of Garverville on Highway 101, had a 5-day total of 29.13 inches of which 11.30 inches fell during the 24 hours ending at 8 a.m. on the 22d. Dos Rios reported 22.06 inches and Garberville 21.35 inches during the 5 day period. Similar amounts were reported over the Eel and Klamath Basins.

Every town along the Eel River was inundated as the river rose to record height. At least six communities were completely destroyed by the Christmas floods. Towns such as Pepperwood and Weott, rebuilt after their destruction by the 1955 flood, were again destroyed. The small towns of Miranda and Myers Flat on the Eel River suffered major damage with many homes and business houses destroyed or inundated. Many people refused to leave their homes. Some deaths came as a result of rescue operations.

The Klamath River drainage exceeded record heights at every gaging point along the Sprague, Williams, Trinity, and Klamath Rivers. Near the towns of Beatty and Chiloquin, Oreg., the crests were approximately 3 feet above record heights. The town of Klamath at the mouth of the Klamath River, devastated in 1955, was obliterated by the recent flood. A fishing area, known as Klamath Glen, just upstream from the town of Klamath was also destroyed. The small towns of Happy Camp, Orleans, and Somes Bar on the Klamath received major damage. Hoopa and Willow Creek on the Trinity River also received major damage. State Redwood Parks along all the major rivers suffered major damages.

Crests on Redwood Creek were slightly below the record crests of 1955. Moderate to major damage occurred. Most of the damage was to business establishments that were inundated. Homes along the Smith River were destroyed.

The destruction of highways and railways caused a complete breakdown of surface transportation. Eighteen State highway bridges were destroyed compared to one major State highway bridge during the great flood of 1955. Air transport furnished by military and private organization was the sole means of reaching many isolated victims of the floods.

Rogue, Umpqua, and Coquille Basins.--Exceptionally heavy rainfall during the period from the 19th to the 23d resulted in major flooding in the Rogue, Umpqua, and Coquille Basins in Oregon. Record crest heights were exceeded on the South Fork above and below Prospect, Oreg., on the Illinois and on the Rogue at Grant's Pass, Oreg. Crests from the junction of the Illinois and Rogue to a point 3 miles upstream were two and one-half times as great as the previous record. Along the Umpqua, crest heights exceeded those established during the memorable 1955 flood and at many points exceeded alltime crest heights. The South Umpqua, 1 mile north of Winston, Oreg., exceeded the alltime record crest by nearly 1 foot. The Coquille River set flood records along the South Fork and approached or equalled alltime records along the downstream portions of the river. The crest on the North Fork near Myrtle Point exceeded the 1955 flood mark by 1-3/4 feet. The South Fork at Powers, Oreg., exceeded the previous record crest by more than 5 feet.

Columbia Basin.--Heavy rains during the latter part of November and on December 1 caused the main stem of the Willamette River and several tributary streams to rise to near bankfull stage during the first 3 days of December. By December 18 and 19th, river stages in all streams west of the Cascades had dropped to near-normal December levels. Flow in the lower Snake and lower Columbia Rivers was slightly above average due to power releases as the result of the midmonth cold spell.

A major storm began moving into the Columbia Basin on the 18th bringing near record snow depths on the slopes of the Coastal and Cascade ranges and on the valley floors of the middle and lower Willamette Basin. Substantial snows occurred in central and northeast Oregon and in south-central Idaho. Heavy rains began falling over the snow mantle on the 19th accompanied by rising temperatures. In the first few hours the snow blanket retained the rain in storage. As the rains continued, their intensity increased until finally the entire snowpack collapsed in a matter of a few hours. In the 5-day period, 19th-23d, many places in the Columbia Basin had 2 to 3 times as much rain as they normally have in the entire month of December.

The top layer had been frozen by the very low temperatures just preceding the heavy rains. When the snowpack collapsed, all stored snow and rain water plus that being added by the heavy rains ran off rapidly. Due to the frozen ground, there was very little infiltration of surface water. Streams rose rapidly to record heights in the heavy rain area. Some peak discharges were over 150 percent of any previously measured.

Flooding occurred on the St. Joe and Coeur d'Alene Rivers and their tributary streams in the mountain and foothill sections of north-central Idaho. This flooding was due to 2 to 4 inches of rain over a 48-hour period on a snowpack of 1 to 4 feet. Most of the damage was to roads, highways, and bridges, which resulted in isolation of small groups of people and disruption of utilities and communications. A few homes and other buildings close to flooding streams were damaged.

No flooding was reported on the main stem of the Snake River. However, flash flooding accompanied by local area snow slides and/or ice jams occurred on most of the tributary streams during the period from the 23d to the 26th. High temperatures and heavy rains on melting snow and ice produced runoff to altitudes as high as 7,000 feet above sea level. Record discharges were reported by the USGS on the Boise and Payette Rivers in Idaho and on the Grande Ronde River in Oregon. Rapid runoff in record flow proportions, washed out roads and bridges, flooded and undermined buildings, and cut off and heavily damaged lumber operations.

The warmup east of the Cascade Mountains and the attendant heavy rainfall came almost simultaneously with similar conditions in west slope drainages. The Dalles, Oreg., which last winter suffered from near drought conditions, received close to 6 inches of precipitation from the 20th to the 24th. Practically all streams in the Willamette Basin rose to record or near-record peak stages. Most streams west of the Cascades were above flood stage from the 22d to the end of the month. Streamflow of the Deschutes River at Moody near Biggs, Oreg., peaked near 76,000 c.f.s., or about 75 percent more than observed before at that location in 62 years of record. Other tributary streams to the Columbia River in southern Washington and northern Oregon responded with record or near-record flows. The Willamette River at Portland, Oreg., set a new winter stage record of 29.8 feet. This was within 0.2 foot of the great Columbia River spring flood of 1948.

Grays Harbor and Puget Sound.--Heavy rains and snowmelt from the 22d to the 24th caused the Chehalis River in Washington to exceed flood stage by 1 to 3 feet. Little or no damage resulted from this overflow or the one in the beginning of the month.

The flooding on the Snoqualmie and Snohomish Rivers in Washington in the beginning of December was due to heavy rains (2 to 3 inches) on November 29 and 30. Some livestock along the Snoqualmie and the lower Snohomish Rivers were moved to higher ground.

Flood Forecast Operations.--Weather Bureau offices on the West Coast had been alerted by the meteorological situation on December 19. The Sacramento and Portland River Forecast Centers maintained 24-hour river watch beginning the weekend of December 19 and 20. On Sunday morning, December 20, the San Francisco Weather Bureau Airport Station forecast heavy rain, "possibly record amounts", in northern California on Monday, with an outlook for more rain on Tuesday. Flood forecasts were first issued on the 20th.

By Monday morning, December 21, the heavy rains and storms had cut communications between the Eureka (California) River District Office and many of the river and rainfall reporting stations.

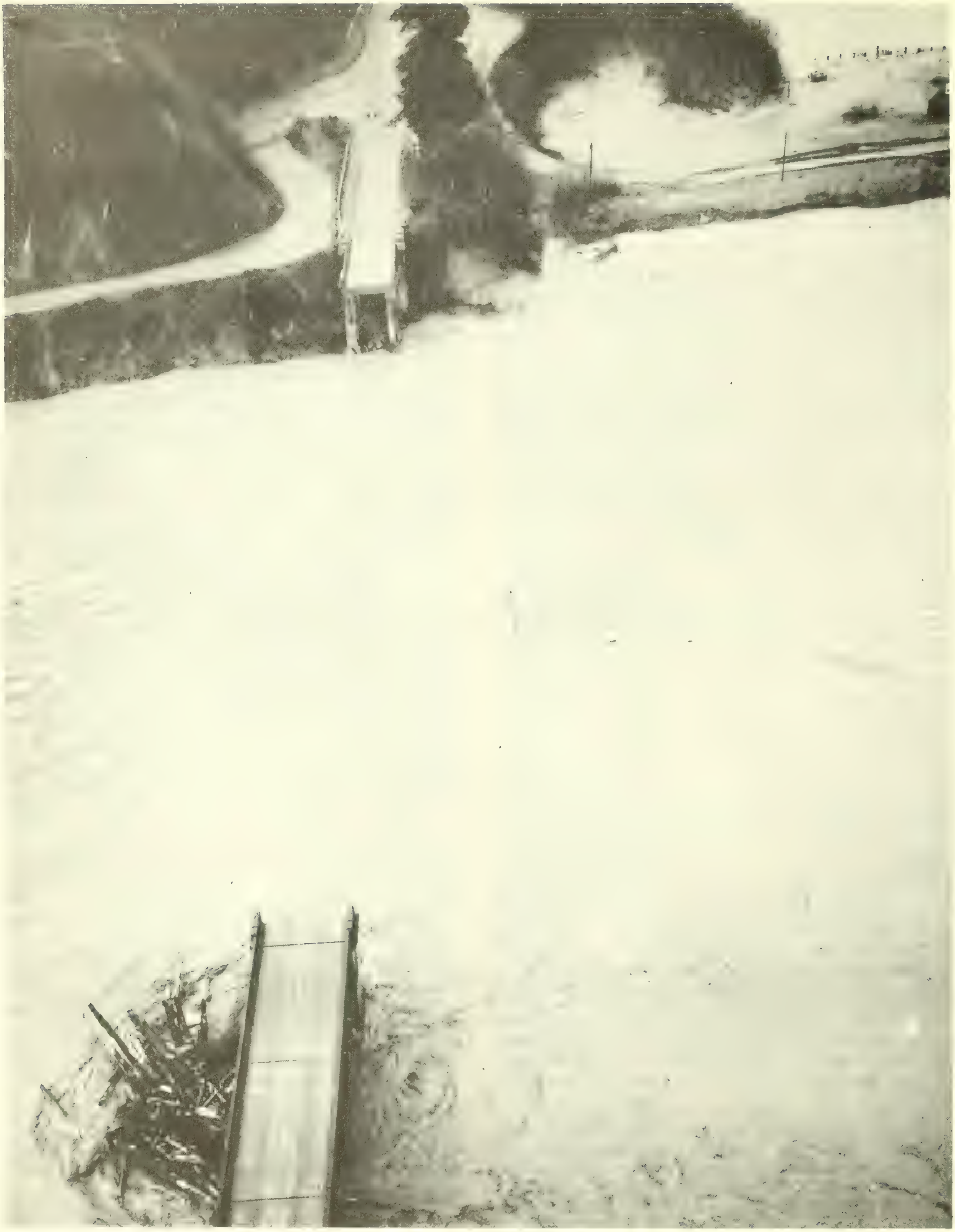
Many of the river gages in California and Oregon were destroyed by flood waters, and many more were damaged. Communications broke down over large areas making it impossible for the River Forecast Centers to obtain rainfall or river reports. In the tributaries of the Columbia River between the Snake and the Willamette, tremendous flows went largely unreported because of gage and communications failures.

Subsequent river stage forecasts were based on the latest quantitative precipitation forecast and an evaluation of the sparse information that was received. The forecasters were dealing with floods of a magnitude never before experienced. At Scotia on the Eel River, for example, the previous record stage (in December 1955) had been 61.9 feet, and the observed crest on December 23 was 70 feet.

In Oregon, the first heavy rain began in southwestern Oregon on December 20. At that time only the Coquille River and adjacent coastal streams were affected. As the storm continued and its effect extended northward, forecasts were issued in the Rogue, Umpqua, and Willamette Basins on Monday morning, December 21. As of that time only minor flooding was in prospect in some tributary streams and practically none in the main stem of the Willamette. From Monday afternoon until Tuesday night rainfall was extreme and forecasts were revised upward several times as reports of additional rainfall were received.

By Tuesday afternoon, December 22, the Payette and Weiser Rivers were beginning to respond to the heavy rainfall in that area, and warnings were issued for flooding of the magnitude of December 1955 (maximum of record) on Wednesday.

The tremendous, sustained flows in the tributaries of the Columbia below Mcnary Dam were largely unreported due to gage and communications failures. They were the greatest factor in the early underestimates of the crest stages at Vancouver, Wash., and Portland, Oreg., whereas the crest stage of the Willamette on the Oregon City Upper Gage was forecast accurately 36 hours in advance.



Douglas Memorial Bridge at Klamath, California, destroyed by Klamath River Flood of December 1964. Official photograph: Eureka Newspapers, Inc., Eureka, California.

TABLE 1. PRECIPITATION DECEMBER 20-24, 1964

NORTHERN CALIFORNIA

STATION	20	21	22	23	24	TOTAL
Angwin	0.34	4.13	5.55	1.76	0.21	11.99
Ben Lomend	.55	.24	5.00	5.40	.95	12.14
Big Bend R.S.	2.25	3.75	7.36	10.14	3.98	27.48
Blue Canyon	3.14	5.91	9.33	4.55	1.86	24.79
Branscomb	3.10	5.35	10.70	6.56	4.22	29.93
Brush Creek	2.02	4.20	9.41	5.15	1.55	22.33
Bullards Bar	1.22	3.20	10.31	6.65	1.72	23.10
Bucks Creek P.4.	1.50	3.90	10.02	6.53	2.54	24.49
Calavera Big Tree	2.35	1.36	2.73	6.32	4.68	17.44
Challenge	1.45	4.10	8.05	5.33	1.48	20.41
Covelo	.93	2.06	6.02	5.02	1.39	15.42
Crescent 7ENE	1.41	2.50	4.08	1.78	2.22	11.99
Cummings	2.74	6.84	11.20	4.66	2.50	27.94
Deer Creek	3.16	4.68	8.98	6.02	2.47	25.31
De Sabla	1.03	5.91	9.45	.99	.83	18.21
Donner M. St. Park	1.45	2.30	3.30	6.50	2.54	16.09
Dos Rios	2.10	9.25	7.30	1.30	1.40	21.35
Dourneville	*	7.35	7.53	6.28	1.80	22.86
Dunsmuir	1.43	2.54	5.52	3.89	.90	14.28
Elk Valley	2.85	4.86	8.76	9.34	3.18	28.99
Forest Glen	2.84	4.87	7.30	5.20	1.28	21.49
Ft. Bragg	.90	1.40	3.49	1.26	1.01	8.06
Garberville	2.82	3.25	8.29	6.99	1.00	22.35
Georgetown R.S.	1.67	2.37	4.48	7.91	3.66	18.58
Gold Run	2.54	4.05	7.14	3.85	2.20	19.78
Happy Camp	3.10	3.15	5.25	3.68	1.60	16.78
Healdsburg 2E	.76	2.12	4.21	3.26	.48	10.83
Honeydew	1.87	7.86	7.96	3.72	2.19	23.60
Hoopa	.71	2.00	5.77	8.46	1.85	18.79
Idlewild	3.00	4.60	10.70	6.75	2.00	27.05
Lakeshore	2.12	10.00	4.42	.12	.79	17.45
Lake Spaulding	4.29	5.46	11.55	6.04	3.43	30.77
Mad River	*	6.30	7.87	6.90	2.06	23.13
Megers Ins. Sta.	1.59	1.85	2.85	7.60	5.10	18.99
Mineral	1.41	3.38	7.98	2.59	.69	16.05
Mt. Shasta	.74	3.86	4.01	.79	.18	9.58
Orleans	.87	3.69	7.38	2.56	.75	15.25
Pacific House	2.09	1.47	2.95	7.14	3.63	17.28
Pit River	4.71	4.70	7.56	1.55	2.79	21.31
Placerville	1.40	1.51	2.08	3.35	1.50	9.84
Quincy	1.35	2.59	5.33	2.96	.50	12.73
Red Bluff	.06	1.08	.81	.06	.01	2.02
St. Helena	.35	4.02	3.58	1.54	.30	9.79
Salyers	*	2.51	4.90	6.85	1.52	15.78
Sierra City	2.47	6.09	8.93	3.61	1.84	22.94
Standish Highway St. Pk.	2.11	3.78	10.57	4.26	3.14	23.86
Stirling City	*	7.40	11.20	7.70	4.13	30.43
Strawberry	1.47	7.59	11.62	4.52	2.84	28.04
Tahoe	1.44	2.55	3.47	6.77	3.00	17.23
Truckee	.79	1.55	2.21	5.00	1.86	11.41
Ukiah F. D.	.98	4.23	6.18	2.49	.97	14.85

TABLE 1. (Cont'd.)

STATION	20	21	22	23	24	TOTAL
Upper Lake 7W	1.21	2.89	6.28	3.34	1.28	15.00
Yosemite N.P.	.52	.46	2.64	4.71	3.16	11.49
Whiskeytown	1.98	2.92	11.43	2.53	.07	18.93
Willit	1.00	4.80	8.80	4.47	1.80	20.87
IDAHO (Snake River Basin)						
Anderson Dam	0.01	0.60	2.18	1.72	1.19	5.70
Atlanta	.40	.87	2.17	2.78	1.05	7.27
Caldwell	.01	.15	T	.38	.16	.70
Cambridge	.30	.79	.75	.02	.49	2.35
Cascade 1NW	.65	1.24	2.73	1.52	.74	6.88
Centerville	.23	1.28	2.11	1.27	1.18	6.07
Council	.47	1.07	1.28	.45	.88	4.15
Deadwood Dam	.72	1.81	3.07	2.02	1.37	8.99
Garden Valley	.62	.76	2.40	1.80	.40	5.98
Gooding	.00	.00	.20	.89	.41	1.50
Elk City	.39	.14	.10	.14	.75	1.52
Grangeville	.60	.57	.28	.00	.91	2.36
Hailey	.98	1.31	2.68	2.17	.61	7.75
Kamiah	.19	.27	.12	.29	.42	1.29
Kellogg	.13	.22	1.88	.55	.24	3.02
Kuna 2NNE	T	.08	.00	.67	.34	1.09
Mullan	.37	1.26	3.39	.81	.54	6.37
Ola 4S	.08	.49	.94	1.15	.69	3.35
Payette	.12	.28	.08	.45	.25	1.18
Picabo	.36	.52	2.45	1.55	.72	5.60
Pierce	.40	.55	1.03	1.99	.50	4.47
Powell	.71	.51	1.80	2.73	.63	6.38
Shoshone	.00	.40	1.43	1.26	.83	3.92
Sun Valley	.80	1.40	2.16	1.80	.50	6.66
Weiser 2SE	.19	.43	.09	.50	.08	1.29
OREGON (Willamette Basin)						
Albany	0.99	2.22	1.49	0.92	0.75	6.37
Belknap Springs 8N	1.62	2.14	5.32	5.09	3.69	17.86
Canby	.87	1.40	2.62	1.78	.86	7.53
Cascadia State Park	1.64	1.20	2.23	1.68	1.82	8.57
Corvallis	1.23	2.45	1.94	1.09	.75	7.46
Cougar Dam	2.13	1.58	3.88	4.55	3.09	15.23
Detroit	1.84	2.87	4.61	3.62	2.22	15.16
Dilley 1S	.95	1.91	2.19	.93	1.03	7.01
Eagle Creek	.66	1.65	3.20	4.19	1.92	11.62
Fall Creek	2.37	2.00	1.72	2.17	1.11	9.37
Falls City	1.17	3.20	4.55	3.79	2.11	14.82
Farmington	.80	1.49	1.80	.87	.83	5.79
Hills Creek Dam	1.02	1.58	2.33	3.40	1.19	9.52
Holley	1.87	1.88	2.44	1.43	1.57	9.19
Lacomb 1WNW	1.06	1.20	1.86	1.72	1.05	6.89
Leaburg 1SW	1.39	2.07	1.95	1.11	1.58	8.10
Mehama	1.01	2.05	3.18	2.62	1.04	9.90
Philomath 2SE	.75	2.10	2.16	1.85	.76	7.62
Portland WBAS	.82	.62	1.82	1.62	.75	5.63
Summit	1.33	2.44	3.78	2.90	1.80	12.25
Suver	.99	1.89	2.00	*	2.50	7.38
Timber	1.18	2.50	2.58	1.88	1.47	9.61
Waterloo	1.68	1.85	1.92	1.23	1.10	7.78
Whiteson 2NNW	.71	1.70	1.79	1.18	1.05	6.43
Willamina 2S	.99	2.49	2.60	2.58	1.43	10.09

* Amount included in the following day.

TABLE 2. COMPARATIVE STORM RAINFALL DATA OF MAJOR FLOODS

Western Oregon Storm Totals

STATION	Dec. 19-27, 1964	Dec. 18-27, 1955	Dec. 20, 1942- Jan. 2, 1943
Medford	8.80	5.40	4.51
Crater Lake	25.24	10.44	Missing
Sexton Summit	14.08	9.64	6.91
Eugene	14.36	12.39	8.70
Hills Creek Reservoir	13.3	6.65 1/	10.76 1/
Cougar Reservoir	20.4	8.34 2/	17.4 2/
Detroit Reservoir	20.1	11.05 3/	14.96 3/
Newport	11.53	7.52	8.03
Salem	8.81	7.26	7.37
Portland	7.21	6.38	7.68
The Dalles	7.50	2.67	3.33

1/ Oakridge
2/ McKenzie Bridge
3/ Detroit Town

COMPARATIVE CREST STAGE DATA OF MAJOR FLOODS

TABLE 3. NATIONAL SUMMARY DECEMBER 1964

River and station	Flood stage	Above flood stages December 1964		December 1964 Crest*		Previous Maximum Crest of record	
		From—	To—	Stage	Date	Stage	Date
WEST COAST FLOODS	Ft.			Ft.		Ft.	
San Joaquin Basin							
Mokelumne: Bensons Ferry, Calif.	15	24	24	15.5	24	18.0	Dec. 1955
Consumnes: Michigan Bar, Calif.	7	22	25	17.8	23	G16.3	Mar. 1907
Sacramento Basin							
Sacramento: Red Bluff, Calif.	23	22	23	27.7	22	32.2	Feb. 1940
Ord Ferry, Calif.	117	23	24	119.0	23	121.6	Feb. 1940
Moulton Weir, Calif.	77	22	Jan. 1	81.5	24		
Colusa Weir, Calif.	62	22	1/	68.5	24	70.0	Mar. 1940
Tisdale Weir, Calif.	45	22	1/	50.2	25		
Fremont Weir, Calif.	33	22	1/	39.6	25		
Sacramento, Calif.	29	23	25	G29.4	25	30.14	Nov. 1950
Rio Vista, Calif.	9	25	29	9.5	26,27	10.2	Dec. 1955
Russian Basin							
Russian: Hopland, Calif.	21	21	23	26.0	22	27.0	Dec. 1955
Healdsburg, Calif.	19	22	24	27.0	23	30.0	Feb. 1940
Guerneville, Calif.	32	22	25	47.35	23	47.62	Dec. 1955
Eel Basin							
Eel: Dos Rios, Calif.	58			63.1	22	55.86	Dec. 1955
Alderpoint, Calif.	60			90.5	22	68.75	Dec. 1955
Miranda, Calif.				45.9	22		
Scotia, Calif.	30			70.0	22	61.90	Dec. 1955
Fernbridge, Calif.	17			29.5	23	27.70	Dec. 1955
Klamath Basin							
Sprague: Chiloquin (nr), Oreg.				10.4	26	7.47	Apr. 1943
Beatty, Oreg.				12.0	23	9.44	Dec. 1955
Williamson: Sprague River (blw), Oreg.				10.6	26	7.29	Apr. 1943
Trinity: Hoopa, Calif.				42.3	22	36.9	Dec. 1955
Klamath: Keno, Oreg.				11.3	27	11.2	Mar. 1958
Somesbar, Calif.				75.4	22	59.4	Dec. 1955
Klamath (nr), Calif.	40			55.3	22	49.7	Dec. 1955
Miscellaneous Northern California Coastal Basins							
Redwood Creek: Orick, Calif.	19			23.3	22	23.95	Dec. 1955
Smith: Crescent City, Calif.				44.5	22	41.20	Dec. 1955
Rogue Basin							
South Fork: Prospect (abv), Oreg.				11.6	22	12.2	Dec. 1945
Prospect (blw), Oreg.				23.2	22		
Bear Creek: Medford, Oreg.				8.7	22	11.0	Feb. 1927
Applegate: Copper (nr), Oreg.				E28.0	22	23.47	Dec. 1955
Applegate (nr), Oreg.	13	22	23	(18.0 (19.6	22 22	18.0	Dec. 1955
Illinois: Selma (nr), Oreg.				29.9	22	25.64	Dec. 1955
Agness, Oreg.				56.1			
Rogue: Eagle Point (nr), Oreg.	9	21		12.8	23	11.5	Dec. 1945
Raygold, Oreg.	12	22	25	(16.4 (24.3	21 23	24.8	Feb. 1927
Grants Pass, Oreg.	22	22	24	(22.8 (31.7 (34.2	21 22 23	32.60	Dec. 1955

COMPARATIVE CREST STAGE DATA OF MAJOR FLOODS

River and station	Flood stage	Above flood stages December 1964		December 1964 Crest *		Previous Maximum Crest of record	
		From—	To—	Stage	Date	Stage	Date
WEST COAST FLOODS (Cont'd.)	Ft.			Ft.		Ft.	
Coquille Basin							
South Fork: Powers, Oreg.				26.3	22	20.57	Dec. 1945
Myrtle Point, Oreg.	35	20	25	(43.3	21		
				(46.8	22	45.1	Dec. 1955
Cooper Branch: Myrtle Point (nr), Oreg.				37.7			
North Fork: Myrtle Point 1N, Oreg.				35.5	22		
Coquille: Coquille, Oreg.	21	22	27	27.5	23		
Umpqua Basin							
Steamboat Creek: Steamboat Creek, Oreg.				21.0	22		
South Umpqua: Winston 1N, Oreg.	26	22		(E27.0	22		
				(34.0	23	32.4	Oct. 1950
Roseburg, Oreg.	22	22	23	34.1	23	(H29.62	Oct. 1950
						(H29.21	Dec. 1955
North Umpqua: Steamboat RS, Oreg.				20.0	22		
Winchester, Oreg.	20	22	22	E24.2	22	S19.80	Dec. 1955
Umpqua: Elkton (nr), Oreg.				52.0		46.0	Dec. 1955
Columbia Basin							
St. Joe: St. Maries, Idaho	38	23	24	39.4	24	39.2	May 1948
Coeur D'Alene: Cataldo, Idaho	50	23	24	50.0	23	56.9	Dec. 1933
Portneuf: Pocatello, Idaho	6	23	30	7.0	25		
Payette: Black Canyon (nr), Emmett, Idaho	9	23	24	15.9	23	12.9	May 1938
Weiser: Cambridge, Idaho	9	23	23	9.6	23	13.9	Dec. 1955
Canecreek (nr), Idaho	8	23		10.5	23		
McKenzie: Coburg, Oreg.	11	22	25	16.1	23	14.3	Dec. 1957
Mary's: Philomath, Oreg.	20	21	24	21.7	22	20.83	Dec. 1955
Calapooya: Holley, Oreg.	10	21	24	14.9	22	14.1	Dec. 1945
Santiam: Jefferson, Oreg.	15	(1	2	15.1	2	24.4	Nov. 1921
		(21	28	24.2	22		
Luckiamute: Suver, Oreg.	27	21	30	34.5	22		
South Yamhill: Whiteson, Oreg.	38	22	28	47.2	23	42.25	Dec. 1955
Pudding: Aurora, Oreg.	20	22	Jan. 1	29.6	23	(H25.0	Jan. 1923
						(24.5	Dec. 1937
Molalla: Canby, Oreg.	13	22	23	16.6	22	15.9	Jan. 1948
Tualatin: Dilley, Oreg.	13	22	27	15.3	22	(H14.9	Dec. 1933
						(14.78	Dec. 1955
Farmington, Oreg.	29	23	Jan. 1	34.35	24	(37.0	Dec. 1933
						(36.03	Dec. 1955
Oswego, Oreg.	20	24	30	23.8	26	24.6	Jan. 1964
Johnson Creek: Sycamore, Oreg.	8	21	26	14.7	22	13.78	Nov. 1960
Willamette: Eugene, Oreg.	23	24	24				
		26	27	24.3	26	24.8	Feb. 1961
Harrisburg, Oreg.	12	22	30	17.25	23	19.69	Dec. 1945
Corvallis, Oreg.	20	22	30	26.0	23	28.2	Dec. 1945
Albany, Oreg.	20	22	31	28.9	24	(H36.0	Dec. 1861
						(33.9	Feb. 1890
Salem, Oreg.	20	22	30	29.6	24	31.1	Feb. 1907
Newberg, Oreg.	33	22	31	E55.0	25		
Wilsonville, Oreg.	25	22	Jan. 2	45.3	25	35.95	Dec. 1955
Oregon City (Upper), Oreg.	14	22	31	19.9	25	19.2	Jan. 1923
Oregon City (Lower, Oreg.	27	22	Jan. 1	48.1	25	42.5	Jan. 1943
Portland, Oreg.	18	22	30	29.8	25	(33.0	June 1894
						(30.0	June 1948

River and station	Flood stage	Above flood stages December 1964		December 1964 Crest *		Previous Maximum Crest of record	
		From—	To—	Stage	Date	Stage	Date
WEST COAST FLOODS (Cont'd.)	Ft.			Ft.		Ft.	
Columbia Basin (Cont'd.)							
Columbia: Vancouver, Wash.	16	22	31	27.6	25	(H34.4 (31.0	June 1894 June 1948
St. Helens, Oreg.	12	23	29	E24.0	25	(25.5 (23.2	June 1956 June 1948
Kalama, Wash.	20	24	27	21.6	25	(26.79 (H23.8	June 1894 June 1948
Longview, Wash.	12	23	31	**19.8	25		
Grays Harbor							
Chehalis: Grand Mound, Wash.	14	23	24	15.1	24	18.39	Dec. 1937
Centralia, Wash.	63	(1	2	63.6	2		
		(22	24	65.7	22		
Puget Sound							
Snoqualmie: Carnation, Wash.	54	1	2	56.1	2	(59.9 (59.18	Nov. 1932 Feb. 1951
Snohomish: Snohomish, Wash.	25	Nov. 30	3	29.2	2	(F35.0 (31.02	1906 Nov. 1959

*	Provisional
**	Believed to be 1.2' too high
1/	Continued at the end of month
E	Estimated
F	Flood Profile Map, Snohomish (USED)
H	High Water Mark
S	Stage referred to present gage datum and site
___	Exceeded previous maximum crest of record
G	U. S. Geological Survey

'GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS—Continued

RIVER AND FLOOD CONDITIONS REPORTED ELSEWHERE

DECEMBER 1964

ATLANTIC SLOPE DRAINAGE

Warm temperatures during the latter part of December resulted in removal of practically the entire snow cover in New England. Heavy rains on the 26th and 27th caused minor rises through central and southern New England.

A minor ice jam formed on the Lamoille River in Hardwick, Vt., on the 25th, resulting in minor flooding.

Heavy rains during the last week in December caused flooding on the Tar, Neuse, and Cape Fear Rivers in eastern North Carolina. The heavier amounts, from 3 to 4 inches, fell generally over the central sections of the Cape Fear, Neuse, Tar, and lower Roanoke basins. The Cape Fear responded rapidly to these rains, cresting 2 feet above bankfull in the middle portion and 8 to 10 feet above bankfull in the lower section. Bankfull stages were reached on the upper Neuse while downstream stages reached 3 to 6 feet above bankfull stage.

On the upper Tar and Fishing Creek, the streams ran bankfull with minor overflow over the remainder of the Tar. The lower reaches of the Tar and Neuse Rivers were still rising at the close of the month. No damage was reported from the flooding.

Heavy rains during the Christmas weekend caused rapid rises and considerable flooding on streams in South Carolina. The Rocky River, a tributary of the Pee Dee, rose to 12 to 13 feet above flood stage at Norwood, N. C. A sharp rise of about 25 feet occurred downstream at Cheraw, S. C., on the Pee Dee, cresting about 5 feet above flood stage on the 28th. The crest reached Peedee, S. C., on January 2, 2.4 feet above flood stage. Flooding occurred on several of the upper tributaries in the Santee River System. The Saluda crested at Chappells, S. C., on the 27th, 3 feet above flood stage. The Broad River at Blair, S. C., crested nearly 8 feet above flood stage on the 28th. The Congaree at Columbia, S. C., crested less than 1 foot over flood stage on the 28th. Moderate flooding occurred in the swamplands below Columbia. Shallow overflow occurred along the North Fork of the Edisto. Losses consisted of damage to pastures and winter grain crops and interruption of lumbering operations.

Minor flooding occurred on the Savannah and Ogeechee Rivers in Georgia. No damages were reported.

Very heavy rain from the 24th to the 27th caused flooding on the Ocmulgee, Oconee, and Satilla Rivers in Georgia. There were no reports of serious flood damage.

EAST GULF OF MEXICO DRAINAGE

The heavy rains of the 4-5th produced considerable flash flooding of small streams between Quincy, Fla., and Douglas, Ga. Small streams rose quickly to near flood levels. The cumulative effect of inflows from the heavy rainfall produced a rise in the Apalachicola River at Blountstown, Fla., to a crest about 3 feet above flood stage. The areas flooded around Blountstown are wooded and unpopulated so no flood losses occurred. Heavy rains from the 25th to the 27th caused the Flint and lower Chattahoochee to rise above flood stage. The overflows were only about a foot or so above flood stage except in the Albany, Ga., area, where flood stage was exceeded by about 6 feet. Only moderate damages occurred in the Albany area, with little or insignificant losses elsewhere. Combined flows from the Chattahoochee and Flint Rivers produced stages well above flood stage over upper and middle portions of the Apalachicola. Most of the flooded areas were wooded and unpopulated and damages are not believed excessive.

Heavy rains on the mornings of the 25th and 26th over extreme southern Alabama and northwest Florida resulted in 1 to 2 feet of flooding on the Choctawhatchee River. In the Dothan, Ala., area 8.55 inches of rain fell in a 12-hour period, causing some local flooding. During the 2-day period, 9.95 inches was measured at this station.

Heavy local rain during the latter part of November caused the Pearl River to rise above flood stage at Jackson and Monticello, Miss. Intermittent periods of rain spaced about 7 days apart maintained the Pearl River near or slightly above flood stage until the latter part of the month. The Chickasawhay River at Enterprise, Miss., exceeded flood stage on the 13th and 14th due to a 3-inch local rain.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Navigation on the Mississippi River was closed for the season at St. Paul, Minn., on the 3d, at La Crosse, Wis., on the 8th, and at Guttenberg, Iowa, on the 10th.

Missouri Basin.--Intermittent ice blocks on the Missouri River upstream from Kansas City, Mo., caused fluctuation in stages, but no flooding, during the latter part of the month. A record low stage of 1.08 feet occurred on the Missouri River at Leavenworth, Kans., on the 21st.

Minor flooding occurred on the Harpeth River at Kingston Springs, Tenn., on the 4th. This overflow was due to about 3 inches of rainfall during the 36-hour period ending at 6 a.m. on the 4th. Little or no damage resulted from this flooding.

White Basin.--The Cache River at Patterson, Ark., continued above flood stage from November 23 until December 29. The continued flooding during December was due to 1 inch of rain on the 3d and 4th and another 1.5 inches on the 10th and 11th. Flood damages were insignificant.

Lower Mississippi Basin.--Heavy local rains during the first half of the month caused strong rises on all streams in the Lower Mississippi Basin. The Coldwater River at Sarah, Miss., overflowed its banks on the 3d, 4th, and 11th. Near flood stages were reached on both the Tallahatchie River at Swan Lake, Miss., and the Big Black River at Bovina, Miss. Flooding in all areas was light.

WEST GULF OF MEXICO DRAINAGE

General heavy rains on the 10th and 11th caused minor flooding on the Calcasieu River in Louisiana from the 11th to the 18th. Flood damages, if any, were insignificant.

Great Basin.--Minor flooding occurred in northern Utah on the 23d and 24th as an intense storm moved over the region, causing heavy rains below 7,000 feet and snow above. Rainfall averaged about 2.5 to 3 inches during the storm with somewhat heavier amounts along the lower Weber tributaries. One of the heaviest runoff areas was the lower Weber River drainage, where the peak discharge on three small tributaries a short distance above the mouth of the Canyon at Gateway, Utah, exceeded 100 c.f.s. per square mile. Minor damage was reported to highways, public utilities, and private property.

Flooding occurred on the Susan River near Susanville, Calif., on the 22d and 23d. Flooding was confined to agricultural lands downstream from the city. The Truckee River began overflowing agricultural lands downstream from Reno, Nev., on the 22d, reaching its crest on the 23d. The stream did not return to its channel before the 27th. There was no flooding in the business area of Reno. Some slight flooding occurred in upstream residential areas west of Reno, but damage was minor. Considerable damage occurred in several areas of Reno due to overflow of irrigation ditches. The Carson River flooded considerable agricultural lands in the Minden-Gardnerville area beginning during the evening of the 22d. The river crested on the 25th, with a flow of 10,800 c.f.s. Major damage occurred to roads and bridges in several parts of the Carson Valley. A few new homes reported minor flooding.

FLOOD STAGE DATA

(All dates in December unless otherwise specified)

DECEMBER 1964

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Tar: Rocky Mount, N. C.	9	28	29	9.55	28
Tarboro, N. C.	19	30	1/	#21.6	31
Greenville, N. C.	13	30	1/	#14.8	Jan. 2
Neuse: Smithfield, N. C.	13	27		18.5	29
Goldsboro, N. C.	14	29	1/	19.2	Jan. 2
Cape Fear: Fayetteville, N. C.	35	28	29	36.6	28
Lock No. 2, Elizabethtown, N.C.	20	28		28.4	30
Rocky: Norwood, N. C.	15	26	28	E27.5	27
Pee Dee: Cheraw, S. C.	30	27	29	#33.5	28
Peedee, S. C.	19	29	Jan. 6	#21.4	Jan. 2
Saluda: Chappells, S. C.	14	26	28	17.0	27
Broad: Gaffney, S. C.	10	27	27	10.6	27
Blair, S. C.	14	27	29	21.6	28
Congaree: Columbia, S. C.	19	28	28	19.4	28
North Fork Edisto: Orangeburg, S. C.	8	27	Jan. 3	# 8.35 # 8.8	29 Jan. 1
Savannah: Millhaven, Ga.	15	20	1/	17.1	Jan. 1
Clyo, Ga.	11	Oct. 29	1/	(12.4 (13.8	11 27
Ogeechee: Midville, Ga.	6	30	Jan. 2	7.8	31
Ocmulgee: Macon, Ga.	18	26	28	23.6	26
Hawkinsville, Ga.	25	30	31	26.0	30
Abbeville, Ga.	12	30	Jan. 6	15.65	Jan. 1
Oconee: Milledgeville, Ga.	20	26	29	31.3	27
Dublin, Ga.	21	30	Jan. 2	25.1	31
Satilla: Waycross, Ga.	16	7	13	20.1	9
Atkinson, Ga.	13	9	Jan. 7	G16.9	10-16
EAST GULF OF MEXICO DRAINAGE	Ft.			Ft.	
Chattahoochee: Fort Gaines, Ga.	134	27	27	136.7	27
Flint: Montezuma, Ga.	20	29	29	20.8	29
Albany, Ga.	20	27	Jan. 2	25.7	31
Newton, Ga.	24	31	Jan. 3	25.0	Jan. 2
Bainbridge, Ga.	25	30	Jan. 5	25.8	31
Apalachicola: Jim Woodruff Dam Fla.	66	28	30	67.7	29
Blountstown, Fla.	15	4 26	12 Jan. 10	18.0 22.1	7 30
Choctawhatchee: Geneva, Ala.	23	27	28	23.7	28
Caryville, Fla.	12	26	1/	13.9	27
Chickasawhay: Enterprise, Miss.	20	13	14	20.3	13
Pearl: Jackson, Miss.	18	Nov. 29	24	24.1	18
Monticello, Miss.	19	12	15	20.7	13
Bogalusa, Miss.	15	2/	28	18.7	16
MISSISSIPPI SYSTEM					
Ohio Basin					
Harpeth: Kingston Springs, Tenn.	15	4	[illegible]	15.8	4
White Basin					
Cache: Patterson, Ark.	7	Nov. 23	29	8.0	Nov. 26
Lower Mississippi Basin					
Coldwater: Sarah, Miss.	18	(3 (11	4 11	21.25 19.7	4 11
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	11	17	14.1	13
Kinder, La.	16	15	18	17.0	16

* Provisional
1/ Continued at the end of month
2/ Gage out from Dec. 1 to Dec. 9
E Estimated - Gage inoperative
G Water level above highest value on gage
# Highest stage observed

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

ALBANY, N. Y.
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	86	- 4.1	79	254	1.9
1000	31	162	- 4.4	73	263	2.9
950	31	567	- 4.2	75	248	7.2
900	31	994	- 4.2	73	274	13.0
850	31	1,444	- 4.7	70	274	18.6
800	31	1,921	- 5.4	64	270	23.1
750	31	2,425	- 7.0	57	268	26.8
700	31	2,964	- 9.0	53	269	29.5
650	31	3,533	-11.7	54	267	34.0
600	31	4,144	-15.3	54	265	37.3
550	31	4,795	-19.5	53	267	41.4
500	31	5,499	-23.9	46	266	45.1
450	31	6,261	-28.7	42	266	49.5
400	31	7,097	-33.9		265	58.7
350	31	8,021	-39.9		264	61.2
300	31	9,059	-46.3		266	64.9
250	31	10,253	-52.6		268	69.9
200	31	11,680	-55.6		272	65.7
175	31	12,529	-56.5		268	54.8
150	30	13,508	-57.8		266	51.9
125	29	14,651	-59.1		269	48.4
100	28	16,036	-60.7		264	44.7
80	28	17,423	-61.1		263	40.2
70	28	18,252	-60.4		263	36.7
60	27	19,220	-60.2		259	29.3
50	27	20,359	-59.2		261	30.3
40	25	21,766	-58.4		263	28.2
30	25	23,584	-56.7		260	34.0
25	23	24,737	-56.1		264	32.8
20	22	26,166	-54.2		265	40.6
15	19	28,007	-53.3		275	43.5
10	14	30,631	-50.3			
7						

ALBUQUERQUE, N. MEX.
838 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	1,619	- 1.8	67	159	1.2
1000	29	185				
950	29	602				
900	29	1,039				
850	29	1,502				
800	29	1,988	.6	50	245	6.0
750	29	2,504	- 1.2	52	275	11.7
700	29	3,053	- 3.8	50	282	18.5
650	29	3,631	- 6.4	44	281	23.7
600	29	4,258	- 9.7	38	277	27.0
550	29	4,924	-13.8		275	29.9
500	29	5,644	-18.5		274	35.0
450	29	6,415	-24.1		276	37.9
400	29	7,272	-30.3		284	38.3
350	29	8,208	-37.2		287	38.7
300	29	9,257	-44.5		284	42.7
250	29	10,457	-52.1		284	49.1
200	29	11,881	-57.5		286	46.8
175	29	12,721	-59.1		282	45.5
150	28	13,684	-61.9		281	44.1
125	28	14,803	-64.9		283	40.8
100	28	16,156	-67.3		282	36.1
80	28	17,500	-65.5		285	27.4
70	28	18,310	-65.2		286	21.0
60	28	19,253	-63.8		285	17.5
50	28	20,377	-61.2		277	16.3
40	28	21,767	-59.3		272	18.6
30	24	23,584	-56.1		275	21.4
25	23	24,745	-55.0		270	22.3
20	23	26,177	-52.9		269	31.7
15	20	28,054	-49.3		267	42.9
10	12	30,715	-46.8			
7						

AMARILLO, TEXAS
891 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,095	- 1.0	70	278	5.1
1000	31	157				
950	31	575				
900	31	1,015				
850	31	1,469	3.7	47	282	13.0
800	31	1,962	4.0	41	278	15.7
750	31	2,482	1.8	36	279	18.8
700	31	3,038	- 1.4	34	280	20.4
650	31	3,618	- 5.0	33	276	23.7
600	31	4,248	- 9.3	32	273	28.0
550	31	4,908	-13.9		272	32.2
500	31	5,631	-19.0		273	36.1
450	31	6,396	-24.5		275	39.2
400	31	7,252	-31.1		276	45.5
350	31	8,185	-37.9		276	53.4
300	31	9,229	-45.2		274	61.8
250	31	10,428	-51.7		273	67.6
200	31	11,853	-57.6		271	66.4
175	31	12,691	-59.5		270	65.5
150	31	13,652	-61.1		270	62.5
125	31	14,777	-63.8		270	56.1
100	31	16,136	-66.3		266	42.2
80	31	17,485	-66.6		267	31.7
70	31	18,293	-65.7		268	28.2
60	31	19,235	-62.8		268	22.0
50	31	20,364	-60.9		267	16.9
40	31	21,757	-59.0		268	18.3
30	30	23,574	-56.7		264	20.0
25	28	24,732	-54.9		268	24.9
20	27	26,162	-52.5		267	32.8
15	16	28,053	-48.8		267	34.8
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ANCHORAGE, ALASKA
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	29	-17.0	65	17	4.9
1000	31	86			12	9.5
950	31	480	-13.1	44	12	14.2
900	31	889	-12.2	43	14	13.6
850	31	1,325	-13.5	46	7	14.0
800	31	1,784	-15.5	49	7	13.0
750	31	2,271	-17.5	51	355	13.8
700	31	2,784	-19.6	49	348	16.7
650	31	3,331	-21.9	46	340	20.8
600	31	3,918	-25.0	46	336	25.6
550	31	4,541	-28.8	44	334	27.0
500	31	5,222	-32.7		328	31.5
450	31	5,952	-36.8		324	35.4
400	31	6,765	-41.6		318	38.7
350	31	7,660	-46.4		316	42.3
300	31	8,674	-50.5		315	42.7
250	31	9,856	-52.3		310	41.6
200	31	11,301	-51.5		307	35.5
175	31	12,168	-51.1		302	34.6
150	31	13,171	-50.8		298	36.5
125	31	14,358	-50.6		301	34.2
100	31	15,814	-50.6		294	29.9
80	31	17,264	-51.9		291	31.3
70	31	18,129	-51.5		296	31.3
60	30	19,132	-51.3		293	30.5
50	30	20,313	-52.0		296	30.7
40	30	21,757	-51.9		298	32.8
30	28	23,617	-52.1		302	36.1
25	26	24,780	-52.7		305	39.8
20	22	26,215	-53.7		303	41.0
15	11	28,096	-52.0		304	48.0
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* ANNETTE, ALASKA
1001 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	37	- 2.2	79	95	5.4
1000	30	44			107	8.4
950	30	449	- 5.3	78	142	9.5
900	30	872	- 7.5	82	171	12.8
850	30	1,315	- 9.5	80	195	12.6
800	30	1,782	-11.5	76	215	12.4
750	30	2,274	-14.0	74	222	14.8
700	30	2,796	-16.7	68	223	14.6
650	30	3,348	-19.8	64	227	16.3
600	30	3,940	-23.6	61	228	19.2
550	30	4,565	-27.8	58	235	19.4
500	30	5,250	-32.3	54	246	20.6
450	30	5,980	-37.5	52	255	19.6
400	30	6,790	-42.9		264	22.9
350	30	7,680	-48.3		266	26.8
300	30	8,685	-51.9		271	25.3
250	30	9,864	-52.3		282	28.0
200	28	11,296	-51.1		291	27.0
175	27	12,156	-50.3		290	28.7
150	27	13,162	-50.5		295	29.9
125	26	14,336	-51.6		297	31.5
100	25	15,777	-52.8		302	30.7
80	25	17,215	-53.3		309	32.8
70	25	18,074	-53.4		310	29.5
60	25	19,166	-53.8		310	29.3
50	25	20,236	-54.2		317	32.2
40	25	21,665	-54.7		319	34.4
30	25	23,501	-55.8		324	38.7
25	25	24,659	-56.6		326	42.0
20	24	26,093	-56.4		329	41.8
15	20	27,952	-56.4		331	51.3
10	14	30,570	-55.6			
7	5	32,821	-50.9			

ATHENS, GA.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	246	5.3	83	313	1.6
1000	31	182				
950	31	602	7.0	71	242	4.7
900	31	1,048	7.0	62	246	12.2
850	31	1,518	6.4	52	256	18.3
800	31	2,014	4.4	45	256	22.7
750	31	2,535	2.5	43	258	26.0
700	31	3,094	.2	38	259	29.3
650	31	3,681	- 3.1	34	260	34.4
600	31	4,314	- 6.4		263	39.2
550	31	4,983	-10.4		260	43.7
500	31	5,718	-15.1		260	50.5
450	31	6,498	-20.7		260	53.8
400	31	7,367	-26.8	37	260	57.5
350	31	8,317	-34.0	37	260	63.3
300	31	9,378	-42.2		260	68.2
250	31	10,586	-51.5		262	70.9
200	31	12,005	-60.0		265	70.1
175	31	12,833	-62.6		265	72.7
150	31	13,781	-63.6		267	65.5
125	31	14,893	-66.1		266	53.4
100	31	16,237	-69.7		264	42.3
80	30	17,573	-68.3		268	31.1
70	29	18,379	-66.2		264	24.9
60	29	19,320	-64.2		260	21.2
50	29	20,444	-60.6		260	20.0
40	29	21,842	-57.6		268	16.9
30	29	23,665	-55.7		269	16.1
25	28	24,832	-54.1		266	18.3
20	27	26,274	-51.1		267	22.9
15	26	28,157	-48.1		262	35.5
10	20	30,860	-44.2		261	49.1

* BARROW, ALASKA
1022 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	8	-30.2	56	287	2.1
1000	31	164	-26.8	69	4	1.7
950	31	540	-24.9	73	331	4.3
900	31	930	-23.6	66	319	5.6
850	31	1,348	-23.5	65	324	6.8
800	31	1,790	-24.4	66	317	8.4
750	31	2,263	-25.4	62	317	9.3
700	31	2,759	-27.0	62	316	10.7
650	31	3,291	-29.3	62	315	14.0
600	31	3,859	-32.1	60	314	16.5
550	31	4,471	-35.3	56	312	18.6
500	31	5,128	-39.2		312	20.2
450	31	5,842	-43.5		311	23.1
400	31	6,628	-48.0		311	23.5
350	31	7,500	-51.8		309	27.8
300	31	8,493	-54.3		309	33.0
250	31	9,660	-54.4		299	31.9
200	31	11,090	-53.9		289	31.7
175	31	11,947	-53.8		285	32.1
150	31	12,938	-53.9		284	35.0
125	30	14,106	-54.3		283	39.0
100	30	15,536	-54.2		279	44.7
80	30	16,967	-54.4		280	52.3
70	30	17,820	-54.8		280	54.8
60	29	18,805	-55.4		281	57.7
50	29	19,966	-56.1		278	67.8
40	29	21,383	-56.6		280	75.8
30	27	23,215	-57.2		278	83.5
25	25	24,372	-57.8		277	88.6
20	21	25,822	-57.9		275	104.5
15	16	27,638	-58.1			
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BARTER IS., ALASKA
1021 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	15	-31.1	60	267	9.3
1000	28	160	-27.1	50	274	12.0
950	28	533	-25.1	52	284	14.2
900	28	925	-24.1	56	291	12.4
850	28	1,342	-23.9	56	298	6.2
800	28	1,784	-24.3	54	308	5.4
750	28	2,250	-25.0	51	307	6.8
700	28	2,753	-26.5	50	318	5.4
650	28	3,283	-28.5	47	299	3.5
600	27	3,852	-31.8	45	277	4.5
550	27	4,456	-35.4		268	6.4
500	27	5,120	-39.4		254	8.0
450	27	5,829	-43.9		242	12.4
400	27	6,617	-48.5		253	14.2
350	27	7,487	-52.1		249	18.3
300	27	8,478	-54.5		255	21.4
250	27	9,646	-54.0		271	23.5
200	26	11,087	-53.0		280	27.6
175	26	11,949	-52.6		285	28.4
150	26	12,944	-52.7		285	33.0
125	26	14,119	-52.9		287	35.9
100	26	15,556	-53.5		290	44.3
80	24	16,988	-54.2		286	47.0
70	24	17,843	-54.6		287	51.3
60	24	18,828	-55.1		286	53.8
50	22	19,989	-55.8		287	59.8
40	19	21,418	-56.6		285	66.2
30	16	23,250	-56.8		283	83.3
25	12	24,439	-56.1			
20	10	25,861	-58.2			
15	[illegible]	27,610	-58.9			
10						

BETHEL, ALASKA
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	39	-19.5	69	2	6.8
1000	31	142			3	8.2
950	31	537	-10.6	57	8	12.6
900	31	951	-10.0	53	349	13.0
850	31	1,391	-10.7	47	336	15.3
800	31	1,856	-12.3	44	330	16.5
750	31	2,349	-14.3	42	324	19.4
700	31	2,869	-16.3	37	318	22.5
650	31	3,423	-19.1	37	315	26.4
600	31	4,016	-22.1	37	311	29.5
550	31	4,649	-25.9	37	303	33.8
500	31	5,335	-30.0	41	301	37.3
450	31	6,076	-34.7	44	297	38.9
400	31	6,892	-40.1		292	42.7
350	31	7,791	-45.8		288	42.0
300	31	8,804	-51.3		286	44.1
250	31	9,978	-54.2		285	42.3
200	31	11,407	-54.4		285	37.5
175	31	12,263	-53.7		280	33.2
150	31	13,258	-51.9		278	31.1
125	31	14,440	-51.8		275	30.7
100	30	15,894	-51.5		274	26.8
80	30	17,343	-51.4		275	26.4
70	30	18,209	-51.4		273	24.9
60	30	19,212	-51.2		275	23.7
50	30	20,398	-51.1		278	26.4
40	30	21,850	-50.8		281	27.0
30	29	23,719	-50.5		285	28.6
25	29	24,908	-50.3		286	32.2
20	25	26,361	-50.3		288	37.1
15	16	28,337	-48.9			
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BISMARCK, N. DAK.
955 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	505	-17.4	69	27	1.9
1000	31	153				
950	31	540			349	3.3
900	31	950	-11.7	65	274	5.2
850	31	1,390	- 8.3	63	277	9.1
800	31	1,861	- 8.0	62	289	14.8
750	31	2,356	- 9.2	59	290	20.0
700	31	2,893	-11.4	52	289	23.3
650	31	3,449	-14.7	53	285	25.6
600	31	4,060	-18.6	48	284	28.9
550	31	4,697	-22.9	45	282	34.2
500	31	5,395	-28.1	41	281	37.3
450	31	6,133	-33.6	39	279	41.0
400	31	6,961	-39.7		278	38.1
350	31	7,861	-45.9		276	44.1
300	31	8,873	-51.6		276	46.8
250	31	10,043	-55.2		273	47.2
200	31	11,466	-55.0		273	44.9
175	31	12,321	-54.3		273	44.1
150	30	13,311	-54.4		269	39.8
125	30	14,476	-55.0		270	38.7
100	30	15,894	-56.9		272	34.6
80	29	17,299	-58.6		278	30.1
70	28	18,135	-59.0		280	28.0
60	27	19,098	-59.0		279	27.4
50	27	20,240	-59.3		282	27.8
40	23	21,666	-58.2		284	27.8
30	22	23,470	-58.4		284	28.4
25	20	24,649	-58.0		287	29.5
20	15	26,070	-58.3		285	30.7
15	5	27,814	-57.5			
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BOISE, IDAHO
914 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	868	.8	73	129	4.9
1000	31	140				
950	31	554				
900	31	992	.8	65	131	4.7
850	31	1,450	- 1.1	62	218	6.2
800	31	1,932	- 4.0	65	253	13.4
750	31	2,430	- 6.7	67	259	19.6
700	31	2,975	- 9.5	66	268	22.5
650	31	3,544	-12.8	62	269	26.0
600	31	4,151	-16.4	58	274	29.3
550	31	4,800	-20.5	52	275	32.6
500	31	5,499	-25.7	48	274	34.8
450	31	6,251	-31.5	45	278	37.9
400	31	7,078	-38.0		280	42.0
350	31	7,986	-44.2		284	49.0
300	31	9,005	-50.7		286	54.0
250	31	10,182	-54.1		288	51.1
200	31	11,611	-54.1		287	45.5
175	31	12,468	-54.1		287	40.4
150	31	13,454	-55.5		283	37.7
125	31	14,613	-56.9		284	37.5
100	29	16,010	-59.0		286	29.3
80	29	17,409	-59.3		290	21.8
70	29	18,245	-59.1		291	17.9
60	25	19,226	-58.3		298	16.7
50	22	20,380	-57.5		316	13.8
40	20	21,800	-56.9		326	10.9
30	18	23,624	-55.9		342	10.7
25	17	24,779	-55.9		341	10.7
20	14	26,216	-54.9		309	11.5
15	11	28,073	-54.8			
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* BROWNSVILLE, TEXAS
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	7	12.3	91	312	2.7
1000	31	150	13.7	87	114	1.2
950	31	586	14.2	82	162	9.3
900	31	1,040	13.7	67	176	11.5
850	31	1,522	13.1	48	191	10.3
800	31	2,030	11.2	47	215	10.7
750	31	2,562	8.0	45	228	13.4
700	31	3,132	4.8	39	237	14.2
650	31	3,726	1.2	37	245	14.8
600	31	4,372	- 2.8	32	243	17.1
550	31	5,048	- 7.1	29	249	19.4
500	31	5,794	-12.0	28	251	21.8
450	31	6,582	-17.3	28	248	26.2
400	31	7,466	-23.9	31	249	29.3
350	31	8,426	-31.3	32	247	35.0
300	31	9,500	-39.7	27	247	38.9
250	31	10,720	-49.6		251	42.5
200	31	12,147	-59.6		255	42.9
175	30	12,975	-63.3		251	43.7
150	30	13,915	-66.1		246	42.5
125	30	15,011	-69.7		250	37.9
100	30	16,329	-73.3		248	32.2
80	30	17,631	-73.7		248	25.8
70	30	18,415	-70.9		247	19.6
60	30	19,337	-67.5		240	12.8
50	29	20,446	-63.1		212	7.4
40	29	21,830	-59.3		186	3.1
30	26	23,651	-54.8		269	.8
25	26	24,822	-52.6		267	2.3
20	24	26,269	-50.2		281	3.5
15	23	28,161	-46.3		262	4.3
10	17	30,892	-41.7		225	10.9
7	5	33,230	-39.9			

BUFFALO, N. Y.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	218	- 2.1	83	226	4.3
1000	31	151				
950	31	556	- 3.0	80	237	10.5
900	31	985	- 4.3	76	244	16.3
850	31	1,435	- 5.3	72	253	20.6
800	31	1,911	- 5.8	59	259	25.4
750	31	2,415	- 7.7	56	259	27.2
700	31	2,950	- 9.7	60	260	29.5
650	31	3,516	-12.6	55	266	35.0
600	31	4,127	-16.1	51	267	38.5
550	31	4,774	-20.2	50	268	43.3
500	31	5,478	-24.9	46	270	48.4
450	31	6,234	-29.2	43	268	55.2
400	31	7,071	-34.6	40	264	62.4
350	31	7,991	-40.8		265	70.1
300	31	9,024	-47.3		265	78.5
250	31	10,215	-52.4		263	82.2
200	31	11,644	-55.2		261	78.1
175	31	12,494	-56.0		268	71.5
150	30	13,468	-57.0		264	61.4
125	30	14,616	-58.8		266	53.8
100	30	16,010	-60.3		264	48.0
80	29	17,395	-60.8		265	44.3
70	27	18,227	-61.0		264	35.9
60	27	19,186	-60.5		262	32.8
50	27	20,323	-59.9		261	28.0
40	27	21,722	-58.7		260	31.3
30	26	23,539	-57.6		267	26.0
25	23	24,698	-56.7		269	30.5
20	20	26,124	-55.4		271	43.5
15	14	27,977	-52.2			
10	6	30,635	-48.5			
7						

* BURRWOOD, LA.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	14.1	87	38	3.5
1000	31	166	15.0	82	80	4.7
950	31	602	13.5	75	166	6.8
900	31	1,056	12.2	62	212	9.1
850	31	1,534	10.7	53	226	9.7
800	31	2,038	8.7	42	236	14.0
750	31	2,569	6.8	36	245	16.9
700	31	3,135	4.1	36	246	21.2
650	31	3,732	.6	31	248	24.3
600	31	4,373	- 3.2	31	249	26.0
550	31	5,051	- 7.4	28	252	28.4
500	31	5,793	-12.2	27	250	32.8
450	31	6,585	-18.0	26	250	35.4
400	31	7,461	-24.2	25	248	37.5
350	31	8,420	-31.3	28	250	42.5
300	31	9,493	-39.7	32	251	47.0
250	31	10,714	-49.2		254	50.9
200	31	12,143	-59.2		253	52.8
175	31	12,972	-62.4		254	53.2
150	31	13,916	-65.1		255	51.9
125	31	15,020	-67.9		258	47.6
100	31	16,349	-71.2		257	41.8
80	30	17,669	-70.9		256	33.0
70	30	18,462	-69.1		255	25.6
60	29	19,393	-66.2		249	17.1
50	29	20,510	-62.1		245	9.7
40	28	21,900	-58.7		243	5.6
30	28	23,722	-54.7		257	2.9
25	28	24,893	-52.5		272	3.7
20	28	26,345	-49.0		260	8.4
15	28	28,250	-45.2		257	10.9
10	19	31,003	-40.0		221	17.9
7	8	33,430	-37.8			

*CANTON IS., PACIFIC AREA
+ 1008 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	29.2	63	61	11.3
1000	31	75	27.8	63	62	12.6
950	31	520	22.2	67	70	13.0
900	31	995	19.2	59	81	9.5
850	31	1,485	17.6	47	82	5.6
800	31	2,001	15.8	39	41	2.3
750	31	2,543	13.3	35	100	.6
700	31	3,125	10.2	32	20	1.0
650	31	3,735	6.6	33	12	.6
600	31	4,390	3.0	29	131	1.9
550	31	5,081	- 1.0	28	176	1.6
500	31	5,845	- 5.0	24	254	1.2
450	31	6,659	- 9.6	21	263	1.6
400	31	7,566	-15.7	21	326	1.9
350	31	8,559	-22.9	22	107	2.7
300	31	9,669	-31.3	23	141	10.5
250	31	10,933	-41.5		154	14.8
200	31	12,407	-53.6		161	17.7
175	31	13,252	-60.5		154	12.8
150	31	14,195	-68.0		158	7.4
125	31	15,269	-75.9		181	2.7
100	31	16,532	-83.3		142	4.7
80	31	17,783	-77.3		177	1.2
70	31	18,563	-70.3		264	9.5
60	31	19,488	-66.2		267	17.5
50	31	20,600	-63.3		266	18.8
40	31	21,979	-61.4		271	21.6
30	31	23,775	-58.6		276	4.7
25	31	24,928	-56.2		88	26.6
20	30	26,358	-52.1		88	51.3
15	30	28,249	-46.0		92	67.8
10	14	30,977	-39.7		94	79.4
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

CAPE HATTERAS, N. C.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	10.0	82	342	1.7
1000	31	172	10.8	76	287	4.1
950	31	595	8.9	71	259	9.7
900	31	1,045	7.2	65	253	14.6
850	31	1,515	6.3	51	254	19.2
800	31	2,010	4.2	46	258	22.0
750	31	2,533	1.8	42	260	24.7
700	31	3,087	- .5	38	260	29.3
650	31	3,670	- 3.1		263	34.0
600	31	4,306	- 6.5		267	39.6
550	31	4,976	-10.3		268	43.7
500	31	5,709	-15.0		267	47.8
450	31	6,490	-20.5		267	52.6
400	31	7,358	-26.7		268	56.7
350	31	8,308	-33.6		270	61.6
300	31	9,371	-41.9		271	66.8
250	31	10,581	-51.1		273	69.2
200	31	12,003	-59.1		272	75.0
175	31	12,836	-60.7		275	68.6
150	31	13,792	-62.3		275	63.5
125	31	14,913	-64.1		273	52.6
100	31	16,271	-66.6		269	41.2
80	31	17,622	-65.6		271	30.1
70	31	18,435	-64.0		267	22.3
60	31	19,384	-61.9		264	20.2
50	31	20,518	-59.3		268	17.5
40	31	21,924	-56.7		267	15.3
30	31	23,760	-54.0		263	9.9
25	31	24,935	-51.8		262	11.8
20	30	26,396	-48.9		259	19.8
15	29	28,302	-45.8		263	32.6
10	22	31,054	-40.7		265	56.3
7	10	33,534	-39.0			
5	5	35,866	-36.6			

CARIBOU, ME.
995 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	191	-10.1	82	285	3.1
1000	31	152			348	6.8
950	31	551	- 8.8	74	270	6.2
900	31	968	- 8.5	72	267	10.7
850	31	1,411	- 8.8	66	264	14.6
800	31	1,880	- 9.5	59	267	18.3
750	31	2,379	-10.7	55	263	21.0
700	31	2,906	-12.6	52	258	22.0
650	31	3,469	-14.7	51	256	28.7
600	31	4,072	-17.9	50	255	34.2
550	31	4,717	-21.8	50	253	40.2
500	31	5,414	-26.1	48	252	43.9
450	31	6,165	-31.4	44	250	48.8
400	31	6,995	-36.9		250	52.6
350	31	7,907	-43.0		255	58.7
300	31	8,932	-48.2		257	65.5
250	31	10,121	-52.7		260	64.9
200	31	11,555	-54.2		260	61.8
175	31	12,411	-54.4		258	54.8
150	31	13,396	-55.4		258	53.2
125	30	14,559	-57.0		257	42.3
100	30	15,965	-58.6		254	42.7
80	30	17,366	-59.1		253	35.9
70	30	18,201	-59.8		254	33.4
60	30	19,167	-59.5		254	33.8
50	30	20,308	-59.7		255	33.4
40	29	21,700	-59.0		256	35.0
30	29	23,508	-58.8		259	42.2
25	29	24,656	-57.8		257	45.5
20	29	26,064	-58.0		257	53.4
15	27	27,883	-56.6		264	62.7
10	22	30,493	-51.9		260	90.1
7	6	32,969	-39.3			
5						

CHARLESTON, S. C.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	13	8.5	82	338	1.2
1000	31	179	10.4	75	261	1.4
950	31	609	10.2	64	233	7.6
900	31	1,056	8.9	56	241	12.6
850	31	1,529	7.8	45	256	17.5
800	31	2,027	5.7	46	260	20.6
750	31	2,554	3.5	40	263	24.1
700	27	3,110	1.4	36	262	26.8
650	27	3,703	- 1.7	36	261	31.7
600	27	4,338	- 4.7		263	35.5
550	27	5,014	- 8.8		266	38.9
500	27	5,750	-13.8	34	266	42.0
450	27	6,538	-19.2	33	268	45.3
400	27	7,410	-25.5	31	268	49.5
350	26	8,363	-32.6		269	52.4
300	26	9,431	-40.9		268	57.3
250	26	10,646	-50.5		270	61.0
200	26	12,068	-60.1		270	66.2
175	26	12,894	-62.9		270	66.0
150	26	13,841	-64.0		270	62.5
125	26	14,953	-66.3		273	54.6
100	26	16,295	-69.4		272	43.7
80	26	17,629	-68.5		270	32.8
70	26	18,431	-66.8		268	27.0
60	26	19,367	-64.1		266	17.7
50	25	20,492	-60.3		267	15.7
40	24	21,890	-57.5		273	10.5
30	23	23,725	-54.0		273	9.3
25	23	24,904	-50.6		274	9.1
20	22	26,359	-48.2		258	13.0
15	14	28,261	-45.0		258	16.7
10						
7						
5						

CHIHUAHUA, MEXICO
858 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	1,428	5.5	69	212	1.2
1000	27	153				
950	27	581				
900	27	1,031				
850	27	1,503	6.8	64	218	2.1
800	27	2,004	8.4	47	251	7.4
750	27	2,532	6.3	44	254	11.3
700	27	3,099	3.7		264	15.9
650	27	3,696	.5		266	18.1
600	27	4,334	- 3.6		270	17.9
550	27	5,009	- 8.3		269	21.2
500	27	5,749	-13.4		264	25.8
450	27	6,537	-19.3		263	26.4
400	27	7,407	-25.9		264	28.4
350	27	8,359	-33.3		268	35.0
300	27	9,424	-41.0		261	39.6
250	27	10,640	-49.7		260	47.0
200	27	12,070	-58.2		261	47.2
175	27	12,905	-60.9		263	43.3
150	27	13,855	-64.0		264	42.3
125	26	14,967	-67.9		262	39.0
100	25	16,293	-71.1		262	34.2
80	19	17,601	-71.6		259	25.4
70	18	18,393	-68.8		253	21.8
60	16	19,331	-65.3		247	18.1
50	14	20,450	-60.7		247	11.7
40	14	21,848	-57.8		216	8.2
30	13	23,674	-54.8		241	8.2
25	11	24,847	-53.0		247	6.0
20	10	26,296	-50.6		289	9.1
15						
10						
7						
5						

* COLD BAY, ALASKA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	30	- .7	85	291	3.3
1000	31	127			280	5.6
950	31	536	- 1.2	70	311	8.9
900	31	967	- 3.4	72	311	11.5
850	31	1,418	- 5.0	68	314	14.4
800	31	1,893	- 7.1	60	325	14.8
750	31	2,395	- 9.2	51	320	17.7
700	31	2,926	-11.4	50	311	19.8
650	31	3,489	-14.2	50	306	23.9
600	31	4,096	-17.9	50	297	26.2
550	31	4,735	-22.1	49	293	25.1
500	31	5,436	-26.7	44	294	26.0
450	31	6,184	-31.9	43	290	27.8
400	31	7,012	-37.7	45	283	26.0
350	31	7,921	-44.0		282	29.3
300	31	8,940	-50.4		285	27.2
250	31	10,115	-55.3		279	27.2
200	30	11,542	-56.0		277	26.8
175	30	12,394	-54.7		274	26.4
150	30	13,384	-52.8		271	25.6
125	29	14,567	-52.6		271	24.5
100	29	16,009	-52.9		274	21.2
80	29	17,451	-52.4		278	18.1
70	29	18,314	-51.9		281	16.7
60	29	19,312	-51.7		280	14.8
50	29	20,497	-50.8		285	11.7
40	28	21,963	-49.7		302	11.5
30	28	23,848	-49.1		306	12.6
25	28	25,047	-48.5		317	14.0
20	27	26,516	-48.0		323	14.8
15	24	28,410	-47.8		336	18.5
10	22	31,061	-49.4		330	25.6
7	10	33,353	-49.4			
5						

COLUMBIA, MO.
989 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	238	- 2.3	77	172	1.9
1000	31	145				
950	31	552	- 1.7	66	224	6.8
900	31	985	.3	54	247	12.8
850	31	1,444	.6	47	256	17.3
800	31	1,930	- .6	51	263	19.2
750	31	2,439	- 2.7	51	259	23.1
700	31	2,989	- 5.5	51	256	27.8
650	31	3,559	- 8.7	52	259	32.1
600	31	4,184	-12.2	43	258	37.3
550	31	4,837	-16.2	43	258	42.5
500	31	5,556	-21.1	44	259	46.4
450	31	6,315	-26.4	43	258	53.4
400	31	7,169	-32.5	44	260	54.2
350	31	8,097	-39.4		260	60.6
300	31	9,135	-46.9		261	66.0
250	31	10,327	-52.6		261	62.4
200	31	11,752	-56.7		263	68.8
175	31	12,595	-58.1		262	67.2
150	31	13,563	-59.1		265	61.8
125	31	14,702	-60.9		266	52.6
100	30	16,080	-62.9		266	43.5
80	30	17,451	-63.8		267	33.8
70	30	18,270	-62.8		267	27.8
60	29	19,225	-61.3		264	26.0
50	28	20,365	-60.2		262	22.7
40	26	21,756	-59.4		266	21.8
30	21	23,585	-57.8		260	28.7
25	21	24,739	-56.3		262	32.8
20	17	26,186	-53.4		265	37.1
15	11	28,033	-51.4			
10						

CORPUS CHRISTI, TEXAS
1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	6	11.9	86	8	2.9
1000	29	144	12.4	84	350	3.3
950	29	576	12.8	78	179	6.0
900	29	1,031	12.9	63	191	8.7
850	29	1,511	12.0	54	209	10.5
800	29	2,017	9.8	50	217	13.0
750	29	2,549	7.5	45	233	15.7
700	29	3,117	4.4	44	245	16.5
650	29	3,704	.6	46	250	18.5
600	29	4,354	- 3.3	45	248	20.8
550	29	5,028	- 7.3	39	250	23.9
500	29	5,774	-11.9	38	252	28.2
450	29	6,561	-17.6	37	252	29.9
400	29	7,443	-24.2	38	251	34.0
350	29	8,403	-31.5	41	250	37.1
300	29	9,475	-39.9		250	40.8
250	29	10,604	-49.5		252	41.8
200	28	12,125	-58.7		255	46.4
175	27	12,959	-62.3		256	44.1
150	26	13,904	-64.3		250	42.7
125	25	15,010	-67.3		249	44.5
100	23	16,341	-70.7		253	36.7
80	22	17,655	-71.4		243	31.1
70	22	18,444	-69.9		245	27.6
60	21	19,374	-66.3		243	23.5
50	18	20,489	-62.0		241	18.3
40	17	21,883	-59.2		247	13.4
30	16	23,706	-55.3		262	13.0
25	15	24,876	-52.5		264	14.8
20	14	26,331	-50.3		269	11.3
15	12	28,223	-45.7			
10	8	30,919	-42.3			

DAYTON, OHIO
983 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	297	- .5	84	212	3.1
1000	31	158				
950	31	570	- 1.1	79	227	10.5
900	31	1,000	- 1.6	71	246	15.7
850	31	1,456	- 1.7	62	255	20.0
800	31	1,938	- 3.0	57	260	22.9
750	31	2,447	- 4.4	50	261	27.0
700	31	2,990	- 6.8	43	260	31.7
650	31	3,565	- 9.6	38	261	35.2
600	31	4,181	-13.2		264	39.2
550	31	4,836	-17.0	37	265	43.3
500	31	5,550	-21.3	37	265	50.1
450	31	6,315	-26.2		265	57.1
400	31	7,163	-32.2		264	61.8
350	31	8,093	-38.8		265	64.9
300	31	9,135	-45.7		261	71.5
250	31	10,332	-52.3		257	82.4
200	31	11,756	-57.9		262	79.3
175	31	12,596	-58.7		263	73.0
150	31	13,564	-59.1		262	64.1
125	31	14,701	-61.5		266	48.8
100	31	16,079	-63.3		264	42.3
80	30	17,443	-63.5		263	39.0
70	30	18,265	-62.3		261	35.5
60	29	19,216	-61.7		263	29.9
50	28	20,349	-60.3		264	31.1
40	28	21,745	-58.9		258	27.8
30	27	23,564	-56.7		259	35.7
25	27	24,724	-55.0		257	36.5
20	25	26,158	-53.6		257	36.3
15	20	28,010	-51.7		265	42.9
10	10	30,632	-49.5			

DEL PIO, TEXAS
981 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	314	6.7	77	351	1.9
1000	29	156				
950	29	583	9.0	63	139	1.2
900	29	1,029	9.9	53	241	5.8
850	29	1,505	10.0	47	255	10.1
800	29	2,007	8.4	41	263	12.2
750	29	2,536	5.4	38	266	15.7
700	29	3,099	2.3	35	264	17.9
650	29	3,688	- 1.2	30	259	20.4
600	29	4,329	- 4.9		262	27.8
550	29	4,998	- 9.4		263	30.3
500	29	5,738	-14.1		263	34.2
450	29	6,520	-19.8		265	37.7
400	29	7,394	-26.1		266	42.2
350	29	8,346	-33.2		264	47.2
300	29	9,412	-41.0		263	50.7
250	29	10,627	-50.1		262	56.5
200	29	12,054	-58.8		266	55.4
175	28	12,889	-62.0		261	55.2
150	28	13,837	-64.2		262	51.9
125	28	14,943	-67.7		264	45.6
100	28	16,274	-71.0		259	37.3
80	28	17,592	-70.8		256	29.1
70	28	18,386	-68.1		259	22.0
60	26	19,316	-64.6		252	18.5
50	25	20,436	-61.2		242	12.4
40	25	21,834	-57.7		239	9.7
30	24	23,666	-54.3		247	11.3
25	24	24,838	-52.1		255	11.3
20	23	26,288	-49.8		262	12.6
15	20	28,183	-47.2		255	15.0
10	9	30,878	-44.5			

DENVER, COLO.
833 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,611	- 2.3	62	213	5.6
1000	31	133				
950	31	546				
900	31	988				
850	31	1,445				
800	31	1,931	1.0	40	245	8.5
750	31	2,445	- 1.5	40	275	13.4
700	31	2,994	- 4.8	39	286	20.0
650	31	3,571	- 8.8	41	287	24.7
600	31	4,188	-12.9	40	287	27.6
550	31	4,843	-17.4	39	284	33.4
500	31	5,554	-22.5	37	283	37.3
450	31	6,313	-27.9	33	283	38.3
400	31	7,155	-34.3		280	43.1
350	31	8,076	-41.1		279	48.0
300	31	9,107	-48.5		279	54.8
250	31	10,290	-54.3		273	53.2
200	31	11,710	-56.9		274	53.2
175	31	12,554	-57.7		272	52.8
150	31	13,524	-58.8		273	52.4
125	31	14,665	-59.8		273	45.8
100	31	16,056	-60.9		274	33.2
80	31	17,441	-62.1		269	24.5
70	31	18,265	-62.1		271	20.2
60	31	19,223	-61.3		275	19.8
50	29	20,368	-59.5		277	16.9
40	28	21,774	-58.3		283	12.8
30	26	23,603	-56.8		287	12.6
25	24	24,770	-55.8		281	15.2
20	18	26,192	-53.8		273	22.0
15	12	28,037	-50.3		267	36.1
10						

DODGE CITY, KANS.
923 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	792	- 4.5	79	288	4.1
1000	31	155				
950	31	564				
900	31	994	1.7	52	286	6.6
850	31	1,456	3.0	41	295	12.8
800	31	1,946	2.6	40	294	15.0
750	31	2,466	- .4	37	292	17.7
700	31	3,013	- 3.5	35	282	20.6
650	31	3,591	- 7.0	32	277	23.7
600	31	4,215	-11.2		275	26.4
550	31	4,872	-15.9		278	33.0
500	31	5,589	-21.0		272	35.5
450	31	6,354	-26.6		271	39.0
400	31	7,200	-33.3		270	44.9
350	31	8,124	-40.4		267	49.5
300	31	9,158	-47.6		269	54.8
250	31	10,348	-52.8		267	61.0
200	31	11,773	-56.6		264	65.1
175	31	12,618	-57.6		264	64.5
150	31	13,588	-58.8		263	58.9
125	31	14,725	-61.8		265	51.3
100	31	16,100	-63.7		262	39.2
80	31	17,465	-64.2		265	30.5
70	31	18,285	-63.0		264	23.9
60	28	19,232	-61.6		262	18.1
50	26	20,368	-60.2		259	18.5
40	25	21,759	-59.0		267	20.0
30	23	23,576	-56.5		262	21.2
25	22	24,741	-55.2		263	22.7
20	21	26,174	-53.2		263	30.7
15	11	28,022	-51.6			
10						

EL PASO, TEXAS
884 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,193	3.1	57	290	2.7
1000	31	178				
950	31	600				
900	31	1,045				
850	31	1,511	5.6	44	285	3.9
800	31	2,007	4.5	42	273	11.5
750	31	2,529	2.6	40	272	17.9
700	31	3,087	- .6	37	270	20.2
650	31	3,674	- 3.7		271	24.7
600	31	4,304	- 6.9		269	28.7
550	31	4,974	-11.0		269	33.8
500	31	5,704	-15.8		268	37.3
450	31	6,485	-21.6		271	42.5
400	31	7,348	-28.1		269	45.3
350	31	8,294	-35.2		270	51.5
300	31	9,350	-43.3		272	53.0
250	31	10,557	-51.5		275	57.9
200	31	11,982	-58.5		268	58.9
175	31	12,816	-61.0		269	56.1
150	31	13,768	-63.8		269	49.0
125	30	14,879	-66.5		269	42.0
100	30	16,221	-69.3		270	37.5
80	29	17,546	-69.8		267	26.8
70	29	18,346	-66.6		265	20.4
60	28	19,286	-64.4		265	14.0
50	28	20,410	-61.5		275	8.4
40	28	21,804	-58.4		261	15.0
30	28	23,631	-54.7		248	16.9
25	27	24,802	-52.5		257	22.0
20	24	26,245	-50.2		262	22.9
15	21	28,143	-47.3		249	27.8
10	8	30,946	-40.6			

ELY, NEV.
807 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,908	- 4.9	73	191	5.8
1000	31	189				
950	31	605				
900	31	1,041				
850	31	1,494				
800	31	1,973	- 3.3	65	196	6.2
750	31	2,489	- 3.3	59	226	9.3
700	31	3,029	- 6.6	61	264	15.5
650	31	3,602	- 9.7	61	272	24.9
600	31	4,218	-13.5	58	278	31.7
550	31	4,871	-17.7	51	282	34.4
500	31	5,581	-22.5	44	283	36.5
450	31	6,340	-28.1		286	36.7
400	31	7,180	-34.0		292	40.2
350	31	8,104	-40.4		294	44.9
300	29	9,124	-47.9		283	40.0
250	29	10,309	-54.5			
200	29	11,728	-56.8			
175	29	12,572	-57.7			
150	28	13,538	-58.5			
125	26	14,684	-59.7			
100	26	16,071	-61.9			
80	26	17,450	-62.9			
70	26	18,273	-62.1			
60	24	19,234	-60.1			
50	22	20,372	-58.9			
40	21	21,782	-57.4		307	5.2
30	21	23,603	-56.2		348	8.0
25	18	24,774	-54.2		314	6.6
20	17	26,208	-52.8		312	5.6
15	11	28,079	-51.8			
10	5	30,691	-53.0			

EMPALME, MEXICO
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	23	12	22.6	43	248	7.4
1000	23	123	21.9	42	266	6.0
950	23	569	19.1	36	333	3.7
900	23	1,028	16.1	35	355	3.7
850	23	1,511	13.2		297	2.1
800	23	2,018	10.5		307	4.7
750	23	2,552	7.8		292	6.4
700	23	3,118	4.4		286	10.9
650	23	3,712	.6		285	13.4
600	23	4,354	- 3.8		277	15.7
550	23	5,027	- 8.3		275	17.1
500	23	5,769	-13.1		277	18.5
450	23	6,562	-18.8		279	23.3
400	23	7,432	-25.3		276	26.8
350	23	8,386	-32.6		274	30.1
300	23	9,454	-40.3		272	34.0
250	23	10,675	-48.4		272	40.0
200	23	12,113	-57.5		267	45.5
175	23	12,949	-61.0		270	38.1
150	23	13,903	-63.6		267	37.1
125	23	15,015	-66.6		270	35.4
100	23	16,352	-70.3		267	29.7
80	23	17,673	-70.9		270	22.7
70	23	18,473	-69.1		275	19.8
60	23	19,393	-66.3		274	14.0
50	23	20,509	-62.4		266	10.9
40	23	21,903	-57.8		276	11.3
30	22	23,735	-54.0		262	11.7
25	22	24,912	-51.8		269	12.6
20	21	26,365	-50.0		271	10.1
15	17	28,269	-46.9		257	9.5
10						

* FAIRBANKS, ALASKA
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	135	-31.9	61	348	.8
1000	31	152			58	3.1
950	31	528	-24.7	70	98	1.6
900	31	918	-22.8	75	272	2.1
850	31	1,338	-21.4	73	282	3.9
800	31	1,785	-20.8	71	297	6.8
750	31	2,259	-22.1	73	297	9.7
700	31	2,766	-24.0	73	304	11.7
650	31	3,301	-26.2	67	312	13.4
600	31	3,881	-29.1	65	312	15.7
550	31	4,495	-32.4	67	311	17.7
500	31	5,166	-36.4	66	315	21.0
450	31	5,887	-40.5		315	24.1
400	31	6,686	-44.6		315	28.2
350	30	7,572	-48.7		315	30.1
300	30	8,577	-52.0		314	35.0
250	30	9,755	-52.5		315	36.9
200	30	11,199	-51.7		304	33.8
175	30	12,065	-51.2		299	35.5
150	30	13,068	-51.2		298	35.9
125	30	14,252	-51.6		299	38.3
100	30	15,699	-51.5		295	40.6
80	30	17,148	-51.7		296	41.6
70	30	18,011	-52.3		296	43.3
60	30	19,010	-52.6		297	42.9
50	30	20,187	-53.0		296	44.9
40	30	21,623	-54.0		298	47.0
30	28	23,469	-55.1		299	55.8
25	27	24,636	-55.2		299	59.4
20	22	26,039	-56.0		298	68.2
15	17	27,928	-54.7		302	77.3
10	10	30,684	-52.5			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

FLINT, MICH.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	234	- 3.4	80	224	4.1
1000	29	153				
950	29	558	- 4.8	79	243	9.9
900	29	983	- 5.4	73	259	17.5
850	29	1,431	- 5.8	60	263	20.0
800	29	1,907	- 6.2	52	262	22.5
750	29	2,412	- 7.4	50	260	26.2
700	29	2,947	- 9.7	48	264	29.7
650	29	3,515	-12.4	44	262	34.6
600	29	4,124	-15.8	42	264	38.9
550	29	4,773	-20.1	44	263	45.5
500	29	5,476	-24.8	43	264	49.7
450	28	6,220	-30.2	43	266	54.0
400	28	7,056	-35.9		266	62.9
350	28	7,971	-42.0		264	69.2
300	28	9,000	-48.2		265	78.5
250	28	10,187	-52.8		269	85.9
200	28	11,615	-55.5		265	81.6
175	28	12,465	-55.8		266	76.3
150	28	13,444	-56.7		268	69.5
125	28	14,596	-58.0		268	58.3
100	27	15,998	-60.1		263	55.0
80	26	17,382	-61.0		256	39.6
70	26	18,211	-60.9		260	40.4
60	25	19,165	-60.3		260	36.7
50	25	20,303	-59.9		262	31.5
40	25	21,700	-58.8		260	34.0
30	24	23,505	-57.7		264	34.8
25	19	24,686	-56.8		263	32.8
20	18	26,104	-56.0		262	44.5
15	14	27,931	-55.8			
10						

FORT WORTH, TEXAS
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	180	5.3	69	281	2.9
1000	31	158			330	3.3
950	31	583	7.1	62	247	10.5
900	31	1,024	8.1	54	254	13.4
850	31	1,496	7.7	48	254	16.1
800	31	1,995	6.0	43	254	18.8
750	31	2,522	3.1	41	255	22.3
700	31	3,077	.1	37	253	25.4
650	31	3,669	- 3.2	34	254	28.6
600	31	4,297	- 7.1	32	257	31.9
550	31	4,966	-11.8	31	259	35.7
500	31	5,694	-16.4		259	43.1
450	31	6,472	-21.9		256	47.2
400	31	7,335	-28.3		255	53.0
350	31	8,279	-35.5		256	57.9
300	31	9,335	-42.8		257	64.3
250	31	10,544	-51.1		259	66.2
200	31	11,970	-57.9		260	66.2
175	31	12,806	-60.9		260	66.0
150	31	13,759	-63.2		261	61.0
125	31	14,873	-65.7		261	51.9
100	31	16,218	-68.5		258	42.3
80	31	17,554	-68.0		257	31.3
70	30	18,358	-65.6		260	23.7
60	29	19,300	-62.9		258	17.9
50	28	20,428	-60.3		251	15.7
40	28	21,828	-57.7		253	15.9
30	27	23,654	-54.7		254	20.6
25	24	24,827	-52.5		262	23.9
20	23	26,279	-49.8		263	25.6
15	15	28,203	-45.6		252	31.3
10						

GLASGOW, MONT.
931 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	-17.6	67	63	2.1
1000	31	154				
950	31	536				
900	31	949	-12.9	62	291	6.0
850	31	1,388	- 9.5	60	289	13.8
800	31	1,858	- 8.4	60	288	18.1
750	31	2,352	-10.1	59	287	22.7
700	31	2,886	-12.9	58	286	23.7
650	31	3,443	-16.6	56	282	25.3
600	31	4,044	-20.4	51	280	26.4
550	31	4,676	-24.9	47	283	29.9
500	31	5,369	-29.7	45	284	33.4
450	31	6,101	-35.5	45	283	36.1
400	31	6,921	-41.5		280	38.3
350	31	7,815	-47.5		282	41.0
300	31	8,820	-52.5		284	47.4
250	31	9,989	-55.3		282	47.2
200	31	11,411	-55.0		282	45.3
175	31	12,265	-54.7		283	45.1
150	31	13,251	-54.6		282	44.5
125	31	14,417	-54.8		281	38.9
100	30	15,842	-57.1		282	38.9
80	30	17,251	-57.8		289	33.8
70	30	18,092	-58.2		289	31.5
60	29	19,053	-59.0		291	28.4
50	27	20,217	-58.7		299	25.6
40	25	21,646	-57.7		297	24.9
30	23	23,462	-57.6		308	27.4
25	21	24,626	-58.1		321	23.3
20	16	26,080	-57.7		327	21.6
15	9	27,892	-58.1			
10						

GRAND JUNCTION, COLO.
852 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,474	- 3.3	74	118	3.1
1000	31	191				
950	31	604				
900	31	1,039				
850	31	1,493			116	4.1
800	31	1,975	- 2.5	60	187	5.8
750	31	2,486	- 4.4	60	232	8.4
700	31	3,027	- 7.3	60	264	15.3
650	31	3,600	-10.2	56	269	23.1
600	31	4,215	-13.8	48	275	25.1
550	31	4,866	-18.0	43	277	29.7
500	31	5,578	-22.6	41	278	35.9
450	31	6,335	-27.8	39	278	40.8
400	31	7,181	-33.7	42	279	48.2
350	31	8,103	-41.0		279	53.4
300	31	9,133	-48.7		279	59.2
250	31	10,314	-54.4		281	63.9
200	31	11,735	-56.4		283	57.5
175	31	12,581	-56.9		281	56.1
150	31	13,555	-57.9		283	52.8
125	31	14,700	-59.6		287	40.6
100	31	16,085	-62.9		275	33.6
80	30	17,453	-63.8		276	27.2
70	30	18,273	-62.8		287	23.1
60	30	19,226	-61.5		284	15.9
50	29	20,358	-60.2		287	11.1
40	26	21,755	-59.3		291	10.7
30	23	23,575	-57.6		289	13.4
25	21	24,740	-55.7		286	16.1
20	19	26,176	-54.0		281	21.4
15	14	28,017	-52.2		278	32.8
10	6	30,773	-47.8			

GREAT FALLS, MONT.
881 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,123	-13.0	68	235	3.9
1000	31	145				
950	31	545				
900	31	962				
850	31	1,399	- 8.3	50	233	12.6
800	31	1,875	[illegible]	56	248	[illegible]
750	31	2,373	- 8.9	58	258	21.6
700	31	2,904	-12.2	60	266	[illegible]
650	31	3,465	-15.8	59	272	[illegible]
600	31	4,066	-19.8	56	274	29.7
550	31	4,701	-24.4	55	273	30.3
500	31	5,394	-29.4	54	273	33.0
450	31	6,135	-34.9	56	275	34.5
400	31	6,951	-40.6		277	39.2
350	31	7,848	-46.8		276	43.7
300	31	8,858	-52.1		274	43.1
250	31	10,627	-55.4		272	42.7
200	31	11,452	-54.4		276	42.7
175	31	12,308	-53.7		277	38.7
150	31	13,298	-54.4		274	37.5
125	29	14,443	-55.2		280	36.3
100	29	15,864	-55.9		277	32.2
80	28	17,275	-57.8		280	28.3
70	28	18,116	-58.0		281	26.0
60	27	19,090	-58.2		288	24.7
50	26	20,245	-58.4		297	23.1
40	23	21,681	-57.4		309	21.2
30	22	23,502	-57.4		314	18.4
25	19	24,683	-57.0		327	23.7
20	17	26,124	-56.7		330	25.1
15	11	27,930	-56.7		315	31.7
10	6	30,368	-58.9			

GREEN BAY, WIS.
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	- 8.3	79	281	3.1
1000	31	143				
950	31	540	- 9.0	70	268	5.2
900	31	960	- 9.0	66	270	8.4
850	31	1,402	- 9.1	56	267	12.0
800	31	1,872	- 8.4	46	265	17.3
750	31	2,372	- 9.2	47	266	22.0
700	31	2,904	-11.2	41	265	26.2
650	31	3,465	-14.2	44	268	29.1
600	31	4,073	-17.7	44	267	33.6
550	31	4,716	-21.8	46	264	37.7
500	31	5,414	-26.4	44	266	40.6
450	31	6,160	-31.8	40	266	43.9
400	31	6,991	-37.4		266	49.9
350	31	7,901	-43.5		264	56.3
300	31	8,924	-49.6		263	62.9
250	31	10,104	-54.3		263	67.2
200	31	11,532	-54.8		266	62.9
175	31	12,385	-55.1		265	58.7
150	31	13,369	-55.3		265	56.7
125	31	14,529	-56.7		267	48.8
100	31	15,936	-59.1		264	44.9
80	31	17,331	-59.7		269	39.4
70	30	18,165	-59.8		267	32.8
60	30	19,128	-60.2		266	31.9
50	30	20,266	-59.9		265	30.9
40	25	21,672	-59.5		266	29.9
30	23	23,476	-59.0		268	30.9
25	23	24,622	-58.5		266	34.4
20	20	26,057	-56.4		267	39.8
15	10	27,912	-55.2			
10						

GREENSBORO, N. C.
989 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	273	3.5	85	229	2.1
1000	31	181				
950	31	600	4.8	70	242	9.9
900	31	1,041	3.8	69	247	16.9
850	31	1,506	4.0	55	257	22.3
800	31	1,999	2.5	53	257	25.3
750	31	2,518	.5	42	260	28.0
700	31	3,071	- 1.6	38	261	33.2
650	31	3,659	- 4.2	37	261	37.7
600	31	4,287	- 7.8	35	263	42.3
550	31	4,953	-12.0	36	263	47.8
500	31	5,683	-16.5	37	264	55.2
450	31	6,463	-21.8	39	263	62.9
400	31	7,326	-28.0		263	69.3
350	31	8,271	-35.1		265	74.2
300	31	9,328	-43.1		268	76.5
250	31	10,533	-51.9		269	82.6
200	31	11,952	-59.4		273	81.6
175	31	12,784	-61.3		272	77.1
150	31	13,737	-62.5		271	69.0
125	31	14,855	-65.0		272	58.5
100	30	16,208	-66.6		271	45.6
80	30	17,554	-66.8		267	35.2
70	30	18,364	-64.7		267	30.3
60	30	19,311	-62.6		262	23.7
50	30	20,441	-60.6		259	18.8
40	30	21,838	-58.0		260	20.0
30	29	23,661	-55.3		263	19.6
25	27	24,832	-53.1		264	20.2
20	23	26,283	-50.4		259	22.3
15	16	28,185	-47.9		254	35.7
10						

GUAM, MARIANA IS.
998 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	111	24.8	89	86	6.8
1000	31	97				
950	31	550	23.2	82	85	18.6
900	31	1,019	20.5	79	88	19.2
850	31	1,512	17.9	72	91	16.9
800	31	2,030	15.3	64	91	17.1
750	31	2,577	12.7	59	94	16.9
700	31	3,153	9.8	49	93	17.7
650	31	3,766	6.2	45	96	16.9
600	31	4,417	2.3	43	97	16.5
550	31	5,115	- 1.8	40	102	16.9
500	31	5,868	- 6.3	39	103	16.1
450	31	6,685	-11.5	32	109	16.9
400	31	7,579	-17.2		106	15.7
350	31	8,567	-23.9		104	14.8
300	31	9,575	-32.1		98	13.0
250	31	10,935	-42.4		121	9.3
200	31	12,404	-54.7		137	9.7
175	31	13,244	-61.7		131	8.9
150	30	14,180	-69.5		120	9.5
125	29	15,246	-77.4		120	13.8
100	28	16,501	-84.0		114	20.6
80	24	17,742	-81.2		104	17.3
70	23	18,504	-75.6		97	9.5
60	22	19,415	-69.5		91	4.1
50	22	20,516	-64.9		200	2.5
40	22	21,893	-60.4		24	1.0
30	21	23,709	-55.6		96	16.1
25	21	24,877	-53.5		89	25.4
20	21	26,324	-50.2		88	36.1
15	18	28,226	-45.7		84	41.4
10	9	30,935	-40.5			

HILO, HAWAII
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	19.8	87	235	6.0
1000	31	129	21.8	79	231	4.9
950	31	573	19.7	78	129	3.9
900	31	1,039	16.7	80	129	6.4
850	31	1,525	14.1	77	147	5.8
800	31	2,035	11.5	71	128	5.6
750	31	2,572	9.1	53	123	7.0
700	31	3,143	6.1	44	112	8.4
650	31	3,746	3.1	41	111	8.5
600	31	4,392	- .3	35	103	6.2
550	30	5,078	- 4.3	32	113	4.7
500	30	5,828	- 9.1	22	100	2.5
450	30	6,632	-14.5		247	1.4
400	30	7,519	-20.4		273	5.2
350	30	8,494	-27.3		288	10.5
300	29	9,587	-34.9		281	17.9
250	28	10,834	-44.3		281	24.5
200	28	12,294	-55.0		285	31.5
175	28	13,136	-60.8		289	29.7
150	27	14,084	-66.4		290	24.3
125	27	15,173	-72.0		292	18.1
100	27	16,468	-77.3		297	8.5
80	26	17,744	-77.5		350	2.9
70	26	18,515	-74.0		58	2.5
60	25	19,424	-69.0		56	4.9
50	25	20,528	-63.8		88	5.6
40	23	21,912	-59.0		101	1.9
30	23	23,739	-54.1		54	3.9
25	21	24,913	-52.0		64	5.2
20	21	26,364	-50.4		81	7.0
15	16	28,254	-48.2		98	14.0
10	9	30,930	-44.4			

HUNTINGTON, W. VA.
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	2.1	85	196	4.1
1000	31	170				
950	31	587	2.4	70	230	10.9
900	31	1,021	.7	[illegible]	249	[illegible]
850	31	1,480	.5	64	256	23.3
800	31	1,966	- .9	57	261	[illegible]
750	31	2,478	- 2.8	51	26[illegible]	27.1
700	31	3,025	- 5.2	48	263	31.3
650	31	3,600	- 7.8	41	265	35.7
600	31	4,224	-10.7	39	267	[illegible]
550	31	4,883	-14.6	42	265	47.2
500	31	5,605	-19.1	43	264	53.2
450	31	6,375	-24.3	39	266	56.2
400	31	7,231	-30.1	37	264	64.1
350	31	8,168	-36.8		264	[illegible]
300	31	9,218	-44.4		266	73.2
250	31	10,419	-51.9		267	81.2
200	31	11,843	-58.0		266	78.1
175	31	12,679	-59.9		266	73.0
150	31	13,640	-60.6		269	62.5
125	31	14,769	[illegible]		269	51.1
100	30	16,135	-64.6		264	45.6
80	30	17,495	-65.1		269	36.3
70	30	18,311	-63.5		266	32.2
60	29	19,264	-61.9		262	26.6
50	28	20,393	-60.1		267	25.3
40	26	21,792	-58.8		259	25.1
30	25	23,605	-56.5		261	28.6
25	25	24,766	-54.9		261	31.7
20	24	26,198	-52.5		261	37.5
15	16	28,111	-48.7		262	43.3
10	7	30,879	-43.6			

*** INTERNAT. FALLS, MINN.**
973 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	360	-17.5	69	171	1.4
1000	31	150				
950	31	535	-15.7	77	211	3.3
900	31	944	-13.9	81	252	7.0
850	31	1,379	-13.0	71	267	10.1
800	31	1,841	-13.1	64	275	12.0
750	31	2,330	-14.4	60	277	14.2
700	31	2,854	-15.9	57	276	18.3
650	31	3,407	-18.4	57	281	21.6
600	31	4,004	-21.4	57	280	26.4
550	31	4,633	-25.4	59	282	30.3
500	31	5,326	-30.0	57	281	33.2
450	31	6,062	-35.1	51	282	37.1
400	31	6,881	-40.8		278	41.2
350	31	7,779	-46.5		274	45.6
300	31	8,788	-52.2		273	49.9
250	31	9,957	-55.3		271	53.4
200	31	11,381	-54.5		271	48.8
175	31	12,237	-53.8		269	47.0
150	31	13,226	-54.4		267	47.0
125	31	14,391	-55.6		270	44.9
100	30	15,813	-57.0		272	41.2
80	30	17,220	-58.6		273	38.1
70	30	18,057	-59.0		276	37.3
60	30	19,023	-59.4		273	36.5
50	29	20,173	-59.8		276	35.4
40	26	21,563	-60.3		279	36.7
30	23	23,381	-60.2		282	32.6
25	20	24,539	-61.1		283	35.2
20	16	25,938	-61.4		287	41.4
15	14	27,732	-60.3		285	48.8
10	6	30,312	-57.0			
7						

JACKSON, MISS.
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	94	7.5	86	171	1.7
1000	31	165			131	1.6
950	31	587	8.3	70	223	7.2
900	31	1,036	8.0	62	246	12.6
850	31	1,507	7.2	48	253	16.5
800	31	2,005	5.4	41	255	20.4
750	31	2,528	3.5	40	253	23.7
700	31	3,089	.9	38	255	26.6
650	31	3,673	- 2.5	39	256	31.1
600	31	4,313	- 6.0		257	35.4
550	31	4,981	-10.2		255	38.7
500	31	5,718	-14.9		253	42.7
450	31	6,499	-20.4		253	46.6
400	31	7,369	-26.7		251	54.0
350	31	8,319	-33.7		251	59.4
300	31	9,382	-41.7		249	64.3
250	31	10,593	-50.7		253	62.0
200	31	12,017	-59.3		261	57.9
175	31	12,847	-62.5		255	55.2
150	31	13,793	-64.6		262	56.5
125	31	14,899	-67.0		265	50.1
100	31	16,236	-69.5		262	39.0
80	30	17,563	-69.5		259	31.9
70	30	18,363	-67.4		252	26.4
60	30	19,298	-65.2		254	18.6
50	29	20,419	-61.8		247	18.8
40	28	21,811	-59.1		252	16.3
30	27	23,627	-56.3		263	18.5
25	26	24,792	-54.1		262	16.9
20	25	26,235	-51.4		255	16.7
15	23	28,124	-47.7		253	20.8
10	15	30,825	-43.8			
7	6	33,222	-41.0			

JACKSONVILLE, FLA.
1022 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	11.6	90	324	1.6
1000	31	186	13.5	80	116	1.4
950	31	619	13.0	69	191	5.6
900	31	1,073	11.2	63	219	9.5
850	31	1,549	9.3	52	240	12.4
800	31	2,051	7.8	45	252	16.1
750	31	2,580	5.8	40	257	17.5
700	31	3,144	3.0	40	258	23.3
650	31	3,737	- .4	37	261	24.3
600	31	4,376	- 4.0		261	29.7
550	31	5,051	- 8.1	31	265	32.6
500	31	5,792	-12.8		267	35.0
450	31	6,578	-18.8		265	39.2
400	31	7,454	-25.0		266	43.1
350	31	8,410	-32.2		266	42.0
300	31	9,479	-40.7		267	48.0
250	31	10,694	-50.3		267	54.2
200	31	12,115	-60.2		266	59.1
175	31	12,940	-63.8		266	62.4
150	31	13,879	-65.9		269	56.7
125	31	14,980	-68.0		271	46.8
100	31	16,309	-71.2		268	36.9
80	31	17,627	-70.8		270	29.9
70	31	18,420	-69.2		270	22.3
60	31	19,350	-65.5		265	11.7
50	31	20,473	-61.2		267	6.4
40	30	21,868	-58.1		309	1.9
30	30	23,698	-53.9		18	2.9
25	29	24,876	-51.5		31	2.1
20	28	26,337	-47.8		283	5.6
15	25	28,242	-43.5		262	18.6
10	12	30,947	-39.2			

JOHN F. KENNEDY INT. ARPT.NY
1021 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	1.6	72	311	6.2
1000	31	169	.7	71	296	7.2
950	31	584	- .1	74	275	11.5
900	31	1,014	- .2	67	271	16.7
850	31	1,472	- .8	61	267	22.5
800	31	1,955	- 2.4	60	267	25.9
750	31	2,468	- 4.1	57	263	29.9
700	31	3,008	- 6.9	57	265	33.6
650	31	3,586	- 9.5	52	266	38.7
600	31	4,198	-13.4	48	265	42.5
550	31	4,854	-17.5	44	265	47.0
500	31	5,565	-21.6		264	54.4
450	31	6,332	-26.5		265	60.0
400	31	7,175	-32.2		266	67.0
350	31	8,105	-38.4		264	73.4
300	31	9,148	-45.5		271	75.4
250	31	10,344	-52.7		270	79.4
200	30	11,776	-57.4		270	74.0
175	30	12,619	-57.9		275	65.3
150	30	13,588	-59.3		273	53.0
125	30	14,725	-61.3		272	45.1
100	30	16,103	-62.9		268	39.2
80	30	17,477	-62.7		269	31.5
70	30	18,302	-61.9		269	28.9
60	30	19,258	-61.4		269	25.8
50	30	20,393	-60.1		268	25.4
40	29	21,792	-58.1		264	27.0
30	28	23,613	-56.1		265	32.1
25	28	24,776	-54.9		263	34.2
20	27	26,212	-53.0		261	36.9
15	26	28,081	-51.1		263	45.6
10	14	30,732	-46.6			

JOHNSTON IS., PACIFIC AREA
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	24.7	81	92	6.6
1000	31	104	24.0	81	99	6.4
950	31	[illegible]	[illegible]	81	110	[illegible]
900	31	1,018	17.5	78	[illegible]	7.6
850	30	1,505	14.8	72	134	5.8
800	31	2,017	12.7	61	157	5.8
750	31	2,554	10.4	44	176	5.2
700	30	3,128	7.6	36	173	5.4
650	31	3,731	4.4	33	194	5.6
600	30	4,382	.8	29	231	6.4
550	30	5,071	- 3.5		248	7.0
500	30	5,822	- 8.4		252	8.9
450	30	6,628	-13.6		265	12.2
400	30	7,517	-19.8		254	16.5
350	30	8,495	-26.7		273	22.5
300	30	9,591	-34.4		267	33.8
250	30	10,841	-43.9		268	38.5
200	30	12,303	-55.2		269	44.1
175	30	13,143	-61.5		273	42.5
150	30	14,084	-67.8		276	35.9
125	29	15,165	-74.1		271	19.4
100	28	16,445	-80.0		259	[illegible]
80	27	17,710	-79.0		225	1.9
70	27	18,476	-74.5		96	1.7
60	27	19,385	-68.9		73	[illegible]
50	27	20,487	-64.7		176	.4
40	27	21,867	-59.8		53	2.5
30	26	23,686	-55.0		82	12.2
25	25	24,859	-52.7		82	17.5
20	22	26,306	-49.6		82	24.7
15	12	28,215	-46.4		87	28.9

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

KEY WEST, FLORIDA
1018 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	22.1	81	53	5.2
1000	30	162	21.2	82	75	9.7
950	30	605	18.7	85	92	13.2
900	30	1,069	16.[illegible]	82	114	10.9
850	30	1,554	12.8	75	120	6.8
800	30	2,064	11.4	55	119	4.9
750	30	2,600	9.4	53	138	2.3
700	30	3,173	6.8	45	238	.6
650	30	3,775	3.4	44	241	3.1
600	30	4,423	- .3	38	255	4.9
550	30	5,108	- 4.7	36	267	6.2
500	30	5,858	- 9.9	38	263	8.5
450	30	6,659	-15.6	37	258	11.1
400	30	7,541	-22.1	39	262	15.5
350	30	8,509	-29.6	38	261	19.6
300	30	9,589	-38.3	40	263	22.9
250	30	10,818	-47.9		257	29.7
200	30	12,255	-59.4		262	35.5
175	30	13,085	-63.[illegible]		263	38.7
150	30	14,025	-66.6		263	35.9
125	30	15,120	-69.5		269	29.7
100	30	16,441	-72.8		271	24.7
80	30	17,745	-73.5		278	14.8
70	30	18,527	-72.3		283	10.3
60	30	19,439	-68.8		297	4.3
50	30	20,544	-63.5		4	1.2
40	30	21,931	-58.3		55	7.0
30	30	23,764	-53.4		66	4.5
25	29	24,944	-50.9		51	3.3
20	29	26,406	-48.4		121	3.1
15	27	28,325	-42.9		109	7.4
10	23	31,098	-39.1		153	11.7
7	18	33,543	-38.4		195	10.1
5	7	35,812	-34.1			

KING SALMON, ALASKA
1013 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	-16.6	67	360	4.7
1000	31	108			7	8.0
950	31	504	-11.4	58	3	12.8
900	31	916	-10.0	56	352	14.6
850	31	1,358	- 9.4	53	341	17.1
800	31	1,826	-10.6	50	334	20.4
750	31	2,320	-13.0	49	330	21.0
700	31	2,844	-15.6	48	326	23.1
650	31	3,402	-18.3	47	322	26.4
600	31	3,994	-21.4	46	319	28.2
550	31	4,631	-25.1	44	317	29.5
500	31	5,318	-29.5	41	318	32.2
450	31	6,062	-34.3	43	315	35.5
400	31	6,877	-39.7		315	39.8
350	31	7,780	-45.1		314	41.0
300	31	8,797	-50.4		314	37.1
250	31	9,977	-53.2		312	36.9
200	31	11,410	-53.5		311	33.8
175	31	12,271	-52.5		307	31.3
150	31	13,268	-52.2		302	27.8
125	31	14,450	-51.3		297	27.6
100	31	15,900	-51.3		295	25.3
80	31	17,348	-51.7		293	23.3
70	31	18,213	-51.5		293	23.3
60	30	19,218	-51.8		296	19.6
50	30	20,401	-51.4		298	20.6
40	29	21,850	-51.2		298	21.6
30	29	23,723	-50.6		306	24.3
25	28	24,928	-50.1		309	25.4
20	27	26,408	-49.7		314	26.4
15	25	28,269	-50.9		316	31.1
10	17	31,[illegible]23	-49.6		323	48.8

+ KOROR, CAROLINE IS.
1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	27.7	82	94	2.9
1000	31	86	27.2	82	85	3.9
950	31	539	23.5	82	85	6.4
900	31	1,011	20.5	78	87	7.8
850	31	1,505	17.7	76	84	7.8
800	31	2,022	15.0	70	83	7.6
750	31	2,565	12.3	68	86	8.9
700	31	3,144	9.2	59	91	9.7
650	31	3,752	5.6	55	96	10.7
600	31	4,406	1.9	56	100	13.8
550	31	5,099	- 2.2	55	105	15.2
500	31	5,856	- 6.4	49	109	15.7
450	31	6,670	-11.0	41	109	15.5
400	31	7,569	-16.8	36	106	15.9
350	31	8,558	-23.7	34	108	15.0
300	31	9,666	-32.0		110	14.2
250	31	10,926	-42.4		106	18.8
200	31	12,393	-54.9		115	23.7
175	31	13,233	-61.9		117	23.9
150	31	14,169	-69.4		111	26.0
125	31	15,236	-77.2		104	29.3
100	31	16,493	-83.8		101	25.1
80	31	17,746	-76.6		99	9.1
70	31	18,525	-71.3		301	3.7
60	31	19,445	-67.2		284	11.3
50	31	20,553	-64.1		275	14.0
40	31	21,932	-60.0		265	8.5
30	30	23,743	-56.6		100	15.3
25	30	24,903	-55.0		97	33.6
20	28	26,336	-50.9		94	50.3
15	22	28,738	-46.4		92	55.0
10	16	30,948	-41.1		97	67.8
7	5	33,392	-36.2			

KOTZEBUE, ALASKA
1021 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	-24.3	69	55	5.8
1000	30	160	-21.4	60	45	5.4
950	30	540	-19.7	55	24	4.7
900	30	942	-18.6	49	338	7.4
850	30	1,369	-18.4	42	324	9.9
800	30	1,821	-19.3		316	14.2
750	30	2,303	-20.5		307	16.7
700	30	2,808	-22.8	41	308	20.4
650	30	3,349	-25.4	42	306	21.2
600	30	3,927	-28.1	42	305	23.3
550	30	4,545	-31.7	42	308	26.6
500	30	5,216	-35.5		305	28.0
450	30	5,937	-39.8		305	30.3
400	30	6,741	-44.2		298	32.2
350	29	7,636	-48.6		296	38.9
300	29	8,641	-51.9		293	42.0
250	29	9,816	-53.7		291	42.5
200	28	11,253	-54.9		287	40.8
175	28	12,107	-54.3		285	39.4
150	28	13,098	-53.0		285	37.7
125	28	14,276	-52.3		281	38.9
100	28	15,720	-52.2		276	39.2
80	25	17,149	-51.8		273	39.2
70	23	18,009	-51.9		274	41.0
60	22	18,998	-52.4		271	47.7
50	22	20,177	-52.4		271	45.3
40	22	21,619	-52.9		272	49.1
30	20	23,450	-53.4		273	52.4
25	18	24,624	-54.6		270	59.8
20	13	26,007	-56.9		274	63.7

KWAJALEIN, MARSHALL IS.
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	4	26.4	78	60	12.6
1000	29	88	26.0	77	62	14.6
950	29	539	23.0	80	70	17.3
900	29	1,010	19.9	77	76	17.9
850	29	1,502	17.1	78	83	16.5
800	29	2,018	15.2	62	85	14.6
750	29	2,564	13.3	48	84	13.8
700	29	3,142	10.4	45	83	12.2
650	29	3,755	6.8	45	84	13.2
600	29	4,409	2.9	39	76	14.6
550	29	5,108	- .8	37	68	15.7
500	29	5,863	- 5.6	36	65	17.9
450	29	6,680	-11.1	26	64	20.6
400	29	7,575	-16.4	25	55	19.2
350	29	8,569	-22.1	31	53	12.8
300	29	9,683	-30.9	35	57	6.8
250	29	10,948	-41.4	34	113	2.5
200	29	12,423	-53.6	34	113	2.7
175	29	13,267	-61.1	33	104	4.7
150	29	14,206	-68.9	32	81	6.8
125	29	15,277	-76.1		51	11.8
100	26	16,546	-81.1		76	19.8
80	21	17,801	-78.7		88	11.1
70	19	18,574	-73.1		272	4.5
60	19	19,488	-68.7		256	10.5
50	18	20,591	-65.3		277	14.0
40	15	21,963	-61.3		269	8.7
30	15	23,768	-56.8		88	13.8
25	15	24,930	-53.9		92	34.0
20	14	26,371	-50.6		91	49.7
15	13	28,261	-46.8		95	58.1
10	11	30,973	-41.1		97	58.5
7	10	33,393	-38.0		90	50.9
5	5	35,703	-35.0			

LAKE CHARLES, LA.
1020 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	9.6	88	84	2.1
1000	31	165	10.7	78	123	2.9
950	31	600	11.6	69	193	10.1
900	31	1,048	11.[illegible]	59	223	10.9
850	31	1,524	9.2	53	238	15.2
800	31	2,026	7.1	48	246	16.7
750	31	2,556	5.2	42	247	19.4
700	31	3,116	2.7	41	251	22.1
650	31	3,711	- .6		251	25.1
600	31	4,349	- 4.4		251	29.1
550	31	5,024	- 8.8		253	30.9
500	31	5,762	-13.2		254	35.7
450	31	6,553	-18.6		254	41.6
400	31	7,427	-25.[illegible]		252	46.4
350	31	8,383	-32.3		249	49.5
300	31	9,451	-40.6		250	53.6
250	31	10,669	-49.7		254	57.5
200	31	12,096	-58.8		255	60.2
175	31	12,929	-62.0		253	57.1
150	31	13,877	-64.1		254	55.4
125	30	14,984	-67.1		256	49.9
100	30	16,317	-70.2		256	41.6
80	30	17,642	-70.1		255	31.5
70	29	18,437	-67.6		253	23.3
60	29	19,375	-63.7		248	16.5
50	28	20,50[illegible]	-6[illegible].6		243	12.0
40	28	21,899	-57.8		242	17.5
30	27	23,728	-54.2		257	8.7
25	26	24,907	-51.5		261	7.0
20	25	26,368	-48.4		260	10.9
15	23	28,250	44.2		259	16.1
10	14	31,[illegible]54	40.4			
7						

LANDER, WYO.
823 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,696	- 6.[illegible]	64	251	5.8
1000	31	142				
950	31	549				
900	31	983				
850	31	1,438				
800	31	1,915	- 3.6	48	244	7.2
750	31	2,419	- 5.0	44	256	12.2
700	31	2,964	- 8.3	44	270	2[illegible].9
650	31	3,531	-11.8	41	275	27.8
600	31	4,145	-15.9	40	279	31.9
550	31	4,788	-20.5	38	279	33.6
500	31	5,494	-25.5	36	279	37.3
450	31	6,242	-31.1	37	276	39.2
400	31	7,075	-37.5	39	276	46.3
350	31	7,983	-44.1		276	47.8
300	31	9,003	-50.3		275	52.6
250	31	10,179	-54.5		277	55.2
200	31	11,603	-55.6		279	55.9
175	31	12,455	-55.5		281	51.1
150	30	13,437	-56.1		280	49.5
125	30	14,592	-57.7		278	43.9
100	28	15,999	-58.6		279	35.9
80	28	17,395	-60.4		275	25.6
70	28	18,224	-61.[illegible]		281	24.3
60	28	19,189	-59.3		286	21.4
50	26	20,341	-58.7		297	13.8
40	25	21,749	-57.8		301	11.1
30	22	23,575	-57.1		304	10.5
25	19	24,737	-56.2		306	10.7
20	16	26,186	-53.5		284	13.2
15	6	28,069	-49.5			

LAS VEGAS, NEV.
941 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	3.9	52	259	4.5
1000	31	158				
950	31	580				
900	31	1,022	7.2	39	288	1.7
850	31	1,491	5.1	42	276	3.5
800	31	1,984	2.9	46	273	7.6
750	31	2,496	.5	43	273	11.7
700	31	3,056	- 2.4	40	280	15.7
650	31	3,630	- 5.4	37	281	20.2
600	31	4,265	- 9.3	33	287	26.4
550	31	4,923	-13.6		287	30.9
500	31	5,653	-18.6		289	36.1
450	31	6,421	-23.9		287	42.5
400	31	7,281	-30.0		289	50.5
350	31	8,219	-37.1		286	57.5
300	31	9,267	-45.[illegible]		286	62.4
250	31	10,463	-53.3		286	61.2
200	31	11,881	-58.0		277	68.2
175	31	12,721	-58.5		282	66.2
150	31	13,686	-60.6		281	58.3
125	29	14,817	-62.9		281	44.5
100	28	16,175	-65.3		281	38.9
80	26	17,526	-64.9		284	25.3
70	26	18,342	-63.3		292	19.8
60	25	19,294	-61.7		292	12.0
50	25	20,429	-59.7		298	6.6
40	24	21,831	-57.6		303	3.5
30	22	23,664	-54.4		295	6.8
25	21	24,837	-52.6		286	8.5
20	18	26,293	-50.7		287	17.2
15	12	28,197	-47.0			

*** LIHUE, HAWAII**
1011 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	36	22.3	83	93	2.3
1000	31	128	22.2	83	101	3.5
950	31	570	19.3	85	124	6.4
900	31	1,037	16.1	94	141	6.8
850	31	1,522	13.6	74	162	7.4
800	31	2,032	11.9	50	167	8.2
750	31	2,567	9.8	38	169	8.4
700	31	3,141	6.6	38	175	9.5
650	31	3,744	3.2	39	188	8.7
600	31	4,391	- .5	36	211	8.4
550	31	5,076	- 4.8	34	211	8.2
500	31	5,825	- 9.6	31	234	10.1
450	31	6,626	-15.0	37	242	13.2
400	31	7,512	-21.1	40	244	15.7
350	31	8,484	-28.2	34	249	17.3
300	31	9,572	-36.2	33	258	22.0
250	31	10,813	-45.1		259	31.1
200	31	12,271	-55.0		263	38.9
175	31	13,114	-60.3		262	34.8
150	31	14,061	-66.4		256	31.9
125	31	15,149	-72.1		263	28.4
100	31	16,447	-76.9		259	19.0
80	30	17,725	-76.8		252	7.6
70	29	18,499	-73.6		175	1.2
60	27	19,407	-69.9		83	4.5
50	26	20,506	-64.9		63	6.0
40	26	21,885	-59.5		75	5.8
30	24	23,703	-55.1		59	2.3
25	24	24,876	-52.0		50	3.5
20	23	26,330	-49.7		40	5.6
15	23	28,218	-48.2		86	8.7
10	20	30,901	-44.8		151	9.7
7	11	33,270	-41.7			

LITTLE ROCK, ARK.
1010 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	4.4	82	253	1.0
1000	31	160			241	1.7
950	31	580	4.1	71	248	8.0
900	31	1,020	5.2	65	248	15.0
850	31	1,488	5.2	52	255	20.8
800	31	1,987	3.9	42	257	22.9
750	31	2,504	1.8	38	260	26.8
700	31	3,059	- 1.0	35	258	30.9
650	31	3,644	- 4.3	38	260	34.8
600	31	4,275	- 7.8	34	259	39.6
550	31	4,939	-12.2	38	258	40.6
500	31	5,669	-17.3	38	259	44.7
450	31	6,442	-22.9	37	261	50.1
400	31	7,304	-29.1	38	257	56.3
350	31	8,244	-36.0		253	65.7
300	31	9,299	-43.1		250	64.1
250	31	10,507	-51.0			
200	31	11,932	-58.5			
175	31	12,766	-61.0			
150	30	13,724	-62.6			
125	30	14,842	-64.7			
100	29	16,195	-67.6			
80	27	17,536	-66.9			
70	26	18,345	-65.1			
60	25	19,290	-62.9			
50	24	20,421	-60.7			
40	21	21,820	-58.5			
30	19	23,633	-55.8			
25	16	24,801	-54.1			
20	16	26,247	-51.2			
15	13	28,121	-48.4			
10	10	30,846	-43.1			

MCGRATH, ALASKA
1006 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	103	-30.4	54	303	1.9
1000	29	147			2	2.7
950	29	524	-21.8	58	31	7.2
900	29	921	-18.8	58	23	8.4
850	29	1,348	-17.4	58	6	12.8
800	29	1,803	-17.4	56	351	15.2
750	29	[illegible],282	-18.7	53	342	17.5
700	29	2,798	-20.9	48	328	19.6
650	29	3,339	-23.8	49	327	23.1
600	29	3,924	-26.9	45	3[illegible]2	28.6
550	29	4,544	-30.1		314	27.8
500	29	5,221	-33.8		306	32.1
450	29	5,950	-38.[illegible]		301	34.4
400	29	6,757	-42.6		297	41.4
350	29	7,650	-47.2		292	41.6
300	29	8,660	-51.1		292	41.2
250	29	9,840	-52.2		296	42.0
200	28	11,286	-51.9		283	35.2
175	27	12,152	-51.5		282	34.8
150	27	13,154	-50.9		287	34.6
125	27	14,341	-50.9		283	34.2
100	27	15,792	-51.0		285	35.0
80	27	17,246	-50.5		281	34.6
70	27	18,115	-51.2		282	34.4
60	26	19,110	-50.9		284	35.0
50	26	20,297	-51.1		283	33.8
40	26	21,745	-52.2		288	35.9
30	25	23,621	-51.9		289	41.6
25	25	24,802	-52.2		291	43.7
20	21	26,286	-51.8		294	43.7
15	11	28,215	-51.7			
10						
7						

+ MAJURO, MARSHALL IS.
1009 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	28.3	76	74	10.7
1000	31	81	27.3	75	73	11.5
950	31	526	23.3	77	71	14.8
900	31	1,005	20.0	78	75	14.2
850	31	1,497	17.2	75	77	12.8
800	31	2,013	14.7	66	81	11.7
750	31	2,557	12.9	50	84	10.7
700	31	3,136	10.2	43	94	9.1
650	31	3,746	6.6	44	80	9.7
600	31	4,403	2.8	42	77	10.5
550	30	5,096	- 1.0	36	79	10.9
500	30	5,856	- 5.4	33	71	12.0
450	30	6,673	-10.5		65	13.6
400	30	7,574	-15.6		56	12.8
350	30	8,568	-22.4		56	8.5
300	30	9,682	-30.7		64	3.3
250	28	10,950	-40.9		138	2.1
200	27	12,429	-53.2		159	4.5
175	27	13,276	-60.3		182	5.1
150	27	14,219	-68.4		164	4.1
125	27	15,291	-76.1		63	7.6
100	27	16,557	-82.4		63	15.5
80	26	17,809	-79.1		63	10.1
70	26	18,581	-72.3		246	5.8
60	26	19,497	-67.7		263	14.6
50	25	20,608	-62.8		265	17.7
40	25	21,991	-60.4		261	15.3
30	24	23,803	-56.4		101	9.9
25	23	24,967	-54.6		90	30.9
20	19	26,411	-51.8		90	45.1
15	12	28,293	-46.6		92	54.8

*** MARCUS IS., N. PACIFIC**
1015 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	24	9	23.0	77	83	6.8
1000	24	135	22.1	76	85	9.3
950	24	576	18.8	80	91	8.9
900	24	1,042	15.6	81	90	5.6
850	24	1,526	12.8	78	69	2.5
800	24	2,035	11.3	58	291	5.6
750	24	2,571	10.2	48	289	10.7
700	24	3,145	7.2	47	286	14.0
650	24	3,748	3.9	44	284	19.2
600	24	4,398	.0	45	279	24.7
550	24	5,085	- 4.0	37	278	28.7
500	24	5,836	- 8.5	33	278	31.3
450	24	6,643	-13.3	32	277	35.0
400	24	7,534	-18.8	32	272	39.2
350	24	8,516	-25.3	31	269	42.0
300	24	9,618	-33.3	28	276	45.1
250	24	10,872	-43.2		281	48.4
200	24	12,338	-54.7		278	49.1
175	24	13,180	-61.0		278	46.2
150	24	14,122	-68.0		272	40.4
125	24	15,198	-74.8		271	35.2
100	24	16,476	-80.1		264	22.1
80	24	17,736	-79.7		245	10.9
70	24	18,497	-76.1		222	7.0
60	23	19,405	-69.7		190	4.3
50	22	20,504	-65.2		103	3.7
40	22	21,881	-59.7		79	5.6
30	21	23,702	-54.2		74	7.6
25	21	24,877	-51.9		76	7.2
20	20	26,325	-49.6		59	4.1
15	19	28,215	-47.9		286	2.1
10	16	30,906	-44.6		288	6.2
7	10	33,306	-42.8			

MEDFORD, OREG.
967 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	401	4.0	89	290	1.9
1000	31	128				
950	31	547	4.1	82	265	1.7
900	31	986	3.1	75	215	8.0
850	31	1,448	.9	72	229	14.2
800	31	1,934	- 1.7	71	241	18.6
750	31	2,442	- 4.4	68	252	24.1
700	31	2,986	- 7.3	62	259	29.9
650	30	3,556	-10.8	55	264	32.4
600	30	4,172	-14.6	50	268	35.4
550	30	4,821	-19.1	47	269	37.9
500	30	5,528	-24.1	46	273	40.8
450	30	6,282	-29.6	42	278	44.7
400	30	7,119	-35.9		276	51.3
350	30	8,035	-42.0		283	50.9
300	29	9,064	-47.7		286	47.4
250	28	10,250	-52.8		293	53.4
200	28	11,681	-55.0		291	43.5
175	27	12,525	-54.5		292	44.7
150	27	13,511	-55.3		286	40.0
125	27	14,670	-57.0		287	33.8
100	26	16,079	-59.4		291	24.9
80	26	17,475	-58.9		295	20.4
70	26	18,312	-58.8		309	15.0
60	26	19,281	-59.1		320	14.0
50	26	20,426	-58.4		328	10.7
40	25	21,833	-56.7		344	9.9
30	23	23,662	-55.8		351	10.7
25	22	24,824	-55.2		358	11.7
20	20	26,250	-53.9		343	17.9
15	16	28,136	-52.0		338	17.1
10	9	30,829	-50.4			

*** MIAMI, FLA.**
1019 MB

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	20.3	83	69	4.1
1000	30	168	20.3	76	86	7.8
950	30	607	17.6	78	100	10.3
900	30	1,071	14.6	76	108	9.5
850	30	1,554	12.3	70	112	5.2
800	30	2,061	10.6	58	87	1.2
750	30	2,597	8.4	49	252	1.7
700	30	3,165	5.5	46	261	2.5
650	30	3,764	2.5	40	271	6.2
600	30	4,411	- 1.5	36	280	9.1
550	29	5,091	- 5.9	30	283	11.5
500	29	5,841	-10.7	31	275	12.0
450	29	6,638	-16.5	30	276	14.6
400	29	7,520	-22.8	30	272	16.9
350	28	8,483	-30.2	30	268	22.7
300	28	9,561	-39.0	31	266	26.2
250	27	10,785	-48.6		262	31.5
200	27	12,217	-58.9		266	36.9
175	27	13,047	-63.1		268	40.0
150	27	13,986	-66.5		268	40.4
125	26	15,085	-69.4		270	36.7
100	25	16,406	-72.9		276	29.5
80	24	17,713	-73.5		284	17.1
70	24	18,495	-72.0		287	10.9
60	24	19,412	-68.3		296	4.9
50	24	20,518	-63.4		331	1.0
40	23	21,910	-57.6		21	2.7
30	23	23,742	-54.0		13	4.7
25	22	24,919	-51.4		16	2.7
20	21	26,377	-48.5		168	2.1
15	19	28,290	-43.4		137	5.4
10	9	31,068	-38.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

* MIDLAND, TEXAS 917 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	874	2.5	71	265	1.9
1000	31	163				
950	31	585				
900	31	1,024	5.3	56	267	4.5
850	31	1,494	7.4	50	271	12.8
800	31	1,992	5.7	45	272	15.3
750	31	2,513	3.6	40	270	19.0
700	31	3,075	.6	38	268	22.0
650	31	3,661	- 3.1	39	268	24.5
600	31	4,296	- 6.9	33	270	28.6
550	31	4,965	-10.9	35	269	36.9
500	31	5,696	-15.8	35	268	39.2
450	31	6,473	-21.8	34	269	43.7
400	31	7,337	-28.5	37	269	46.6
350	31	8,280	-35.8	37	269	51.7
300	31	9,334	-43.6		267	58.0
250	31	10,538	-51.1		268	64.5
200	31	11,964	-58.6		266	64.1
175	31	12,797	-61.0		263	59.1
150	31	13,749	-63.7		[illegible]	56.9
125	31	14,861	-66.4		262	48.8
100	31	16,[illegible]	-69.2		261	37.9
80	31	17,529	-69.7		258	29.9
70	31	18,328	-67.5		258	24.3
60	31	19,263	-64.8		258	17.9
50	31	20,384	-61.8		258	15.0
40	30	21,778	-58.8		253	13.9
30	30	23,596	-56.2		251	17.9
25	30	24,758	-54.7		258	22.1
20	29	26,195	-52.5		262	29.1
15	25	28,045	-50.3		264	32.1
10	22	30,701	-46.8		258	37.3
7	16	33,115	-44.5		252	44.7
5						

MONTGOMERY, ALA. 1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	7.0	83	39	1.4
1000	31	178	7.9	76	58	1.9
950	31	605	8.9	65	212	5.1
900	31	1,051	9.0	55	253	11.5
850	31	1,524	7.7	52	253	16.5
800	31	2,022	6.0	49	254	20.4
750	31	2,549	4.2	39	258	22.9
700	31	3,109	1.8	37	258	25.8
650	31	3,701	- 1.4	36	257	31.1
600	31	4,337	- 5.3		259	36.1
550	31	5,015	- 9.4		255	40.6
500	31	5,746	-14.0		255	44.5
450	31	6,535	-19.7	35	255	49.3
400	31	7,404	-25.7	33	254	54.0
350	31	8,357	-32.9		254	58.1
300	31	9,423	-41.3		256	62.2
250	31	10,636	-50.4		259	65.9
200	31	12,061	-59.5		262	65.7
175	31	12,889	-61.8		262	65.9
150	31	13,834	-64.4		264	60.4
125	31	14,941	-67.3		265	50.7
100	31	16,279	-69.3		262	42.2
80	31	17,609	-69.0		263	33.0
70	30	18,407	-67.0		261	28.0
60	30	19,344	-64.6		256	19.8
50	30	20,467	-60.8		257	18.5
40	30	21,865	-58.1		266	13.4
30	28	23,692	-54.6		260	14.8
25	28	24,863	-52.8		268	16.3
20	28	26,313	-49.7		264	15.9
15	27	28,209	-46.1		259	25.3
10	20	30,929	-42.4		255	43.1
7	9	33,338	-39.4			
5						

NANTUCKET, MASS. 1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	14	3.0	83	300	3.3
1000	30	153	3.[illegible]	80	251	6.6
950	30	563	1.5	78	260	13.6
900	30	1,0[illegible]3	.5	71	260	19.8
850	30	1,462	- .3	62	262	22.7
800	30	1,946	- 2.0	57	261	26.0
750	30	2,454	- 4.0	52	257	31.7
700	30	3,000	- 6.5	51	255	35.5
650	30	3,572	- 9.6	51	256	36.1
600	30	4,190	-13.2	50	258	43.9
550	30	4,844	-17.1	44	261	42.7
500	30	5,557	-21.4		261	45.5
450	30	6,321	-26.6		262	49.5
400	30	7,168	-32.4		265	55.8
350	30	8,096	-39.0		267	62.2
300	30	9,137	-46.0		268	66.0
250	30	10,332	-52.4		267	73.4
200	29	11,759	-56.9		271	68.4
175	29	12,5[illegible]3	-57.9		268	60.6
150	28	13,565	-59.2		265	54.4
125	27	14,708	-60.8		265	45.6
100	27	16,091	-62.1		262	41.0
80	27	17,467	-62.0		262	36.3
70	26	18,294	-61.0		258	29.9
60	26	19,253	-60.5		255	25.6
50	25	20,390	-58.6		255	25.1
40	25	21,794	-57.4		257	25.1
30	24	23,620	-54.8		256	29.9
25	24	24,790	-53.7		258	31.5
20	23	26,226	-52.3		258	39.4
15	20	28,08[illegible]	-50.7		260	45.8
10	16	30,722	-48.0		265	67.0
7	8	33,046	-46.2			
5						

NASHVILLE, TENN. 999 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	3.7	85	187	2.3
1000	31	170			16	1.9
950	31	588	3.2	70	214	12.8
900	31	1,025	4.2	63	234	18.8
850	31	1,489	2.4	58	247	20.8
800	31	1,978	1.3	48	252	24.1
750	31	2,496	- .[illegible]	45	253	28.6
700	31	3,046	- 2.7	42	257	30.7
650	31	3,628	- 5.[illegible]	41	258	34.4
600	31	4,254	- 9.0	39	257	39.4
550	31	4,917	-13.[illegible]		26[illegible]	44.5
500	31	5,642	-17.6		259	49.7
450	31	6,418	-23.1		257	56.3
400	31	7,276	-29.2		255	63.3
350	31	8,217	-35.8		254	73.4
300	31	9,273	-43.4		255	78.5
250	31	10,476	-51.6		258	86.4
200	30	11,893	-58.6		261	79.4
175	30	12,728	-60.2		261	75.6
150	30	13,686	-61.8		261	66.2
125	30	14,809	-64.0		261	55.8
100	30	16,168	-66.2		262	43.1
80	30	17,519	-65.9		260	35.7
70	30	18,331	-64.9		260	28.7
60	30	19,276	-62.5		255	23.9
50	28	20,414	-60.6		258	22.5
40	28	21,809	-58.6		261	26.2
30	28	23,629	-55.6		26[illegible]	25.8
25	28	24,796	-53.5		26[illegible]	27.8
20	28	26,239	-51.3		26[illegible]	30.1
15	26	28,114	-49.0		262	41.2
10	22	30,752	-46.4		26[illegible]	60.0
7	19	33,11[illegible]	-43.6		26[illegible]	66.4
5	11	35,517	-37.7			

NOME, ALASKA 1019 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	-18.5	67	[illegible]	7.[illegible]
1000	31	151	-16.3	49	58	7.2
950	31	541	-15.1	49	34	5.4
900	31	943	-14.1	44	343	5.4
850	31	1,382	-14.6	42	336	8.5
800	31	1,840	-16.[illegible]	42	[illegible]	10.1
750	31	2,32[illegible]	-18.[illegible]	4[illegible]	309	12.0
700	31	2,838	-20.3		306	18.3
650	31	3,38[illegible]	-22.7		310	[illegible]
600	31	3,968	-25.7		305	23.0
550	31	4,589	-29.3		304	26.4
500	31	5,268	-33.2		299	31.1
450	31	5,999	-37.6		297	36.[illegible]
400	31	6,807	-42.[illegible]		295	42.[illegible]
350	31	7,700	-47.2		293	41.8
300	31	8,710	-51.7		297	42.2
250	31	9,884	-54.1		288	39.6
200	31	11,31[illegible]	-54.4		285	36.3
175	31	12,167	-54.3		282	33.2
150	31	13,158	-52.8		276	35.[illegible]
125	31	14,337	-52.[illegible]		273	33.8
100	30	15,773	-51.5		270	35.5
80	30	17,224	-51.4		26[illegible]	35.0
70	30	18,090	-51.7		272	35.5
60	30	19,091	-51.4		270	36.1
50	30	20,375	-51.3		27[illegible]	36.5
40	30	21,726	-51.2		273	39.8
30	30	23,594	-51.8		279	45.5
25	29	24,772	-52.4		281	47.6
20	[illegible]	26,215	-52.4		284	[illegible]
15	21	28,[illegible]	-52.0		29[illegible]	57.1
10						
7						
5						

NORFOLK, VA. 1021 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	7.1	79	236	1.4
1000	31	179	7.4	7[illegible]	228	5.1
950	31	601	5.8	66	247	12.8
900	31	1,043	4.6	58	253	16.9
850	31	1,509	3.5	51	256	20.6
800	31	2,000	2.3	42	255	24.7
750	31	2,518	.2	41	257	28.2
700	31	3,071	- 2.4	42	262	30.5
650	31	3,653	- 5.1	36	264	34.8
600	31	4,281	- 8.6		265	38.9
550	31	4,945	-12.5		264	44.3
500	31	5,673	-17.1	35	266	51.1
450	31	6,451	-22.4		264	56.1
400	31	7,311	-28.1		266	63.1
350	31	8,256	-35.2		267	67.2
300	31	9,312	-43.2		271	70.5
250	31	10,515	-52.3		276	76.1
200	31	11,933	-58.7		280	74.8
175	31	12,767	-60.5		279	66.8
150	31	13,724	-61.7		278	64.7
125	31	14,947	-63.5		276	50.3
100	31	16,210	-65.1		274	42.[illegible]
80	31	17,569	-64.6		266	35.5
70	31	18,386	-63.3		267	28.4
60	31	19,337	-61.7		270	27.6
50	31	20,473	-59.3		261	21.0
40	31	21,879	-56.8		260	20.4
30	30	23,711	-54.1		255	19.6
25	29	24,887	-52.2		256	18.8
20	26	26,346	-49.2		262	23.5
15	24	28,246	-46.6		259	38.1
10	12	31,027	-42.4			

*1/NORTH PLATTE, NEBR. 914 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	- 8.4	79	347	3.9
1000	31	145				
950	31	552				
900	31	970	- 5.9	70	318	7.0
850	31	1,422	- 2.1	55	291	14.6
800	31	1,905	- 1.7	49	297	19.8
750	31	2,418	- 3.8	48	300	22.9
700	31	2,959	- 7.0	48	295	25.8
650	31	3,532	-10.8	45	292	27.6
600	31	4,144	-14.7	43	291	30.3
550	31	4,797	-19.1	41	286	35.0
500	31	5,501	-23.9	38	281	38.9
450	31	6,259	-29.2	38	279	43.9
400	31	7,094	-35.1	38	280	41.6
350	31	8,011	-42.1		282	45.8
300	31	9,039	-48.9		281	47.8
250	31	10,220	-54.7		280	49.5
200	31	11,639	-56.8		276	53.2
175	31	12,485	-56.5		274	54.2
150	31	13,463	-56.6		275	52.3
125	31	14,616	-58.2		273	43.1
100	31	16,012	-6[illegible].8		276	40.0
80	29	17,398	-60.8		272	32.1
70	29	18,228	-60.4		272	28.4
60	29	19,190	-59.8		278	24.5
50	29	20,330	-59.5		273	20.2
40	27	21,734	-59.3		277	16.3
30	26	23,535	-57.9		282	18.5
25	23	24,711	-57.1		288	15.0
20	20	26,155	-55.6		301	18.8
15	14	27,265	-56.0		278	26.0
10	8	30,551	-52.9			

* OAKLAND, CALIF. 1018 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	10.7	82	204	3.1
1000	31	155	1[illegible].2	78	207	3.5
950	31	580	8.4	79	246	7.8
900	31	1,027	6.5	80	263	12.4
850	31	1,495	4.7	70	269	15.7
800	31	1,987	2.1	6[illegible]	274	19.0
750	31	2,50[illegible]	- .2	56	279	22.1
700	31	3,056	- 3.4	49	281	28.0
650	31	3,634	- 6.5	40	284	30.3
600	31	4,260	-10.3	42	284	33.6
550	31	4,921	-14.6	40	286	37.1
500	31	5,641	-19.6	43	286	42.5
450	31	6,41[illegible]	-25.0	43	286	49.3
400	31	7,262	-30.8	40	289	54.0
350	31	8,196	-37.8	37	287	62.7
300	31	9,242	-45.4		288	62.5
250	31	10,437	-53.2		291	62.5
200	31	11,855	-57.9		293	63.7
175	31	12,697	-58.4		[illegible]	57.5
150	31	13,663	-59.8		285	51.1
125	31	14,798	-61.8		284	43.3
100	30	16,167	-63.8		288	33.2
80	30	17,532	-64.4		297	22.1
70	28	18,347	-63.6		301	16.9
60	28	19,298	-62.1		312	12.6
50	27	20,428	-60.6		331	11.8
40	24	21,925	-58.6		349	[illegible]
30	21	23,649	-56.2		338	11.7
25	20	24,813	-54.8		332	14.6
20	17	26,265	-52.7		3[illegible]	12.6
15	15	28,126	-50.8		279	24.3
10	7	30,754	-49.7			

OKLAHOMA CITY, OKLA. 971 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	- .7	81	184	2.1
1000	31	148				
950	31	564	1.5	65	216	4.7
900	31	1,000	4.5	49	256	12.2
850	31	1,466	5.0	44	267	15.0
800	31	1,960	4.1	41	264	18.3
750	31	2,485	1.9	[illegible]	263	22.3
700	31	3,037	- 1.4	25	262	25.6
650	31	3,622	- 5.1	21	264	30.3
600	31	4,248	- 9.1	28	264	32.4
550	31	4,911	-13.6		261	37.5
500	31	5,643	-18.8		258	43.3
450	31	6,404	-24.2		258	45.8
400	31	7,258	-30.8		257	50.7
350	31	8,193	-37.4		257	59.2
300	31	9,241	-44.6		259	68.0
250	31	10,444	-50.9		258	75.6
200	31	11,870	-56.7		259	74.2
175	30	12,712	-58.7		259	69.9
150	30	13,675	-61.[illegible]		261	65.3
125	29	14,798	-63.[illegible]		264	54.0
100	27	16,164	-65.7		261	44.5
80	26	17,513	-66.2		264	33.6
70	25	18,3[illegible]	-65.2		267	25.8
60	25	19,267	-62.6		266	2[illegible].4
50	24	20,400	-60.5		263	19.8
40	24	21,796	-58.3		26[illegible]	20.0
30	24	23,613	-56.4		255	26.4
25	24	24,774	-54.7		258	28.4
20	21	26,[illegible]	-51.8		254	4[illegible].5
15	12	28,114	-47.7			

OMAHA, NEBR. 968 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	- 7.4	82	340	1.2
1000	31	145				
950	31	547	- 6.9	75	286	2.1
900	31	971	- 3.9	61	277	8.7
850	31	1,423	- 2.5	54	276	13.4
800	31	1,904	- 3.2	51	275	15.9
750	31	2,410	- 4.9	49	269	19.8
700	31	2,954	- 7.6	5[illegible]	27[illegible]	23.9
650	31	3,522	-1[illegible].8	50	272	28.4
600	31	4,139	-14.3	50	273	32.2
550	31	4,783	-18.8	46	273	36.3
500	31	5,497	-23.7	39	272	37.5
450	31	6,249	-28.9	37	271	43.7
400	31	7,091	-34.9		268	47.4
350	31	8,[illegible]	-41.5		266	52.1
300	31	9,039	-48.7		264	57.1
250	31	10,220	-54.2		264	62.5
200	31	11,642	-56.2		265	65.7
175	31	12,491	-55.8		264	60.4
150	30	13,472	-55.7		267	57.1
125	30	14,623	-58.[illegible]		267	50.7
100	30	16,219	-61.[illegible]		264	41.0
80	29	17,403	-61.2		268	34.4
70	29	18,230	-61.2		271	30.5
60	29	19,188	-60.3		27[illegible]	26.6
50	27	20,335	-59.6		269	23.1
40	26	21,735	-59.4		270	19.8
30	24	23,540	-58.2		273	[illegible]
25	21	24,717	-56.5		27[illegible]	19.0
20	16	26,[illegible]	-56.3		270	[illegible]
15	7	27,943	-56.[illegible]			

PEORIA, ILL. 994 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	200	- 4.4	83	184	.8
1000	31	152				
950	31	560	- 3.4	73	235	6.8
900	31	985	- 1.9	54	265	11.7
850	31	1,440	- 2.0	49	267	15.3
800	31	1,922	- 2.7	48	265	19.2
750	31	2,436	- 4.2	50	263	24.5
700	31	2,974	- 6.9	49	260	28.2
650	31	3,549	-10.0	45	261	33.0
600	31	4,163	-13.6	41	261	36.5
550	31	4,817	-17.8	42	261	42.0
500	31	5,526	-22.2	42	260	49.0
450	31	6,291	-27.6	45	260	53.4
400	31	7,130	-33.5	46	259	60.2
350	31	8,053	-40.3		260	65.5
300	31	9,089	-47.0		265	73.2
250	31	10,279	-53.2		265	77.7
200	31	11,703	-56.8		264	77.9
175	31	12,548	-57.2		266	72.3
150	31	13,520	-58.2		265	63.5
125	30	14,664	-59.7		263	53.8
100	30	16,052	-61.7		267	41.4
80	30	17,430	-62.5		262	36.5
70	30	18,255	-61.8		266	30.5
60	30	19,211	-61.2		263	26.4
50	28	20,353	-59.8		263	25.3
40	26	21,755	-58.9		271	22.9
30	26	23,565	-57.8		263	27.6
25	25	24,720	-57.1		269	29.1
20	24	26,136	-55.2		268	35.4
15	20	28,001	-52.8		267	45.8
10	18	30,644	-47.6		265	70.3
7	11	33,003	-46.5		272	95.6
5	7	35,214	-44.5			

PITTSBURGH, PA. 976 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	- .6	81	218	3.1
1000	31	165				
950	31	575	- .5	79	232	8.4
900	31	1,007	- 1.5	74	248	18.3
850	31	1,462	- 3.0	74	257	22.1
800	31	1,941	- 3.8	64	259	26.4
750	31	2,449	- 4.8	56	260	30.7
700	31	2,991	- 7.4	55	261	33.8
650	31	3,560	-10.5	52	262	37.1
600	31	4,177	-13.9	47	261	40.4
550	31	4,829	-17.6	44	262	47.0
500	31	5,542	-21.4	41	265	51.9
450	31	6,304	-26.4	45	265	57.1
400	31	7,153	-32.3	43	265	63.3
350	31	8,082	-38.8	48	264	66.4
300	31	9,125	-45.4		265	75.0
250	31	10,323	-51.7		266	87.4
200	31	11,752	-57.4		269	76.7
175	31	12,593	-58.0		271	70.3
150	31	13,564	-59.0		270	62.5
125	31	14,700	-61.4		267	53.0
100	31	16,079	-62.6		266	46.4
80	30	17,449	-62.5		267	38.9
70	30	18,274	-61.5		266	33.6
60	30	19,231	-60.9		263	28.9
50	29	20,366	-59.8		264	27.0
40	29	21,765	-58.3		266	33.0
30	28	23,583	-56.1		264	30.1
25	28	24,745	-54.8		261	34.0
20	28	26,177	-53.0		262	43.1
15	28	28,039	-50.9		265	50.9
10	25	30,680	-48.7		265	70.5
7	19	33,04[illegible]	-47.1		265	89.6
5	6	35,192	-43.7			

* POINT ARGUELLO, CALIF. 1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	113	9.2	94	17	1.2
1000	31	161	1[illegible].5	84	1[illegible]	.8
950	31	589	11.4	7[illegible]	[illegible]	7.2
900	31	1,038	8.9	69	316	9.9
850	31	1,51[illegible]	6.9	61	317	14.4
800	31	2,007	5.[illegible]	[illegible]	309	18.3
750	31	2,531	2.9	40	304	21.6
700	31	3,087	- .3	36	299	24.3
650	31	3,673	- 3.7	36	295	27.4
600	31	4,304	- 7.9	36	296	31.3
550	31	4,968	-12.3	38	294	33.8
500	31	5,697	-16.9	40	293	37.1
450	31	6,472	-2[illegible].4	39	29[illegible]	41.8
400	31	7,334	-28.8	39	290	47.2
350	31	8,276	-35.9	37	286	52.8
300	31	9,329	-44.[illegible]		286	55.4
250	31	10,529	-52.5		287	59.2
200	31	11,950	-58.1		28[illegible]	59.6
175	31	12,787	-60.1		282	56.7
150	31	13,745	-61.3		284	53.9
125	31	14,867	-64.7		283	48.6
100	31	16,221	-67.0		284	40.8
80	31	17,566	-67.3		294	30.9
70	31	18,372	-66.2		299	21.2
60	31	19,312	-63.7		306	16.[illegible]
50	31	20,436	-61.5		32[illegible]	11.7
40	31	21,927	-59.[illegible]		35[illegible]	7.2
30	29	23,643	-56.2		312	8.4
25	28	24,806	-54.2		297	10.1
20	28	26,242	-52.0		291	15.0
15	25	28,114	-49.7		283	20.2
10	22	30,781	-47.1		284	25.6
7	11	33,188	-47.4			
5						

PONAPE, CAROLINE IS. + 1004 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	39	27.4	81	68	6.2
1000	31	75	27.1	81	70	8.0
950	31	521	23.6	81	71	13.8
900	31	1,00[illegible]	20.4	81	72	14.8
850	31	1,493	17.5	78	73	14.2
800	31	2,01[illegible]	15.1	72	76	12.6
750	31	2,555	12.2	64	80	12.2
700	31	3,132	9.3	5[illegible]	86	13.0
650	31	3,743	6.1	52	83	14.2
600	31	4,397	2.5	48	83	16.5
550	31	5,095	- 1.4	48	83	18.9
500	31	5,8[illegible]1	- 5.6	47	82	19.2
450	31	6,[illegible]67	-10.6	40	78	22.[illegible]
400	31	7,570	-16.2	15	8[illegible]	23.3
350	31	8,561	-23.0		82	20.8
300	31	9,673	-31.2		85	19.2
250	31	10,939	-41.3		87	16.7
200	30	12,414	-53.8		94	15.5
175	30	13,258	-61.0		9[illegible]	16.9
150	29	14,197	-68.8		8[illegible]	18.6
125	29	15,266	-76.9		81	23.3
100	27	16,521	-82.8		81	22.9
80	27	17,774	-78.3		88	12.0
70	27	18,548	-71.7		231	3.3
60	27	19,467	-67.0		266	16.7
50	27	20,575	-64.3		273	19.0
40	23	21,955	-60.7		274	11.8
30	19	23,760	-56.6		84	14.6
25	18	24,923	-54.9		93	35.2
20	15	26,3[illegible]	-51.1		91	51.9
15	8	29,242	-46.1			

PORTLAND, ME. 1017 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	20	- 5.4	84	340	4.1
1000	30	153	- 4.2	65	339	4.9
950	30	56[illegible]	- 4.1	66	[illegible]	7.2
900	30	985	- 4.4	65	283	9.1
850	31	1,434	- 5.1	64	271	14.8
800	31	1,910	- 5.8	59	268	21.6
750	30	2,412	- 7.3	57	266	27.6
700	31	2,951	- 9.4	58	259	33.4
650	31	3,519	-12.3	54	259	36.5
600	31	4,129	-15.7	51	259	39.4
550	31	4,778	-19.5	45	259	42.7
500	31	5,483	-24.0	45	257	47.2
450	30	6,234	-29.2	44	26[illegible]	50.1
400	31	7,078	-34.5	46	262	56.3
350	31	7,999	-40.7		265	65.5
300	31	9,035	-47.3		268	70.1
250	30	10,227	-52.2		268	75.6
200	31	11,660	-54.9		274	6[illegible]
175	31	12,512	-55.[illegible]		26[illegible]	58.1
150	30	13,491	-56.7		265	51.5
125	30	14,644	-57.9		26[illegible]	48.4
100	30	16,043	-59.9		254	4[illegible].7
80	29	17,437	-60.1		259	37.5
70	29	18,263	-59.7		258	32.8
60	29	19,229	-59.1		256	29.1
50	29	20,373	-58.6		257	27.8
40	29	21,776	-57.9		259	31.3
30	29	23,593	-56.9		259	33.0
25	29	24,750	-55.7		258	36.3
20	22	26,176	-55.5		257	40.4
15	12	27,984	-57.4		268	43.5

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

RAPID CITY, S. DAK.
900 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	- 8.0	69	326	4.1
1000	31	140				
950	31	544				
900	31	965			326	3.7
850	31	1,416	- 3.3	50	294	11.3
800	31	1,896	- 3.7	48	301	17.1
750	31	2,398	- 6.0	49	302	21.8
700	31	2,941	- 9.3	[illegible]	297	22.9
650	31	3,505	-12.9	47	293	24.5
600	31	4,117	-16.8	45	285	26.2
550	31	4,761	-21.3	42	284	29.3
500	31	5,460	-26.5	43	283	33.4
450	31	6,212	-31.9	41	281	38.1
400	31	7,035	-37.7		279	42.2
350	31	7,942	-44.6		279	47.4
300	31	8,959	-51.2		278	53.8
250	31	10,131	-55.4		273	48.8
200	31	11,555	-56.1		274	52.1
175	30	12,405	-55.3		273	51.9
150	30	13,389	-55.0		272	45.6
125	30	14,549	-56.9		276	42.3
100	30	15,957	-58.6		277	32.6
80	29	17,354	-59.6		277	28.9
70	29	18,189	-59.1		280	25.3
60	27	19,159	-59.1		285	21.0
50	25	20,315	-58.2		288	18.3
40	23	21,722	-57.6		299	15.9
30	23	23,538	-57.6		307	13.4
25	17	24,709	-57.6		297	14.4
20	12	26,110	-57.5		289	20.2
15						
10						

ST. CLOUD, MINN.
978 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	316	-13.9	80	258	1.2
1000	31	148				
950	31	540	-12.1	76	220	2.1
900	31	954	-10.7	73	261	7.4
850	31	1,395	- 9.0	61	272	10.9
800	31	1,865	- 9.0	54	271	14.2
750	31	2,361	-10.3	55	274	18.1
700	31	2,895	-11.9	54	278	22.0
650	31	3,454	-14.7	51	278	26.6
600	31	4,062	-18.3	50	280	29.9
550	31	4,702	-22.8	49	283	32.8
500	31	5,399	-27.5	42	283	34.4
450	31	6,141	-32.9	43	282	39.6
400	31	6,969	-38.5		278	44.1
350	31	7,875	-44.3		274	48.6
300	31	8,894	-50.7		273	51.9
250	31	10,069	-55.1		271	55.2
200	31	11,491	-55.3		269	57.5
175	31	12,344	-54.6		268	54.8
150	30	13,332	-55.3		271	52.4
125	30	14,494	-56.3		270	46.6
100	30	15,905	-57.9		273	44.1
80	30	17,307	-59.1		272	39.0
70	30	18,143	-59.5		272	36.7
60	30	19,108	-59.6		275	33.8
50	30	20,248	-59.7		274	32.4
40	29	21,648	-60.1		277	32.6
30	28	23,438	-59.6		278	35.7
25	27	24,584	-59.7		275	37.5
20	21	26,032	-57.7		280	36.5
15	17	27,849	-58.5		279	37.7
10						

ST. PAUL IS., ALASKA
1010 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	22	10	- 1.1	85	86	6.0
1000	22	90	.0	74	128	8.7
950	22	495	- 2.3	69	133	8.9
900	22	927	- 4.6	67	150	8.9
850	22	1,376	- 6.2		186	10.1
800	22	1,848	- 8.4		197	10.5
750	22	2,350	-10.7		206	10.3
700	22	2,875	-13.4		212	10.5
650	22	3,436	-16.4	47	224	11.3
600	22	4,035	-19.6		235	14.2
550	22	4,672	-23.[illegible]		228	16.5
500	22	5,368	-27.8		233	18.3
450	22	6,115	-32.7		229	21.6
400	22	6,938	-38.7		228	21.6
350	22	7,842	-45.2		229	26.4
300	22	8,855	-52.2		233	28.9
250	22	10,023	-55.7		231	28.0
200	21	11,433	-55.7		225	26.6
175	21	12,291	-54.6		221	24.3
150	21	13,281	-53.0		226	21.2
125	21	14,460	-51.7		235	19.6
100	21	15,907	-51.6		234	20.4
80	21	17,354	-51.7		241	17.5
70	21	18,221	-51.4		243	16.7
60	21	19,223	-50.8		247	16.7
50	20	20,402	-50.4		252	15.7
40	20	21,859	-49.8		259	14.8
30	19	23,755	-49.1		271	16.1
25	19	24,951	-48.9		272	14.8
20	16	26,426	-49.2		280	17.9
15	8	28,248	-51.8			
10						

SALEM, OREG.
1006 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	3.9	94	193	6.8
1000	31	104			196	5.1
950	31	521	3.2	80	212	14.0
900	31	958	1.3	79	228	17.3
850	31	1,416	- 1.2	78	238	21.6
800	31	1,898	- 3.4	75	243	24.9
750	31	2,402	- 6.3	70	249	29.1
700	30	2,944	-10.0	60	259	27.2
650	30	3,506	-13.3	55	263	30.1
600	30	4,116	-17.1	51	266	33.0
550	30	4,757	-21.5	50	269	35.7
500	30	5,459	-26.4	50	269	40.8
450	30	6,205	-31.9	48	271	42.3
400	30	7,033	-38.0	49	273	46.8
350	30	7,940	-44.3		281	54.2
300	30	8,959	-49.9		283	59.8
250	30	10,143	-52.8		286	56.7
200	30	11,579	-52.9		286	45.6
175	30	12,440	-53.5		285	43.3
150	30	13,429	-54.6		286	41.8
125	30	14,591	-56.0		283	35.7
100	30	16,005	-57.3		290	29.1
80	29	17,413	-58.0		294	22.1
70	29	18,253	-58.4		295	20.0
60	27	19,216	-57.7		301	15.9
50	24	20,379	-57.2		319	12.6
40	22	21,797	-56.6		327	10.1
30	21	23,624	-56.4		350	11.5
25	18	24,765	-56.5		355	12.2
20	13	26,198	-55.7		16	12.0
15	7	28,163	-52.4			
10						

SALT LAKE CITY, UTAH
871 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,288	- .4	68	174	4.9
1000	31	170				
950	31	587				
900	31	1,026				
850	31	1,484	.5	62	183	8.7
800	31	1,970	- 1.5	60	208	10.3
750	31	2,484	- 4.5	60	238	12.2
700	31	3,022	- 7.8	60	258	18.1
650	31	3,597	-11.4	59	265	23.1
600	31	4,205	-15.1	57	272	26.0
550	31	4,859	-19.4	56	274	31.7
500	31	5,560	-24.5	55	273	38.1
450	31	6,320	-30.0	53	275	40.2
400	31	7,148	-36.1	52	276	47.2
350	31	8,062	-42.6		277	49.0
300	31	9,087	-49.5		279	52.4
250	31	10,268	-54.1		280	52.3
200	31	11,692	-55.8		287	52.3
175	31	12,542	-56.1		284	52.1
150	31	13,520	-57.2		286	43.9
125	31	14,668	-58.7		286	41.2
100	30	16,065	-61.4		288	33.6
80	29	17,448	-61.1		288	24.5
70	28	18,273	-61.6		286	18.5
60	26	19,233	-60.9		287	13.8
50	22	20,385	-58.7		290	11.5
40	20	21,794	-57.6		314	9.1
30	18	23,609	-57.0		307	8.7
25	17	24,768	-55.4		321	12.0
20	15	26,194	-53.6		299	14.6
15	12	28,042	-52.6		293	21.2
10	7	30,707	-48.6			

SAN ANTONIO, TEXAS
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	7.2	77	346	2.1
1000	31	162				
950	31	590	9.4	65	226	2.7
900	31	1,036	10.1	56	224	8.0
850	31	1,512	9.0	40	233	11.1
800	31	2,015	8.3	45	241	14.4
750	31	2,544	5.5	[illegible]	247	17.7
700	31	3,107	2.4	42	252	22.0
650	31	3,699	- .8		249	25.1
600	31	4,338	- 4.9		251	29.5
550	31	5,011	- 9.1		251	32.4
500	31	5,750	-14.		254	36.9
450	31	6,535	-19.6		254	42.0
400	31	7,408	-26.1		254	45.1
350	31	8,361	-33.1		254	51.3
300	31	9,428	-41.1		253	54.4
250	31	10,645	-50.0		253	60.0
200	31	12,073	-59.[illegible]		253	58.5
175	31	12,964	-62.6		252	58.7
150	31	13,850	-64.6		253	54.0
125	31	14,955	-67.6		253	49.1
100	31	16,286	-71.4		254	40.6
80	30	17,663	-71.3		255	30.5
70	29	18,394	-69.2		252	24.5
60	[illegible]	19,323	-65.8		251	17.1
50	28	20,441	-62.1		244	13.8
40	28	21,933	-58.4		244	9.5
30	28	23,652	-55.7		252	10.7
25	[illegible]	24,817	-54.0		271	12.6
20	27	26,261	-50.8		266	15.7
15	21	28,131	-48.[illegible]		250	18.3
10	[illegible]	30,853	-45.2			

SAN DIEGO, CALIF.
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	124	9.4	81	97	1.6
1000	31	152			93	1.9
950	31	579	11.0	62	288	1.7
900	31	1,032	9.6	55	302	7.4
850	31	[illegible]	7.8	49	306	11.8
800	31	[illegible]	6.3	39	305	16.1
750	31	2,527	3.7	33	306	19.8
700	31	3,089	.7	31	300	23.5
650	31	3,675	- 2.7	30	299	27.4
600	31	4,312	- 6.5		298	30.1
550	31	4,979	-10.9		295	31.5
500	31	5,714	-15.8		292	35.5
450	31	6,493	-21.0		289	40.2
400	31	7,362	-27.[illegible]		287	40.6
350	31	8,310	-34.6		289	45.6
300	31	9,369	-43.0		290	47.8
250	31	10,574	-51.4		286	52.8
200	31	11,999	-58.3		279	57.9
175	31	12,834	-61.0		279	59.4
150	31	13,788	-62.5		278	54.6
125	31	14,966	-65.3		276	45.6
100	31	16,255	-68.2		279	35.0
80	31	17,592	-68.4		286	23.5
70	31	18,395	-66.5		294	16.1
60	30	19,334	-63.8		290	10.1
50	29	20,461	-61.1		300	7.2
40	29	21,856	-58.4		293	5.8
30	28	23,683	-54.8		267	8.[illegible]
25	27	24,856	-52.9		270	11.5
20	25	26,309	-50.5		262	15.0
15	18	28,222	-47.5		276	20.2
10	10	30,908	-46.8			

* SAN JUAN, P. R.
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	22.8	78	87	3.5
1000	31	139	22.8	70	81	9.1
950	31	579	19.4	72	64	16.3
900	30	1,043	15.8	74	58	15.3
850	30	1,532	12.5	71	57	15.3
800	30	2,039	10.2	60	53	14.4
750	30	2,572	9.3	37	45	14.0
700	30	3,146	7.4	25	40	13.6
650	30	3,746	4.2	25	34	12.4
600	30	4,399	.5	23	25	11.8
550	30	5,083	- 3.8	[illegible]	17	13.0
500	30	5,838	- 8.6	18	3	12.8
450	30	6,642	-14.3	18	356	15.3
400	30	7,532	-20.6	19	340	16.5
350	29	8,506	-27.7	18	318	21.0
300	29	9,596	-35.7	19	301	29.3
250	29	10,839	-45.2		289	41.8
200	29	12,292	-56.5		278	53.8
175	29	13,129	-62.1		281	55.4
150	29	14,070	-67.3		282	49.5
125	29	15,156	-71.7		291	37.1
100	29	16,459	-76.1		306	27.8
80	29	17,742	-76.6		333	13.8
70	29	18,514	-73.6		356	8.0
60	29	19,423	-68.5		33	5.4
50	29	20,532	-62.7		73	6.0
40	27	21,928	-57.1		75	10.1
30	27	23,767	-52.7		84	13.9
25	27	24,952	-50.1		73	18.8
20	26	26,417	-48.0		86	24.3
15	21	28,332	-45.7		92	26.8
10	15	31,084	-39.9		80	43.5

SANTA MONICA, CALIF.
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	11.3	76	39	4.1
1000	31	153	11.8	69	49	3.3
950	31	581	11.1	61	354	1.7
900	31	1,032	9.3	57	287	4.7
850	31	1,505	7.1	53	290	9.1
800	31	2,002	5.4	47	301	14.4
750	31	2,524	3.0	41	304	21.2
700	31	3,084	.3	35	300	25.6
650	31	3,672	- 3.0	34	298	29.1
600	31	4,305	- 7.2	31	296	32.4
550	31	4,971	-11.5	29	289	31.5
500	31	5,703	-16.6	33	291	37.1
450	31	6,479	-22.2	34	293	39.0
400	31	7,343	-28.2	36	291	41.8
350	31	8,287	-35.6		291	47.2
300	31	9,341	-43.8		291	50.7
250	31	10,542	-52.3		289	52.6
200	31	11,961	-58.5		287	53.4
175	31	12,796	-60.8		286	52.4
150	31	13,751	-62.2		287	51.3
125	31	14,871	-64.6		290	45.1
100	31	16,223	-67.8		289	33.4
80	30	17,563	-68.4		293	26.8
70	29	18,368	-66.2		299	20.6
60	29	19,308	-64.2		304	14.0
50	29	20,430	-62.1		310	11.3
40	28	21,819	-59.3		315	8.5
30	28	23,636	-55.9		290	9.7
25	27	24,800	-54.2		286	13.4
20	26	26,241	-51.9		277	17.1
15	23	28,125	-48.6		275	24.5
10	14	30,848	-43.7			

SAULT STE. MARIE, MICH.
990 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	221	- 9.4	86	93	2.3
1000	31	141				
950	31	537	- 8.5	73	233	1.4
900	31	957	- 9.8	69	263	5.4
850	31	1,397	-10.2	59	266	8.9
800	31	1,864	-10.8	52	262	13.6
750	31	2,358	-12.2	48	261	19.2
700	31	2,885	-13.7	47	261	24.3
650	31	3,444	-16.4	46	267	28.7
600	31	4,044	-19.4	40	265	34.8
550	31	4,684	-23.3	38	265	39.4
500	31	5,376	-28.1	39	265	43.9
450	31	6,119	-33.3		264	48.8
400	31	6,942	-38.9		265	54.2
350	31	7,845	-45.1		263	60.0
300	31	8,861	-50.7		262	67.0
250	31	10,039	-54.0		264	68.8
200	31	11,468	-54.4		265	66.8
175	31	12,324	-54.1		268	62.5
150	31	13,311	-54.7		268	56.5
125	31	14,471	-56.6		267	49.5
100	30	15,874	-58.0		266	48.0
80	25	17,281	-58.3		268	41.4
70	25	18,119	-59.1		263	34.8
60	23	19,076	-59.8		267	35.5
50	22	20,216	-59.5		270	35.9
40	20	21,644	-59.9		273	32.4
30	18	23,449	-59.7		275	35.9
25	16	24,591	-58.7		273	37.1
20	11	25,971	-57.5			
15	8	27,842	-55.1			
10	6	30,451	-48.6			

SHEMYA, ALASKA
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	1.3	86	155	4.3
1000	31	62			162	6.4
950	31	473	- 1.6	82	146	7.0
900	31	901	- 4.3	82	159	7.6
850	31	1,351	- 6.0	76	165	9.5
800	31	1,824	- 8.2	63	165	11.1
750	31	2,324	-10.3	54	173	12.0
700	31	2,852	-13.0	50	182	12.8
650	31	3,411	-16.1	51	190	14.6
600	31	[illegible]	-19.7	49	190	18.1
550	31	4,650	-23.8	47	193	20.6
500	31	5,343	-28.4	45	196	24.3
450	31	[illegible]	-33.7	47	197	27.0
400	31	6,906	-39.4		194	28.0
350	31	7,808	-45.6		196	31.1
300	31	8,821	-51.5		201	26.8
250	31	9,994	-56.9		207	30.3
200	31	11,420	-54.3		206	27.0
175	31	12,279	-52.4		217	26.6
150	31	13,277	-51.5		218	21.6
125	31	14,463	-50.9		219	23.3
100	31	15,915	-51.1		222	21.8
80	31	17,362	-50.5		225	20.6
70	31	18,232	-50.5		225	20.4
60	28	19,240	-50.1		223	17.9
50	28	20,432	-49.5		223	16.5
40	27	[illegible]	-48.7		221	15.2
30	27	23,796	-47.4		216	12.2
25	27	25,000	-47.5		224	12.4
20	26	26,484	-47.2		220	11.7
15	22	28,405	-45.9		217	11.3
10	16	31,082	-45.5		244	12.4
7						

* SHREVEPORT, LA.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	7.3	89	191	2.7
1000	31	166			207	2.9
950	31	595	7.5	72	220	11.5
900	31	1,036	8.5	59	232	16.9
850	31	1,509	7.8	53	241	21.0
800	31	2,007	5.7	49	247	21.2
750	31	2,535	3.6	41	254	24.7
700	31	3,091	.4	42	257	27.6
650	31	3,681	- 2.9	40	254	31.5
600	31	4,312	- 6.5	39	252	35.9
550	31	4,985	-11.0	42	252	39.2
500	31	5,713	-15.7	42	255	46.0
450	31	6,497	-21.1	40	256	50.9
400	31	7,360	-27.4	39	256	56.5
350	31	8,308	-34.3	35	251	64.9
300	31	9,369	-42.2		252	69.2
250	31	10,579	-50.6		252	72.1
200	31	12,007	-58.4		255	73.6
175	31	12,840	-61.6		254	71.3
150	31	13,791	-63.3		258	65.1
125	31	14,905	-65.9		257	52.8
100	31	16,248	-69.0		257	47.8
80	31	17,579	-68.9		252	35.0
70	30	18,379	-66.7		256	26.0
60	30	19,316	-64.2		252	22.1
50	30	20,441	-60.9		252	14.4
40	30	21,835	-58.3		253	19.0
30	30	23,655	-55.8		259	17.1
25	29	24,822	-53.8		259	18.3
20	28	26,265	-51.2		258	23.1
15	28	28,146	-48.2		256	35.5
10	25	30,836	-44.3		251	39.6
7	12	33,309	-39.5		239	35.4

SPOKANE, WASH.
926 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	722	- 4.8	85	181	4.1
1000	31	114				
950	31	521				
900	31	947	- 3.7	77	189	7.6
850	31	1,399	- 4.6	72	224	16.3
800	31	1,874	- 6.6	67	237	19.2
750	31	2,372	- 9.1	63	249	20.2
700	31	2,908	-11.9	61	257	21.0
650	31	3,464	-15.6	59	262	23.7
600	31	4,071	-19.4	55	263	27.4
550	31	4,704	-24.0	53	263	30.3
500	31	5,401	-28.8	48	264	33.2
450	31	6,139	-34.2	45	265	38.7
400	31	6,961	-40.3		267	43.1
350	31	7,859	-46.3		269	42.3
300	31	8,872	-51.3		273	48.2
250	31	10,047	-53.9		274	47.0
200	31	11,482	-53.1		290	40.0
175	31	12,343	-52.9		281	39.4
150	31	13,337	-53.3		282	39.8
125	31	14,507	-54.9		285	35.9
100	30	15,930	-55.9		287	34.2
80	30	17,345	-57.2		288	27.8
70	30	18,188	-57.5		290	25.3
60	29	19,165	-57.0		296	25.3
50	27	20,326	-56.7		304	22.7
40	24	21,757	-55.8		313	17.5
30	23	23,601	-55.5		329	17.5
25	19	24,788	-55.4		338	20.6
20	17	26,217	-54.9		340	17.7
15	11	28,064	-55.1			
10						
7						

SWAN ISLAND, W. I.
1013 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	25.3	81	90	9.3
1000	31	121	25.3	78	82	12.2
950	31	568	22.0	79	85	15.9
900	31	1,039	18.8	79	89	15.7
850	31	1,529	15.7	77	88	14.0
800	31	2,042	12.8	70	89	12.4
750	31	2,582	10.2	58	87	11.8
700	31	3,154	7.6	46	83	10.7
650	31	3,755	4.4	33	86	9.3
600	31	4,408	.9	32	89	8.4
550	31	5,095	- 3.4		111	6.6
500	31	5,848	- 8.3		125	4.7
450	31	6,650	-14.0		175	3.1
400	31	7,541	-20.5	31	213	5.8
350	31	8,515	-27.7		228	7.2
300	31	9,604	-36.3		238	11.8
250	31	10,841	-46.4		236	19.6
200	31	12,286	-57.4		232	30.3
175	30	13,120	-62.9		234	29.5
150	30	14,060	-67.1		235	28.4
125	30	15,151	-70.5		240	21.6
100	29	16,455	-76.2		242	10.3
80	29	17,741	-76.2		86	5.2
70	29	18,513	-74.6		69	7.6
60	29	19,419	-69.9		78	7.4
50	28	20,520	-64.3		89	6.0
40	28	21,905	-58.1		82	7.8
30	27	23,742	-52.6		78	13.4
25	27	24,923	-50.8		84	19.0
20	25	26,382	-48.7		87	23.9
15	23	28,287	-45.5		91	27.6
10	12	31,006	-42.9			
7						

TAMPA, FLA.
1020 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	14.2	89	66	5.1
1000	31	174	15.7	79	101	7.4
950	31	608	15.6	68	137	7.6
900	31	1,070	13.9	60	183	5.4
850	31	1,551	11.6	58	222	6.2
800	31	2,056	9.5	54	238	9.5
750	31	2,589	7.6	45	249	10.7
700	31	3,156	4.7	37	249	12.6
650	31	3,752	1.5		250	14.6
600	31	4,398	- 2.1		258	17.1
550	31	5,074	- 6.5		258	20.6
500	31	5,823	-11.4		262	23.7
450	31	6,611	-17.4		260	25.3
400	31	7,495	-23.7		261	28.4
350	31	8,457	-30.7		260	32.6
300	31	9,531	-39.1		263	35.9
250	31	10,754	-48.7		262	39.2
200	31	12,185	-59.0		260	47.0
175	31	13,013	-63.2		261	49.7
150	31	13,954	-65.9		263	49.1
125	30	15,055	-67.8		267	43.9
100	30	16,384	-71.0		266	33.0
80	29	17,695	-71.7		266	25.8
70	29	18,484	-70.3		266	18.8
60	29	19,407	-66.8		264	10.7
50	29	20,520	-62.3		267	4.1
40	28	21,912	-57.7		25	2.9
30	28	23,744	-53.6		64	3.7
25	28	24,924	-50.7		36	3.3
20	27	26,389	-47.0		309	.6
15	26	28,312	-42.6		160	4.1
10	12	31,052	-39.4			
7						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1964

* TATOOSH IS., WASH
1005 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	31	3.9	87	129	6.0
1000	30	71			141	4.7
950	30	481	.8	82	187	5.2
900	30	918	- 2.2	86	214	7.4
850	30	1,371	- 4.5	81	221	9.3
800	30	1,847	- 7.1	71	236	10.9
750	30	2,344	- 9.6	68	246	13.6
700	30	2,878	-12.7	66	253	17.5
650	30	3,436	-15.9	61	256	21.2
600	30	4,040	-19.6	61	256	26.6
550	30	4,674	-24.0	58	253	29.1
500	30	5,370	-28.8	53	26[illegible]	33.0
450	30	6,110	-33.9	53	262	33.4
400	30	6,932	-40.2	49	263	37.7
350	30	7,832	-45.4		271	40.8
300	30	8,849	-50.4		268	39.8
250	30	10,028	-53.4		270	44.1
200	30	11,464	-53.1		277	44.3
175	30	12,326	-52.4		276	45.3
150	28	13,325	-52.7		279	40.4
125	27	14,535	-53.9		281	39.0
100	26	15,935	-55.7		286	34.0
80	26	17,351	-56.9		290	31.7
70	26	18,197	-56.9		293	30.5
60	25	19,173	-57.3		298	27.8
50	25	20,324	-57.5		308	24.5
40	22	21,760	-56.9		315	21.2
30	21	23,579	-57.1		324	20.4
25	18	24,746	-56.3		331	21.8
20	15	26,182	-55.7		330	21.2
15	13	28,[illegible]19	-54.5		[illegible]	23.9
10	6	30,679	-52.3			
7						

TOPEKA, KANS.
985 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	269	- 3.7	80	312	1.4
1000	31	150				
950	31	554	- 2.7	68	232	4.3
900	31	986	- .2	57	250	10.9
850	31	1,446	1.0	45	265	14.2
800	31	1,932	- .5	41	272	17.1
750	31	2,444	- 2.7	45	273	19.8
700	31	2,991	- 5.5	48	272	23.7
650	31	3,564	- 8.8	46	268	28.4
600	31	4,186	-12.7	43	268	32.2
550	31	4,837	-16.9	40	268	36.1
500	31	5,554	-21.4	40	266	38.9
450	31	6,315	-26.9	41	265	42.3
400	31	7,162	-33.2	42	264	48.6
350	31	8,086	-40.4		262	50.5
300	31	9,120	-47.5		259	57.5
250	31	10,307	-53.4		261	65.1
200	30	11,729	-56.0		259	66.0
175	30	12,577	-56.6		262	65.3
150	30	13,550	-58.5		264	56.1
125	30	14,690	-60.5		264	51.5
100	30	16,[illegible]71	-62.9		266	41.6
80	30	17,444	-62.8		267	34.6
70	30	18,268	-62.[illegible]		269	26.4
60	30	19,223	-61.2		266	23.1
50	30	20,356	-60.8		263	20.4
40	28	21,755	-59.1		263	19.8
30	21	23,576	-57.7		259	23.9
25	21	24,730	-56.3		259	31.1
20	18	26,158	-54.4		264	37.9
15	12	28,021	-53.7			
10	5	30,703	-45.7			

TRUK, CAROLINE IS.
+ 1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	2	27.7	79	54	6.8
1000	31	82	27.1	80	63	8.5
950	31	527	23.8	80	82	11.8
900	31	1,008	20.7	78	82	13.8
850	31	1,501	18.[illegible]	74	88	13.6
800	31	2,019	15.3	7[illegible]	90	13.6
750	31	2,563	12.7	64	86	16.7
700	31	3,143	9.7	60	89	15.0
650	31	3,756	6.0	59	89	17.3
600	31	4,428	2.2	50	92	20.0
550	31	5,104	- 1.5	49	96	21.6
500	31	5,861	- 5.8	45	98	21.6
450	31	6,679	-10.6	42	95	24.1
400	31	7,579	-16.3		95	23.5
350	31	8,571	-22.8		95	21.8
300	31	9,684	-30.9		97	21.2
250	31	10,951	-41.0		101	21.4
200	31	12,429	-53.5		100	24.5
175	31	13,273	-60.7		98	25.8
150	31	14,215	-68.2		92	26.2
125	31	15,287	-76.2		93	29.3
100	30	16,553	-81.8		96	30.7
80	30	17,811	-78.0		95	16.1
70	30	18,584	-72.5		127	2.5
60	28	19,535	-66.7		272	11.1
50	26	20,615	-64.0		279	14.4
40	26	21,995	-60.4		296	7.2
30	26	23,814	-56.3		97	14.8
25	25	24,970	-53.9		99	33.4
20	24	26,412	-51.4		98	5[illegible].1
15	19	28,292	-46.9		95	55.8
10	9	31,[illegible]01	-42.5			

TUCSON, ARIZ.
926 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	789	6.6	64	141	6.8
1000	31	150				
950	31	577				
900	31	1,025	10.7	56	149	6.8
850	31	1,5[illegible]	8.8	44	201	4.1
800	31	1,999	5.8	4[illegible]	[illegible]4	7.2
750	31	2,521	3.2	36	258	9.9
700	31	3,081	.2	31	275	13.8
650	31	3,667	- 2.9	[illegible]4	272	19.0
600	31	4,312	- 6.4		279	23.7
550	31	4,971	-10.6		28[illegible]	29.1
500	31	5,7[illegible]4	-15.3		281	35.5
450	31	6,483	-20.8		279	[illegible]
400	31	7,350	-27.4		278	46.2
350	31	8,299	-34.3		276	49.0
300	31	9,359	-42.4		275	51.3
250	31	10,567	-51.1		278	54.0
200	31	11,992	-58.4		278	60.6
175	31	12,827	-60.4		265	54.0
150	30	13,787	-63.0		279	47.4
125	30	14,9[illegible]2	-65.5		281	43.3
100	30	16,247	-68.8		281	37.7
80	29	17,577	-68.5		283	23.5
70	29	18,379	-66.6		279	17.5
60	28	19,321	-63.9		272	15.7
50	26	20,447	-61.1		276	10.9
40	25	21,846	-58.2		267	9.5
30	24	23,669	-54.6		264	14.4
25	24	24,841	-52.5		255	17.9
20	24	26,290	-50.4		265	26.8
15	20	28,187	-47.		265	27.6
10	13	30,887	-44.9		257	28.[illegible]
7	7	33,309	-41.8			

* WAKE IS., PACIFIC AREA
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	23.8	73	47	10.1
1000	31	123	23.4	70	51	12.0
950	31	569	19.9	76	56	13.6
900	31	1,034	16.1	[illegible]	58	11.8
850	31	1,519	13.4	76	57	1[illegible].5
800	31	2,[illegible]28	11.7	[illegible]	47	7.6
750	31	2,570	11.0	31	4	9.
700	31	3,141	8.4	26	346	9.5
650	31	3,74[illegible]	5.[illegible]	24	336	11.1
600	31	4,4[illegible]1	2.1	24	[illegible]	13.4
550	31	5,[illegible]95	- 2.0	[illegible]	326	17.1
500	31	5,851	- 6.7	[illegible]4	320	1[illegible]
450	31	6,665	-11.9	[illegible]	31[illegible]	[illegible]
400	31	7,559	-17.8	[illegible]4	315	25.9
350	31	8,544	-24.9	[illegible]	31[illegible]	31.7
300	31	9,647	-33.1	[illegible]	316	35.0
250	31	10,903	-42.8		315	38.1
200	31	12,371	-54.[illegible]		312	34.0
175	31	1[illegible],[illegible]15	-60.6		[illegible]	[illegible].1
150	31	14,158	-[illegible]7.7		[illegible]	31.3
125	31	1[illegible],[illegible]45	-74.9		[illegible]	28.
100	28	16,511	-80.4		311	19.4
80	27	17,768	-79.4		[illegible]	8.5
70	27	18,531	-75.4		[illegible]	[illegible].5
60	27	19,437	-69.5		8[illegible]	4.1
50	27	20,534	-64.0		104	2.1
40	27	21,922	-59.1		[illegible]	5.1
30	27	23,749	-54.[illegible]		77	9.3
25	26	24,928	-51.9		8[illegible]	12.0
20	25	26,383	-5[illegible]		9[illegible]	15.0
15	25	28,275	-47.1		[illegible]7	19.0
10	23	30,996	-41.8		[illegible]	15.
7	6	33,407	-41.[illegible]			

*2/WALLOPS IS. VA. NASA
1024 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	14	3	2.1		320	6.0
1000	14	192	3.3		279	8.2
950	14	607	1.7		276	15.3
900	14	1,042	- .5		276	20.0
850	14	1,500	- 1.0		263	21.5
800	14	1,983	- 2.1		267	27.8
750	14	2,496	- 3.8		259	30.9
700	14	3,038	- 6.2		261	35.7
650	14	3,614	- 8.9		257	41.8
600	14	4,233	-11.[illegible]		265	51.7
550	14	4,891	-14.8		267	55.2
500	14	5,513	-19.6		265	62.[illegible]
450	14	6,385	-24.3		266	71.3
400	14	7,239	-29.8		265	79.6
350	14	8,177	-36.8		266	85.5
300	14	9,227	-43.6		260	93.9
250	14	10,432	-51.1		274	100.4
200	14	11,860	-57.0		277	98.1
175	14	12,702	-58.4		274	83.3
150	14	13,669	-59.6		272	75.4
125	14	14,803	-61.8		268	68.0
100	13	16,186	-63.3		267	53.4
80	13	17,560	-62.3		269	55.4
70	12	18,387	-61.1		266	50.3
60	12	19,344	-60.3		26[illegible]	42.0
50	12	20,486	-58.5		257	34.4
40	12	21,894	-56.4		263	35.7
30	12	23,732	-53.7		262	33.2
25	12	24,906	-52.6		262	36.7
20	12	26,353	-51.2		258	44.1
15	11	28,222	-50.0		261	52.4
10	9	30,882	-46.3			
7	5	33,262	-45.5			

WASHINGTON, D. C.
1011 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	84	1.4	82	272	2.7
1000	31	171	1.1	77	268	4.3
950	31	589	1.7	73	256	11.8
900	31	1,020	.6	73	265	16.3
850	31	1,479	.4	62	266	21.4
800	31	1,965	- .7	56	264	23.7
750	31	2,478	- 2.4	51	260	27.0
700	31	3,025	- 4.3	49	256	31.5
650	31	3,600	- 8.1	44	258	35.2
600	31	4,223	-11.4	40	261	42.0
550	31	4,883	-15.4	39	264	46.2
500	31	5,590	-19.9	37	265	51.5
450	31	6,370	-24.9	33	265	58.5
400	31	7,221	-30.4	39	266	64.1
350	31	8,156	-37.3		267	69.7
300	31	9,204	-44.7		266	76.3
250	31	10,404	-52.2		268	82.4
200	31	11,824	-58.1		271	76.9
175	30	12,667	-59.3		270	67.0
150	30	13,630	-60.6		267	63.7
125	30	14,759	-62.5		265	51.5
100	29	16,126	-64.6		263	42.9
80	29	17,491	-64.1		262	39.0
70	29	18,309	-62.8		261	34.2
60	28	19,261	-61.4		260	27.6
50	27	20,391	-60.0		262	25.4
40	27	21,791	-57.9		261	27.0
30	27	23,515	-55.4		259	30.1
25	27	24,782	-53.7		257	31.1
20	27	26,221	-52.1		260	35.5
15	25	28,093	-49.5		263	45.8
10	16	30,759	-45.9			

WINNEMUCCA, NEV.
867 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	.7	74	209	5.2
1000	31	150				
950	31	569				
900	31	1,015				
850	31	1,470	1.6	61	210	8.4
800	31	1,957	- .8	59	230	16.9
750	31	2,469	- 3.8	62	249	22.2
700	31	3,012	- 7.3	64	259	27.0
650	31	3,584	-10.3	61	268	30.1
600	31	4,199	-13.6	53	273	31.7
550	31	4,852	-18.6	49	277	35.2
500	31	5,560	-23.1	46	281	38.1
450	31	6,316	-28.6	40	284	38.9
400	31	7,157	-34.7		285	45.3
350	31	8,076	-41.4		282	50.1
300	31	9,106	-48.3		284	52.5
250	31	10,291	-53.4		284	49.3
200	30	11,710	-55.8		291	47.2
175	29	12,553	-55.6		285	43.3
150	29	13,533	-56.6		286	40.6
125	28	14,682	-57.8		283	34.6
100	27	16,079	-59.9		286	28.2
80	26	17,473	-60.6		289	17.1
70	26	18,333	-60.1		299	14.0
60	26	19,267	-59.5		304	11.7
50	23	20,409	-58.0		311	9.7
40	23	21,819	-56.7		327	7.8
30	20	23,651	-55.6		310	8.7
25	18	24,819	-54.[illegible]		313	9.1
20	13	26,284	-51.6		317	12.0
15	6	28,178	-48.[illegible]			

WINSLOW, ARIZ.
852 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,492	- 2.4	72	193	3.5
1000	31	198				
950	31	614				
900	31	1,049				
850	31	1,5[illegible]8			173	1.7
800	31	1,996	2.2	53	245	8.
750	31	2,515	- .1	50	259	12.0
700	31	3,066	- 2.8	46	274	15.7
650	31	3,645	- 5.7	41	277	19.8
600	31	4,274	- 9.5	36	276	24.5
550	31	4,937	-13.4	3[illegible]	277	29.9
500	31	5,661	-17.9		276	35.
450	31	6,434	-23.6		28[illegible]	41.8
400	31	7,292	-29.8		283	47.
350	31	8,230	-36.8		283	53.4
300	31	9,280	-44.3		28[illegible]	61.[illegible]
250	31	10,479	-52.3		281	65.9
200	31	11,9[illegible]3	-57.6		283	69.5
175	31	12,740	-59.4		283	67.4
150	31	13,703	-60.9		286	56.9
125	31	14,830	-63.[illegible]		28[illegible]	45.6
100	31	16,1[illegible]	-66.2		284	36.3
80	31	17,539	-66.8		282	25.8
70	31	18,347	-64.9		293	19.6
60	31	19,293	-63.3		277	14.2
50	31	20,419	-61.1		286	14.0
40	31	21,813	-59.[illegible]		276	10.9
30	28	23,634	-56.6		264	13.2
25	27	24,795	-54.8		270	18.[illegible]
20	24	26,224	-52.4		273	23.5
15	21	28,[illegible]	-50.7		274	29.[illegible]
10	5	30,766	-46.7			

YAKUTAT, ALASKA
1003 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1[illegible]	- 9.2	75	95	4.7
1000	31	22			76	6.6
950	31	432	- 6.7	[illegible]	[illegible]	11.
900	31	856	- 8.9	[illegible]	[illegible]5	8.9
850	31	1,297	-11.5	[illegible]4	92	5.2
800	31	1,760	-14.0	[illegible]	1[illegible]4	.1
750	31	2,246	-16.7	[illegible]	94	.1
700	31	2,764	-19.4	54	1[illegible]	2.9
650	31	3,307	-22.5	54	[illegible]15	5.1
600	31	3,896	-26.1	54	[illegible]	6.4
550	31	4,514	-29.9	49	267	[illegible]
500	31	5,195	-34.1	4[illegible]	277	12.6
450	31	5,921	-38.4		[illegible]	1[illegible]
400	31	6,729	-[illegible]		[illegible]	[illegible]
350	31	7,6[illegible]	-47.1		295	25.6
300	31	8,[illegible]34	-[illegible].8		31[illegible]	[illegible].4
250	31	[illegible],933	-[illegible]		[illegible]	36.7
200	31	11,278	-49.7		317	34.2
175	31	12,15[illegible]	-49.6		31[illegible]	[illegible]
150	31	13,161	-49.8		311	34.4
125	31	14,353	-50.1		314	34.
100	31	15,[illegible]	-50.3		31[illegible]	34.6
80	31	17,[illegible]	-51.4		[illegible]	34.8
70	31	18,122	-51.4		309	35.5
60	31	19,130	-52.0		309	34.6
50	31	20,31[illegible]	-52.3		312	35.4
40	30	21,748	-52.6		31[illegible]	38.3
30	29	23,60[illegible]	-53.[illegible]		[illegible]	42.5
25	26	24,773	-54.1		[illegible]	49.1
20	25	26,[illegible]	-5[illegible]		31[illegible]	49.3
15	12	2[illegible]	-5[illegible]			

YAP, CAROLINE IS.
+ 1007 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	17	27.9	92	62	7.2
1000	31	83	27.3	81	71	8.4
950	31	529	23.3	[illegible]	79	13.4
900	31	1,008	20.1	79	81	14.4
850	31	1,501	17.6	73	92	13.4
800	31	2,018	15.[illegible]	66	89	13.8
750	31	2,559	12.[illegible]	59	89	14.4
700	31	3,139	9.1	56	88	14.8
650	31	3,747	5.[illegible]	53	91	15.5
600	31	4,402	2.0	53	92	15.9
550	31	5,091	- 1.9	46	94	18.1
500	31	5,854	- 6.1	42	95	17.7
450	31	6,664	-11.0	41	94	20.4
400	31	7,569	-16.9	37	95	20.6
350	31	8,558	-23.7		99	15.8
300	31	9,667	-31.9		107	19.6
250	31	10,928	-42.1		108	20.6
200	31	12,397	-54.6		110	20.2
175	31	13,237	-61.6		119	18.8
150	30	14,174	-69.2		105	22.1
125	30	15,24[illegible]	-77.4		1[illegible]1	22.0
100	30	16,498	-84.0		106	17.7
80	30	17,745	-78.4		101	10.5
70	30	18,516	-72.9		68	4.1
60	30	19,432	-67.3		10	1.9
50	30	20,540	-64.0		292	3.3
40	29	21,919	-60.3		343	1.0
30	27	23,734	-55.5		98	18.5
25	23	24,903	-53.1		93	26.8
20	19	26,351	-50.2		88	36.3
15	7	28,237	-45.5			
10						

YUCCA FLAT, NEV.
881 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	3[illegible]	1,196	- 2.2	58	242	1.4
1000	30	177				
950	30	591				
900	30	1,029				
850	30	1,488	3.4	51	230	1.0
800	30	1,978	1.5	51	244	[illegible]
750	30	2,493	- .3	46	259	10.9
700	30	3,046	- 3.2	45	271	15.[illegible]
650	30	3,622	- 6.4	39	283	21.[illegible]
600	30	4,251	-10.4	35	289	28.6
550	30	4,909	-14.6		289	33.4
500	30	5,631	-19.2		29[illegible]	37.9
450	30	6,398	-24.5		291	44.7
400	30	7,254	-30.8		289	50.3
350	30	8,188	-38.[illegible]		286	54.6
300	30	9,233	-45.7		282	60.6
250	30	10,426	-53.4		286	54.4
200	30	11,846	-57.5		284	60.0
175	30	12,687	-58.9		286	59.4
150	30	13,652	-60.1		285	59.8
125	30	14,784	-62.5		286	49.3
100	30	16,151	-64.8		287	42.3
80	29	17,519	-64.9		288	29.6
70	27	18,325	-63.2		290	21.0
60	27	19,278	-61.7		293	14.2
50	27	20,414	-6[illegible]		293	10.9
40	25	21,813	-58.3		298	8.4
30	22	23,641	-55.6		306	10.7
25	21	24,806	-54.2		29[illegible]	19.3
20	16	26,230	-52.3		273	20.8
15	14	28,110	-49.3		262	26.2
10	9	30,766	-47.0			

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Although the number of temperature observations at any given pressure surface is usually the same as for height, it is possible for temperature to be missing for one or more pressure surfaces of some observations. Relative humidity averages are limited to those observations with temperatures warmer than -40°C. Observations of wind speed and direction are sometimes lost due to limiting angles, i.e., elevation angles less than 6° above the horizon, or any obstruction above the horizon.

The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces for which less than 16 observations are available.

Relative humidity data are computed and expressed on the basis of vapor pressure over water. Unless otherwise indicated, they are obtained from lithium chloride hygristors.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots.

* Rawinsondes at this station were equipped with hypsometers to permit more accurate evaluations of pressure, and consequently height, at pressures lower than 50 mb. They were also equipped with carbon hygristors. These rawinsondes were carried aloft by special high altitude balloons, in an effort to consistently reach higher altitudes.

+ Observations for these stations are scheduled at 0000 G.C.T.

1/ beginning December 30, 1964

2/ began October 14, 1963

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

DECEMBER 1964

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	ALBUQUERQUE, N. MEX.								
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Dec.									
3-----	----	----	----	----	(1.32)	----	----	----	----
6-----	0.89	1.01	1.12	----	----	----	----	----	----
7-----	.93	1.03	1.16	1.13	1.36	1.34	1.14	1.01	0.90
8-----	.92	1.02	1.14	1.35	1.36	1.34	1.18	1.03	.88
9-----	.94	1.05	1.19	1.31	(1.17)	1.35	(.95)	----	----
10----	.92	1.03	1.15	1.30	1.36	1.37	1.18	1.08	.96
11----	----	1.11	1.19	1.33	(1.35)	1.34	1.21	1.10	1.00
12----	.86	.99	1.12	----	----	----	----	1.11	1.02
13----	1.08	1.18	1.30	1.45	1.40	1.41	1.25	1.14	1.03
14----	1.03	1.15	1.27	----	----	----	----	----	----
15----	1.01	1.11	1.24	(1.29)	----	1.36	1.20	1.09	.99
17----	----	1.14	1.25	1.39	1.41	1.37	1.20	1.09	.99
22----	#	1.10	1.21	1.33	1.34	1.35	----	1.03	----
24----	----	----	----	----	----	----	----	----	(.97)
25----	.83	----	----	(1.25)	----	1.29	1.20	1.05	.93
26----	.94	1.06	1.16	1.34	----	----	----	----	----
28----	----	----	(1.05)	----	----	----	----	----	.97
29----	(.98)	----	(1.20)	----	----	----	----	----	----
Averages	0.94	1.08	1.19	1.35	1.37	1.35	1.20	1.07	0.97
	BLUE HILL OBS., MASS.								
	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Dec.									
1-----	----	----	----	----	1.23	----	1.13	0.98	0.87
2-----	0.94	1.05	1.16	----	1.25	----	1.08	.88	.75
7-----	----	----	----	----	1.21	----	1.07	.91	.79
10----	.88	.98	1.11	----	1.18	----	1.07	.93	.83
13----	.82	.91	1.01	----	----	----	----	----	----
14----	----	.99	1.18	----	1.28	----	1.18	1.06	.89
15----	.77	.99	1.05	----	1.18	----	1.04	.86	.74
16----	.94	1.04	1.13	----	1.22	----	1.11	.96	.86
19----	.82	.91	1.06	----	1.13	----	.99	.84	.70
29----	----	----	----	----	1.21	----	1.13	.94	.84
Averages	0.86	0.98	1.00	----	1.21	----	1.09	0.93	0.81
	TUCSON, ARIZ.								
	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Dec.									
5-----	0.84	0.94	1.09	----	----	----	----	----	----
6-----	----	.92	----	----	----	----	----	----	----
7-----	.71	----	----	----	----	----	----	----	----
8-----	----	----	----	----	----	----	----	0.95	----
10----	.84	.92	----	----	----	----	----	----	----
12----	----	.97	----	----	----	----	----	----	----
13----	----	----	----	----	----	----	----	1.07	0.96
14----	1.06	----	----	----	----	----	----	----	1.02
17----	----	----	----	----	----	----	----	----	.87
22----	----	.96	----	----	----	----	----	----	----
23----	.91	1.01	----	----	----	----	----	----	----
Averages	0.87	0.95	1.09	----	----	----	----	1.01	0.95
	GUAM, M. I.								
	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
Dec.									
2-----	----	M 0.69	M 0.85	----	----	----	----	----	----
	(No other observations during month due to cloudiness)								

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	MADISON, WIS.								
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Dec.									
5-----	----	S 0.94	S 1.07	----	S 1.17	----	----	S 0.94	S 0.85
6-----	S 0.84	S .95	S 1.08	----	S 1.13	----	----	S .87	S .80
8-----	----	----	----	----	M 1.06	----	M 0.99	M .86	M .74
13----	----	----	----	----	S 1.14	----	S 1.03	S .89	S .77
18----	S .87	S .98	S 1.12	----	S 1.15	----	S 1.08	S .95	S .80
26----	S .86	S .96	S 1.11	----	S 1.20	----	S 1.11	S .99	S .88
27----	S .87	S .95	S 1.07	----	----	----	----	----	----
Averages	0.86	0.96	1.09	----	1.14	----	1.05	0.92	0.81
	OMAHA, NEBR.								
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Dec.									
8-----	----	----	----	----	HM0.73	----	----	----	----
9-----	HM0.84	HM0.95	1.10	----	1.20	----	HM1.08	HM0.96	----
11----	HS .92	HS1.04	HS1.14	----	----	----	----	----	----
13----	HS .86	HS .98	HS1.11	----	HS1.22	----	----	----	----
14----	HS .96	HS1.02	HS1.15	----	HS1.24	----	HS1.14	HS1.02	HS0.92
15----	----	----	----	----	HM1.14	----	----	----	----
16----	----	----	----	----	HM1.02	----	----	----	----
18----	HS .95	HS1.06	HS1.18	----	HS1.28	----	----	----	----
20----	HM .67	HM .80	----	----	HS1.20	----	----	----	----
24----	----	----	----	----	HS1.20	----	HS1.12	----	----
26----	HS .94	HS1.05	HS1.18	----	HS1.26	----	HS1.17	HS1.04	HS .92
27----	----	----	----	----	HM1.19	----	HS1.07	HS .93	----
Averages	0.88	0.99	1.14	----	1.15	----	1.12	0.99	0.92
	MAUNA LOA OBS., HAWAII								
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Dec.									
1-----	1.14	1.25	1.36	1.49	1.59	1.48	1.35	1.23	1.13
2-----	1.18	1.28	1.39	1.52	1.60	1.46	1.34	1.22	1.15
4-----	1.14	1.25	1.36	1.49	1.57	----	----	----	----
5-----	1.13	1.23	1.34	1.47	1.57	1.47	1.34	1.28	1.15
6-----	1.15	1.25	1.35	1.48	1.57	1.46	1.34	1.23	1.14
7-----	1.13	1.24	1.34	1.47	1.57	1.48	1.35	1.25	1.16
10----	----	----	(1.28)	----	----	----	----	----	----
11----	1.10	1.20	1.30	1.45	----	----	----	----	(1.11)
12----	1.11	1.22	1.33	(1.44)	----	----	----	----	----
13----	1.14	1.23	1.34	1.46	----	----	----	----	----
16----	(1.09)	(1.18)	(1.28)	----	----	----	----	----	----
17----	----	----	----	----	(1.56)	1.46	1.33	1.22	1.14
18----	1.14	1.24	1.36	1.50	1.58	1.48	1.34	1.22	(1.12)
19----	(1.11)	----	----	----	----	----	----	----	----
20----	----	----	----	1.47	1.57	1.47	1.33	1.23	1.13
21----	1.16	1.24	1.35	----	----	1.48	1.36	1.25	1.16
22----	1.16	1.26	1.36	1.49	----	----	----	(1.21)	1.13
23----	1.16	1.26	1.37	1.49	----	----	----	----	----
24----	1.20	1.28	1.39	1.52	1.61	1.51	----	1.27	1.18
25----	1.18	1.28	----	1.50	(1.57)	1.49	1.36	1.24	1.12
26----	1.12	1.22	1.33	1.47	(1.58)	1.47	1.35	1.24	1.14
27----	1.17	1.26	1.37	1.50	----	----	----	----	----
28----	1.16	1.27	1.38	1.51	1.63	1.53	1.40	1.30	1.21
29----	1.21	1.31	1.41	1.54	1.63	1.54	1.41	1.32	1.23
30----	1.18	1.28	1.38	1.51	1.59	1.50	1.37	1.27	1.19
31----	(1.15)	(1.24)	(1.35)	(1.48)	(1.56)	----	----	----	----
Averages	1.15	1.25	1.36	1.49	1.59	1.49	1.36	1.25	1.16

#	Frost on bulb
( )	Clouds present
HS	Slight haze
HM	Moderate haze
S	Slight haze - indeterminable
M	Moderate haze - indeterminable
*	Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

DECEMBER 1964

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
ALBUQUERQUE N.M.	269	57	166	183	213	218	325	263	270	265	256	127	282	269	266	238	271	93	62	155	221	267	221	213	225	241	158	117	158	118	157	205
AMES IOWA	85	99	81	173	187	84	199	57	159	11	155	122	198	206	154	187	173	206	46	200	176	137	85	188	70	205	177	70	54	182	57	135
ANNETTE ALASKA	9	16	13	31	---	---	---	---	---	---	---	---	---	---	77	36	28	---	52	70	70	62	70	66	49	16	25	22	36	75	29	---
APALACHICOLA FLORIDA	383	282	169	6	135	286	331	342	344	102	275	95	133	---	375	244	256	329	95	214	91	79	321	288	260	247	237	323	298	285	342	239
ARGONNE NAT. LAB.	85	44	43	44	224	286	99	141	95	116	41	58	212	208	146	181	220	233	48	217	155	63	28	28	32	235	171	102	19	71	105	121
ASTORIA OREGON	40	122	130	---	169	135	23	65	19	74	125	78	56	36	109	189	130	74	---	---	---	---	---	25	64	74	66	61	59	93	142	86
ATLANTA GEORGIA	337	---	---	---	132	---	---	306	209	155	142	191	240	316	313	201	89	309	206	97	31	134	58	112	113	49	207	283	72	186	110	177
BETHEL ALASKA	18	18	22	68	72	68	42	14	46	6	51	30	18	7	11	11	9	16	37	50	28	31	12	32	40	9	27	9	7	19	53	28
BISMARCK N.DAK.	122	128	127	173	128	---	143	160	138	172	121	137	170	180	81	78	171	162	176	111	111	81	73	150	176	175	144	55	71	178	170	135
BLUE HILL MASS.	223	222	47	11	23	28	242	201	151	216	82	20	198	204	199	204	81	128	203	36	107	83	75	26	93	21	16	19	191	25	170	114
BOISE IDAHO	---	123	121	176	202	214	211	---	83	48	72	193	116	58	65	172	214	99	114	116	18	35	46	90	68	53	100	127	100	162	125	114
BOSTON MASSACHUSETTS	217	217	41	6	21	38	213	174	157	200	75	21	164	199	197	198	74	140	---	---	---	69	71	22	96	22	11	26	198	28	167	109
BROWNSVILLE TEXAS	174	354	333	306	257	44	19	18	124	82	384	384	145	423	360	394	351	27	115	97	119	337	404	401	348	393	394	367	296	240	221	255
BURLINGTON VERMONT	131	194	99	33	6	82	243	121	91	188	52	136	90	207	70	168	60	128	117	113	162	91	31	29	65	43	53	87	198	20	70	102
CAPE HATTERAS N.C.	299	302	130	63	157	53	278	258	262	277	168	119	76	86	292	289	92	115	280	43	59	169	197	156	227	182	60	43	149	280	277	175
CARIBOU MAINE	12	178	138	85	59	51*	96	147	164	178	59	137	104	158	131	160	76	145	156	81	174	73	38	43	30	36	78	45	78	47	53	97*
CHARLESTON S.C.	363	276	151	22	155	296	330	322	269	---	161	200	106	100	336	313	122	207	242	38	83	66	59	186	159	153	103	195	291	319	293	197
CLEVELAND OHIO	166	57	12	1	3	154	157	27	220	169	9	53	6	141	173	191	11	134	119	105	157	46	25	17	33	21	18	51	77	86	124	83
COLUMBIA MISSOURI	160	9	38	73	158	148	203	---	246	24	42	141	249	245	220	180	222	250	92	225	200	152	136	56	13	171	198	179	146	174	49	147
DAVIS CALIFORNIA	120	236	248	135	246	185	143	191	236	109	172	249	216	111	68	207	63	56	164	118	69	36	86	226	155	38	166	197	41	178	243	152
DODGE CITY KANSAS	168	107	111	164	133	229	248	244	182	154	214	97	250	235	229	149	274	235	203	216	178	199	109	185	211	249	188	181	213	139	108	187
E. LANSING MICHIGAN	113	100	94	51	156	244	102	220	239	191	26	83	104	119	203	174	112	123	87	99	178	52	22	38	30	28	165	123	35	15	189	113
EL CENTRO CALIF NARF	197	237	258	254	253	258	212	254	247	234	231	236	258	251	248	234	234	215	126	224*	224*	239	205	191	215	202	162	199	175	183	132	219*
EL PASO TEXAS	358	284	287	310	345	335	201	271	273	345	342	338	367	367	339	223	298	32	82	124	127	105	289	308	279	329	312	317	328	286*	265	273*
ELY NEVADA	140	173	259	246	182	286	285	110	242	125	97	281	285	174	268	267	263	166	127	141	139	146	157	79	121	117	173	132	266	---	---	188
EPPLEY.NEWPORT R.I.	222	209	56	27	43	56	190	200	137	189	71	34	181	199	206	210	49	112	204	5	135	54	111	30	139	38	25	42	150	42	105	112
FORT WORTH TEXAS	330	207	99	212	339	333	327*	299	74	83	327	329	327	339	349	229	153	228	240	270	285	327	327	319*	319	296	302	278	243	112	213	262*
FRESNO CALIFORNIA	61	124	238	212	259	229	187	210	50	184	69	88	122	179	115	59	184	122	122	188	89	129	117	156	182	39	137	198	130	202	190	147
GAINESVILLE FLORIDA	423	316	259	238	---	---	421	402	436	291	338	195	326	145	429	382	324	266	334	117	78	216	---	373	332	106	92	376	---	---	363	291
GLASGOW MONTANA	93	98	137	104	154	191	171	90	167	143	132	164	129	122	87	87	167	178	132	55	81	62	67	120	180	170	111	106	140	151	179	128
GRAND JUNCTION COLO.	49	163	288	280	240	281	282	223	126	266	112	293	283	146	272	272	291	106	148	97	174	193	138	70	199	239	132	270	289	281	121	204
GREAT FALLS MONTANA	56	116	77	123	136	142	143	---	132	100	114	92	---	43	52	110	128	92	73	46	55	74	71	114	145	108	92	119	143	130	76	100
GREENSBORO N.C.	321	293	107	49	89	257	291	239	266	212	64	73	133	291	275	281	54	291	253	89	61	161	53	167	69	37	52	264	136	199	255	174
GRIFFIN EXP.STA.GA.	393	378	261	106	161	328	390	384	328	149	235	185	308	402	382	188	167	372	269	121	67	165	84	227	195	99	227	366	94	234	187	240
INDIANAPOLIS INDIANA	172	44	24	25	95	177	116	70	65	104	17	---	147	240	213	162	27	267	49	218	220	34	87	20	37	86	162	106	25	144	163	111
LAKE CHARLES LA.	363	125	107	280	178	297	316	184	78	9	47	278	189	365	359	276	93	236	92	64	102	104	212	149	207	197	289	236	176	155	317	196
LAKELAND FLORIDA	463	331	---	---	---	---	195*	365	278	327	364	311	318	95	398	289	194	239	178	360	331	160	342	377	364	265	101	176	387	308	377	292*
LANDER WYOMING	123	187	140	226	221	226	207	125	149	212	206	223	226	204	181	141	259	210	---	124	169	120	119	133	200	183	147	138	216	210	172	180
LARAMIE WYOMING	78	146	157	144	263	278	237	239	128	275	108	283	279	150	253	152	315	260	300	261	214	144	35	130	161	301	151	240	383	386	273	217
LAS VEGAS NEVADA	224	272	280	297	264	299	293	238	288	284	278	289	306	302	275	286	284	100	230	171	205	270	223	218	244	231	185	231	296	284	247	255
LITTLE ROCK ARKANSAS	260	27	---	37	94	257	---	---	99	31	64	208	194	246	243	134	62	255	43	187	59	104	136	112	81	116	70	95	39	76	94	122
LOS ANGELES CALIF.	160	273	214	276	260	273	120	291	256	225	84	276	291	310	261*	---	235	101	48	49	144*	93	37	123	271	101	98*	229*	261	130	269	192*
LOS ANGELES CALIF. U	223	252	203	288	272	274	128	310	270	248	71	264	293	315	290	256	262	96	80	78	259	87	63	30	368	143	91	210	272	156	207	205
MADISON WISCONSIN	77	111	172	145	238	226	59	212	94	54	58	30	204	205	108	152	205	222	24	206	119	69	36	27	49	229	174	68	23	47	157	122
MANHATTAN KANSAS	147	38	50	277	258	153	213	262	220	30	260	168	268	267	213	88	244	256	190	238	235	152	166	244	134	220	226	200	76	137	64	184
MATANUSKA ALASKA	27	16	21	22	18	7	7	25	20	29	29	23	25	30	8	6	12	30	18	17	17	18	28	11	30	20	18	20	30	12	33	20
MAUNA LOA OB.HAWAII	555	558	368	462	545	542	543	407	226	151	409	336	329	201	310	274	459	533	215	527	470	458	332	535	545	532	531	548	554	548	522	436
MEDFORD OREGON	33	94	90	49	111	118	56	24	54	38	170	153	52	58	146	132	197	30	172	75	25	25	58	99	86	58	76	139	189	118	136	92
MIAMI FLORIDA	365	266	265	380	163	148	186	151	229	243	274	268	257	218	84	208	196	318	237	276	291	329	361	345	257	285	264	303	296	313	310	261
MIDLAND TEXAS	326	147	217	295	306	306	306	272	187	282	313	304	329	336	294	155	---	107	136	287	288	309	310	272	291	309	293	300	280	200	187	265
NASHVILLE TENNESSEE	301	148	35	75	15	283	302	171	248	28	20	225	61	289	268	160	8	296	75	46	67	56	85	156	192	47	45	202	225	143	84	140
NEW YORK N.Y. U	244	130	42	12	16	149	205	152	211	165	70	22	26	214	201	162	99	199	203	40	179	42	103	20	164	46	18	144	74	36	203	116
NORTH OMAHA NEBRASKA	107	137	81	243	107	127	202	238	231	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
OAK RIDGE TENNESSEE	259	179	51	132	44	78	231	190	223	93	35	99	42	249	233	216	45	241	122	55	93	53	83	103	154	83	41	117	201	36	158	127
OKLAHOMA CITY OKLA.	266	121	196	88	284	254	260	261	92	31	253	250	273	264	255	212	148	248	190	251	153	199	221	241	239	256	214	238	218	227	45	208

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

U Indicates Urban sites.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

DECEMBER 1964

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
PHOENIX ARIZONA	232	256	279	285	214	285	277	305	175	287	275	268	312	290*	293	283	279	150	203	224	270	271	196	173	231	241	238	229	226	166	66	241*
PORTLAND MAINE	199	215	55	22	64	61	168	170	120	218	75	67	148	199	165	193	38	166	189	45	191	66	57	31	45	23	27	56	194	28	125	110
RAPID CITY S.DAK.	75	120	118	158	179	204	180	175	123	179	116	168	146	107	130	135	199	170	168	126	132	59	65	60	158	186	141	109	63	187	184	139
RIVERSIDE CALIFORNIA	252	134	304	321	334	262	164	341	318	303	66	294	346	341	323	313	286	89	106	85	307	202	62	88	188	131	35	159	297	253	251	224
SAINT CLOUD MINN.	92	180	177	162	211	153	61	63	82	30	107	182	173	185	80	127	176	198	51	160	107	135	30	185	110	196	181	52	49	148	96	127
SALT LAKE CITY UTAH	37	193	125	213	219	244	258	83	100	107	116	189	259	50	250	234	255	161	167	199	32	33	6	110	36	145	35	143	266	286	206	153
SAN ANTONIO TEXAS	105	219	232	97	361	324	138	64	39	79	354	351	290	387	378	337	105	137	157	344	278	250	166	258	285	286	288	158	226	133	197	226
SANTA MARIA CALIF.	209	274	283	255	273	271	136	259	275*	262	115	282	283	280	273	273	186	162	121	189	154	98	78	97	267	102	98	179	213	139	211	203*
SAULT STE MARIE MICH	82	178	193	174	201	170	65	178	62	35	18	19	61	101	183	---	106	171	98	156	43	60	71	40	72	95	200	196	21	20	55	104
SEATTLE TACOMA WASH.	31	57	137	71	52	138	58	41	31	97	121	31	77	27	122	147	85	54	29	54	23	15	76	29	91	62	93	82	94	68	117	71
SEATTLE WASH. UNIV.	38	36	117	52	49	132	53	80	28	43	134	83	43	33	69	149	82	44	19	42	21	17	37	25	111	78	123	82	71	62	71	65
SHREVEPORT LOUISIANA	---	85	101	---	31	298	323	278	59	26	141	314	299	338	335	254	11	---	80	73	72	210	278	272	289	130	269	163	71	150	191	184
SPOKANE WASHINGTON	85	45	33	154	64	55	77	51	---	50	121	74	77	56	120	176	149	57	45	62	54	42	136	71	143	58	84	85	93	129	78	84
STATE COLLEGE PENN.	237	49	49	17	41	125	200	86	215	237	32	48	166	221	132	223	42	164	180	57	59	42	28	30	56	65	15	61	111	59	216	105
STERLING VIRGINA	277	72	---	---	---	---	---	222	---	200	106	76	46	254	249	244	63	244	224	87	109	166	43	---	161	74	20	148	86	138	243	148
STILLWATER OKLAHOMA	258	83	23	96	267	261	278	280	102	29	287	267	290	275	275	204	222	260	213	266	80	228	231	255	252	280	250	255	256	258	49	214
SWAN ISLAND W.I.	484	478	468	477	442	317	398	257	452	442	321	464	477	390	348	378	436	463	362	346	391	400	414	352	461	470	444	485	462	451	476	419
TAMPA FLORIDA	408	230	241	---	103	386	399	365	264	343	361	325	352	102	405	270	282	297	253	329	314	189	333	291	355	304	45	228	379	278	372	293
TUCSON ARIZONA	288	197	186	272	320	292	310	313	148	301	296	296	319	322	277	295	299	114	182	268	284	288	244	237	221	267	250	44	146	83	300	247
WAKE ISLAND,PACIFIC	403	387	250*	369	405	410	303*	268	406	367	397*	376	373	328	386	398	336*	324	359*	423	348	333	387	390	303	362	---	330	408	373	337	361*

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

NET RADIATION

Net radiation in langleys per day (midnight to midnight) at Huntley, Mont.

DECEMBER 1964

Date.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
Langleys. . .	-23	8	7	-22	-125	-145	-135	-97	-71	-38	-75	-76	-92	-19	-32	-90	-97	-40	-52	-23	-9	-17	-4	1	-47	-17	-24	-55	-39	-46	-52	-50

The measurement is made with a Beckman and Whitley net exchange radiometer over a plot of sod. The value represents the total incoming minus the total outgoing radiation of all wave lengths.

These data are of an experimental nature and are published as received from the Huntley, Exp. Station. The instrument with which they were measured has not been checked by the Weather Bureau.

TOTAL OZONE DATA

These provisional ozone data are obtained from measurements made with a Dobson ozone spectrophotometer, and are applicable approximately to local apparent noon. The data are presented in the code λs ΩΩΩ defined in the August 1962 WMO circular entitled "PUBLICATION OF DATA FOR METEOROLOGICAL RESEARCH, WORLD OZONE DATA."

Units. Milli-atmo-cms.

Station	Day of month																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Mean O3

Data will be delayed

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from ground level to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column (coded ΩΩΩ) is expressed in terms of a thickness of a layer it would occupy at standard temperature and pressure, e.g., 350 milli-atmo-cm ozone implies an ozone layer 0.350 centimeter thick. The code λs designates the type of measurement made.

STORM SUMMARY

DELAYED DATA

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				# HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				Ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
October 1964																													
Kentucky															1														

See reference notes with current data.

CORRECTIONS

	Month:	July 1959
page 260:	Denver, Colo.	Station pressure should be 841.5 mb.
	Month:	1963 Annual
page 20:	Guam, Pacific Area	Total sunshine hours for December should be 181.
	Month:	June 1964
page 319:	Inyokern China Lake, Calif.	Solar radiation for February 1963 should be 456 langleys; June 1963, 858 langleys.
	Month:	August 1964
page 403:	Toledo, Ohio	Heating degree days accumulated total should be 56, September 206, October 742, and November 1418.

RAWINSONDE DATA

Average monthly values

CHIHUAHUA, MEXICO 5/
858 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	1,428	7.1	53	200	1.6
1000	28	145				
950	28	575				
900	28	1,032				
850	28	1,505	9.2	47	210	2.1
800	28	2,010	10.6	37	229	8.0
750	28	2,546	8.0	34	232	12.0
700	28	3,112	5.2	30	237	16.1
650	28	3,710	2.1		244	19.8
600	28	4,355	-1.9		245	21.8
550	28	5,035	-6.3		243	23.1
500	28	5,779	-11.3		248	27.0
450	28	6,573	-17.0		254	26.2
400	28	7,452	-23.7		252	28.6
350	28	8,413	-31.3		252	29.9
300	28	9,485	-39.8		253	36.7
250	28	10,706	-49.0		250	42.9
200	28	12,137	-59.0		251	48.0
175	28	12,966	-62.8		249	46.6
150	28	13,908	-65.8		249	49.5
125	27	15,008	-68.2		246	44.9
100	25	16,344	-70.1		249	33.0
80	21	17,672	-69.4		249	21.0
70	20	18,474	-68.3		257	15.0
60	19	19,408	-65.3		251	12.6
50	15	20,542	-62.6		255	8.0
40	15	21,931	-58.6		272	6.8
30	14	23,749	-55.8		247	10.7
25	13	24,920	-53.7		259	16.7
20	10	26,369	-51.0			
15	5	28,208	-49.6			
10						
7						
5						
4						

CORPUS CHRISTI, TEXAS 1/
1012 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	25	6	25.7	82	157	4.5
1000	25	109	25.0	84	153	7.0
950	25	552	21.8	85	165	13.0
900	25	1,028	20.2	68	165	14.0
850	25	1,520	17.8	63	163	12.2
800	25	2,037	15.2	58	164	8.9
750	25	2,578	12.6	54	150	6.4
700	25	3,158	9.3	51	138	5.2
650	25	3,764	5.4	52	136	3.5
600	25	4,419	1.5	48	157	1.4
550	25	5,108	-2.6	43	97	.6
500	25	5,864	-7.5	38	337	1.0
450	25	6,671	-13.0	39	343	.8
400	25	7,566	-18.8	37	306	1.4
350	25	8,547	-25.8	42	225	1.7
300	25	9,645	-34.0	37	242	4.9
250	25	10,895	-43.9		258	8.9
200	25	12,356	-55.3		263	11.5
175	22	13,712	-61.0		252	12.0
150	22	14,156	-67.2		248	6.8
125	21	15,241	-72.1		257	5.6
100	21	16,550	-72.1		57	3.7
80	21	17,876	-68.4		81	8.2
70	21	18,682	-65.4		81	12.6
60	21	19,628	-62.7		94	16.5
50	21	20,763	-58.7		91	16.3
40	21	22,176	-55.1		88	20.4
30	21	24,028	-51.2		95	21.4
25	21	25,219	-49.4		94	22.3
20	21	26,688	-46.9		90	20.6
15	21	28,611	-43.0		86	19.4
10	20	31,363	-38.8		89	22.0
7	15	33,953	-34.9			
5	11	36,219	-30.5			
4	6	37,735	-30.7			

EMPALME, MEXICO 5/
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	7	12	25.3			
1000	7	135	24.4			
950	7	581	21.4			
900	7	1,047	18.5			
850	7	1,533	15.7			
800	7	2,044	13.0			
750	7	2,583	10.3			
700	7	3,154	7.3			
650	7	3,753	3.4			
600	7	4,403	-.9			
550	7	5,080	-5.9			
500	7	5,832	-10.6			
450	7	6,631	-17.1			
400	7	7,508	-24.2			
350	7	8,466	-32.3			
300	7	9,533	-41.1			
250	7	10,746	-50.0			
200	7	12,171	-59.9			
175	7	12,999	-62.8			
150	7	13,941	-66.0			
125	7	15,041	-68.5			
100	7	16,368	-71.0			
80	7	17,686	-70.4			
70	7	18,497	-68.9			
60	7	19,410	-64.8			
50	7	20,528	-62.7			
40	7	21,909	-60.5			
30	7	23,724	-55.1			
25	7	24,894	-52.7			
20	5	26,340	-49.1			
15						
10						
7						
5						
4						

GUAM, MARIANA IS. 5/
997 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	111	25.1	91	91	6.2
1000	30	86				
950	30	541	23.7	84	92	15.2
900	30	1,009	21.2	79	97	15.2
850	30	1,503	18.6	73	98	13.0
800	30	2,022	16.0	63	99	11.1
750	30	2,571	13.1	57	102	12.2
700	30	3,147	10.0	52	103	12.0
650	30	3,760	6.4	47	102	12.0
600	30	4,411	2.4	43	95	12.4
550	30	5,111	-1.5	40	95	12.8
500	30	5,863	-5.9	38	95	13.8
450	30	6,681	-10.9		97	13.2
400	30	7,577	-16.6		89	13.0
350	30	8,568	-23.4		84	11.3
300	30	9,677	-31.7		75	10.7
250	30	10,939	-41.9		72	6.6
200	30	12,410	-54.2		68	5.8
175	30	13,253	-61.0		52	5.4
150	29	14,193	-68.5		72	5.1
125	29	15,265	-76.1		90	7.4
100	28	16,527	-83.1		99	16.3
80	27	17,775	-79.5		91	14.6
70	26	18,542	-74.5		87	9.5
60	25	19,456	-68.8		85	5.1
50	25	20,561	-64.2		106	5.1
40	25	21,944	-59.3		93	10.9
30	24	23,765	-55.3		85	22.5
25	24	24,936	-52.9		86	31.9
20	22	26,384	-49.7		87	39.4
15	18	28,300	-45.3		88	46.6
10	11	31,032	-41.3			
7	6	33,457	-38.2			
5						
4						

KWAJALEIN, MARSHALL IS. 5/
1009 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	26.2	81	72	9.3
1000	30	84	26.0	80	78	10.3
950	30	536	23.3	82	84	13.4
900	30	1,007	20.4	78	91	14.0
850	30	1,500	18.0	76	91	13.4
800	30	2,019	15.9	70	90	13.0
750	30	2,565	13.1	63	90	11.8
700	30	3,143	9.9	59	92	11.7
650	30	3,756	6.3	59	91	10.7
600	30	4,409	2.4	57	91	12.0
550	30	5,108	-1.4	54	90	12.0
500	30	5,862	-5.5	53	90	11.3
450	30	6,680	-11.0	47	80	8.2
400	30	7,575	-16.6	42	80	3.9
350	30	8,568	-22.2	39	243	1.7
300	30	9,682	-31.0	36	262	5.8
250	30	10,946	-41.5	34	259	11.1
200	30	12,421	-53.6	31	247	16.3
175	30	13,265	-60.9	31	248	18.1
150	30	14,207	-68.4	30	261	19.6
125	30	15,280	-75.5		269	16.1
100	27	16,553	-80.5		73	2.9
80	22	17,815	-78.4		86	8.2
70	21	18,588	-72.8		259	4.5
60	20	19,506	-68.3		260	10.7
50	19	20,611	-64.6		271	8.2
40	18	21,985	-60.8		34	2.7
30	18	23,795	-55.6		82	20.8
25	18	24,963	-53.3		92	34.6
20	18	26,408	-50.0		89	46.0
15	18	28,308	-45.1		86	56.1
10	16	31,053	-39.7		90	58.5
7	13	33,512	-34.8		96	53.8
5	5	35,909	-29.9			
4						

MERIDA, MEXICO 3/
1014 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	22.8	98	107	4.7
1000	31	135	23.5	93	109	9.1
950	31	584	22.4	83	125	15.0
900	31	1,056	20.3	75	121	14.4
850	31	1,548	17.7	69	121	13.2
800	31	2,065	14.9	65	119	12.2
750	31	2,599	12.0	58	120	11.8
700	31	3,185	8.7	54	117	10.3
650	31	3,788	5.1	52	109	10.1
600	31	4,445	1.4	47	101	11.1
550	31	5,130	-2.7	44	91	11.5
500	31	5,890	-7.3	45	88	12.0
450	31	6,697	-12.3	43	82	13.0
400	31	7,597	-17.9	40	84	12.4
350	31	8,582	-24.8	34	85	11.7
300	31	9,685	-33.0		85	10.7
250	31	10,941	-42.9		87	9.7
200	31	12,408	-54.6		90	11.7
175	31	13,250	-60.7		92	15.0
150	31	14,195	-66.6		85	18.3
125	31	15,283	-71.6		79	19.6
100	31	16,597	-72.2		81	22.1
80	31	17,919	-69.3		97	26.2
70	31	18,723	-65.7		95	25.3
60	31	19,667	-62.3		88	28.0
50	30	20,800	-59.2		90	31.3
40	29	22,207	-56.2		94	34.2
30	28	24,049	-52.4		95	38.5
25	28	25,235	-49.8		93	39.8
20	28	26,704	-47.2		91	41.6
15	26	28,622	-45.0		90	44.1
10	14	31,340	-42.5			
7						
5						

MERIDA, MEXICO 4/
1015 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	18.8	97	12	2.7
1000	31	139	22.5	81	15	4.9
950	31	584	20.2	77	13	8.2
900	31	1,051	17.2	77	360	8.4
850	31	1,538	14.5	72	343	7.6
800	31	2,048	12.0	66	330	6.6
750	31	2,586	10.7	48	312	6.2
700	31	3,162	7.9	43	312	5.6
650	31	3,765	5.2	37	309	4.5
600	31	4,421	2.2	30	321	3.9
550	31	5,108	-2.0		326	3.3
500	31	5,871	-6.6		312	4.5
450	31	6,679	-11.6		305	6.2
400	31	7,582	-18.0		287	9.7
350	31	8,566	-24.7		281	14.0
300	31	9,669	-33.1		268	15.3
250	30	10,923	-43.0		251	17.7
200	30	12,389	-54.8		241	20.0
175	30	13,230	-61.4		239	18.1
150	30	14,171	-68.2		251	16.5
125	30	15,247	-74.3		264	8.0
100	29	16,536	-77.0		346	2.5
80	29	17,835	-70.9		99	5.6
70	28	18,634	-68.0		100	7.4
60	28	19,565	-65.1		93	10.3
50	27	20,682	-61.7		94	16.3
40	27	22,081	-57.6		89	18.1
30	27	23,918	-52.7		86	21.6
25	25	25,096	-50.0		89	25.3
20	25	26,564	-47.0		92	27.2
15	23	28,473	-45.0		85	29.5
10	15	31,214	-40.7			
7						
5						

MERIDA, MEXICO 5/
1016 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	19.6	97	73	5.8
1000	30	151	22.1	88	82	10.1
950	30	595	20.5	79	98	12.4
900	30	1,064	18.0	73	101	10.5
850	30	1,552	15.1	74	105	7.8
800	30	2,064	12.6	64	104	6.2
750	30	2,597	10.8	51	104	5.1
700	30	3,178	8.0	43	100	5.4
650	30	3,780	4.6	39	105	5.6
600	30	4,434	1.1	35	94	5.8
550	30	5,116	-3.0		88	4.9
500	29	5,878	-7.6		103	5.1
450	29	6,681	-12.9		127	3.5
400	29	7,581	-19.3	34	175	3.9
350	29	8,559	-26.3		199	6.2
300	29	9,656	-34.7		218	11.8
250	29	10,902	-44.8		222	16.1
200	28	12,354	-56.8		209	22.3
175	28	13,188	-63.1		212	23.9
150	28	14,123	-68.2		219	21.2
125	28	15,204	-72.8		225	15.9
100	28	16,504	-75.9		227	10.1
80	28	17,789	-76.4		161	3.7
70	28	18,572	-72.9		124	5.8
60	28	19,482	-67.5		113	6.2
50	28	20,594	-62.4		109	5.8
40	28	21,983	-58.7		84	6.6
30	28	23,817	-52.5		98	8.4
25	28	25,003	-49.8		94	11.1
20	26	26,469	-47.3		100	13.0
15	23	28,387	-44.4		106	12.4
10	11	31,126	-41.6			
7						
5						

* POINT ARGUELLO, CALIF. 1/
1001 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	113	10.4	97	318	4.9
1000	30	119	10.4	97	316	5.4
950	30	552	17.1	76	341	12.8
900	30	1,006	16.2	45	354	12.6
850	30	1,490	14.7	38	340	10.1
800	30	2,000	12.7	31	318	8.2
750	30	2,534	10.3	28	300	10.1
700	30	3,110	7.3	27	292	11.5
650	30	3,713	3.9	26	285	14.4
600	30	4,361	.0	26	280	18.8
550	30	5,046	-4.2	28	280	21.6
500	30	5,798	-9.0	26	276	28.2
450	30	6,594	-15.1	28	278	29.9
400	30	7,482	-21.8	27	277	31.9
350	30	8,450	-29.6	28	274	34.0
300	30	9,530	-38.2	31	273	39.2
250	30	10,760	-47.8		273	43.3
200	30	12,200	-57.5		279	45.5
175	30	13,035	-61.1		277	43.7
150	30	13,987	-63.0		270	39.0
125	30	15,108	-63.6		267	30.9
100	30	16,477	-63.3		267	20.6
80	30	17,853	-61.6		261	5.6
70	30	18,681	-60.7		139	2.1
60	30	19,643	-59.5		96	6.4
50	30	20,790	-57.1		92	9.9
40	30	22,211	-54.7		87	13.4
30	30	24,066	-51.3		85	17.5
25	29	25,254	-49.3		89	20.0
20	28	26,725	-47.1		90	19.2
15	25	28,645	-43.4		88	19.0
10	24	31,402	-38.2		86	24.9
7	20	33,885	-31.7		92	28.7
5	7	36,292	-26.0			

SAN NICOLAS, CALIF. 2/
991 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	174	12.7	88	313	8.7
1000	30	99				
950	30	539	21.3	38	318	5.8
900	30	1,009	23.5	26	311	6.2
850	30	1,505	21.7	23	289	5.2
800	30	2,028	18.9	24	252	4.5
750	30	2,578	15.7	25	223	6.4
700	30	3,159	11.9	25	212	8.0
650	30	3,775	7.6	26	209	8.5
600	30	4,429	2.9	26	205	8.9
550	30	5,127	-2.1	30	200	9.7
500	30	5,876	-7.6	28	199	11.5
450	30	6,688	-12.9	20	202	12.0
400	30	7,576	-18.3	20	209	13.6
350	30	8,562	-24.4	21	206	17.3
300	30	9,665	-33.2	21	206	20.0
250	30	10,921	-42.5	22	206	24.5
200	30	12,392	-53.3	22	202	26.4
175	30	13,240	-59.4	22	203	26.6
150	30	14,190	-65.7	24	203	24.3
125	30	15,285	-69.7		210	16.3
100	30	16,614	-68.9		145	3.9
80	30	17,962	-65.1		95	9.7
70	30	18,780	-62.6		103	14.2
60	30	19,737	-59.9		93	15.0
50	29	20,884	-56.6		97	17.9
40	29	22,307	-54.0		84	20.8
30	29	24,167	-51.1		86	26.0
25	28	25,358	-49.4		92	27.6
20	26	26,928	-47.5		89	27.4
15	26	28,744	-44.0		86	31.7
10	26	31,493	-38.8		87	39.6
7	19	33,964	-34.0		90	44.9
5						

SAN NICOLAS, CALIF. 3/
992 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	174	14.2	87	302	5.1
1000	31	103				
950	31	542	19.5	52	326	4.3
900	31	1,010	22.2	28	313	4.9
850	31	1,506	21.4	25	283	4.3
800	31	2,028	18.2	26	250	4.7
750	31	2,577	14.9	28	209	4.7
700	31	3,156	11.1	31	179	5.2
650	31	3,770	6.8	32	168	4.9
600	31	4,423	2.5	31	171	4.1
550	31	5,120	-2.1	27	180	3.7
500	31	5,870	-7.4	24	195	4.1
450	31	6,681	-13.3	23	198	6.6
400	31	7,567	-19.2	25	207	7.6
350	31	8,549	-25.7	26	223	10.7
300	31	9,647	-34.0	24	227	14.6
250	31	10,899	-43.1	24	228	18.3
200	31	12,369	-53.5	24	226	19.2
175	31	13,217	-59.3	24	225	20.2
150	31	14,170	-64.7		225	19.2
125	31	15,270	-69.0		234	13.2
100	31	16,602	-69.2		271	4.9
80	31	17,946	-65.6		84	3.7
70	31	18,764	-62.0		88	6.8
60	31	19,725	-59.0		97	8.9
50	31	20,874	-57.1		90	13.0
40	30	22,296	-54.4		88	19.0
30	29	24,152	-51.4		88	23.9
25	29	25,340	-49.9		91	25.1
20	28	26,803	-48.2		86	27.2
15	26	28,715	-45.2		87	30.9
10	24	31,448	-41.0		82	34.2
7	17	33,894	-36.1		88	37.1
5	6	36,294	-31.4			

SAN NICOLAS, CALIF. 5/
997 MB

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	174	12.0	71	324	7.0
1000	27	145				
950	27	578	13.3	43	329	8.5
900	27	1,031	10.6	42	315	8.0
850	27	1,504	8.1	37	315	7.8
800	27	2,002	5.8	35	304	8.5
750	27	2,528	3.6	34	301	11.7
700	27	3,085	.6	36	295	15.0
650	27	3,676	-2.9	29	285	16.9
600	27	4,305	-6.8	28	284	20.0
550	27	4,979	-10.9	27	283	23.1
500	27	5,705	-16.1	29	284	25.8
450	27	6,489	-21.5	29	283	28.7
400	27	7,348	-27.4	33	281	33.4
350	27	8,296	-34.3	31	278	38.1
300	27	9,356	-42.0	35	278	42.7
250	27	10,569	-49.9	35	279	44.5
200	27	12,000	-57.7	34	274	42.9
175	27	12,837	-60.7	33	277	42.9
150	27	13,790	-63.2		276	39.4
125	27	14,907	-65.0		274	34.4
100	27	16,260	-66.6		270	30.7
80	26	17,608	-65.4		271	19.8
70	26	18,423	-63.9		272	16.5
60	25	19,366	-63.3		283	10.3
50	25	20,490	-61.6		277	9.3
40	25	21,877	-60.7		283	10.9
30	25	23,677	-58.7		284	8.7
25	25	24,924	-57.7		274	12.8
20	24	26,246	-55.0		272	14.8
15	24	28,102	-51.3		268	29.5
10	20	30,754	-48.3		265	43.9
7	9	33,160	-43.5			
5						

1/ June 1964
2/ July 1964
3/ August 1964
4/ October 1964
5/ November 1964

Also see reference notes with current data.

SOLAR RADIATION DATA

Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
JANUARY 1964																																
BARROW ALASKA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	4	5	2	4	6	1
CORVALLIS OREGON	13	132	105	186	37	32	112	147	75	111	113	86	41	178	31	105	44	85	---	49	61	72	142	172	25	198	161	122	206	98	130	102
EPPLEY, NEWPORT R.I.	46	175	156	199	177	131	67	218	47	123	234	154	39	223	246	227	227	131	224	106	66	225	239	186	25	264	258	44	---	200	249	164
INYOKERN CALIFORNIA	344	318	353	274	358	328	336	354	371	295	363	366	368	283	348	348	367	338	236	380	328	395	397	379	336	286	401	407	401	415	423	352
PAGE ARIZONA	248	244	261	232	267	228	218	270	264	268	274	259	281	234	277	273	273	80	270	280	230	250	211	309	298	286	281	303	308	300	311	261
SEATTLE WASH. UNIV.	74	54	39	122	11	48	100	26	57	33	109	111	13	56	17	117	72	54	19	83	78	35	107	18	21	57	87	102	133	65	126	66
FEBRUARY 1964																																
CORVALLIS OREGON	145	122	71	91	250	287	243	168	205	188	189	79	172	156	160	124	128	233	354	357	339	379	384	367	409	391	217	148	140			224
FLAMING GORGE UTAH	238	124	300	341	213	337	332	---	---	344	154	261	185	254	345	306	271	300	123	398	341	204	413	333	378	360	449	466	388			302
INYOKERN CALIFORNIA	416	432	438	437	447	463	459	463	468	464	400	490	444	482	455	504	513	515	527	543	543	520	527	---	418	579	580	571	528			487
PAGE ARIZONA	316	318	329	329	329	332	340	345	334	347	151	322	329	393	364	373	395	398	381	412	418	385	425	428	253	446	445	453	437			363
MARCH 1964																																
ANNETTE ALASKA	128	75	154	77	238	240	37	113	150	56	187	249	36	183	52	30	175	227	42	203	128	314	305	108	148	86	33	47	130	21	303	138
FAIRBANKS ALASKA	149	93	172	130	123	196	115	120	---	225	246	215	248	271	275	174	260	294	289	298	293	132	---	332	348	296	269	343	364	339	335	239
INYOKERN CALIFORNIA	470	519	597	595	561	627	373	634	583	625	601	528	648	657	540	681	692	674	689	688	604	421	661	726	728	711	728	722	664	611	647	619
MATANUSKA ALASKA	197	76	205	96	115	62	114	203	260	270	280	287	297	306	281	160	320	332	342	289	329	69	395	375	133	256	254	---	---	308	416	242
SALT LAKE CITY UTAH	191	230	526	221	270	352	560	516	225	448	468	118	303	577	415	590	558	248	480	561	241	83	472	423	464	259	270	654	637	624	503	403
APRIL 1964																																
CORVALLIS OREGON	416	358	582	282	308	489	549	512	153	257	433	455	619	625	488	408	670	637	673	257	446	431	376	451	227	412	344	640	209	205		430
INYOKERN CALIFORNIA	596	681	473	738	758	747	768	762	759	783	777	783	792	806	756	---	---	---	---	---	---	795	866	832	850	845	763	407	817	836		750
SALT LAKE CITY UTAH	315	342	639	649	338	221	357	491	669	166	525	682	711	715	705	268	509	191	152	627	353	712	205	443	354	157	780	772	745	312		470
MAY 1964																																
CORVALLIS OREGON	559	575	392	323	527	591	257	---	310	412	711	231	558	523	517	480	525	582	579	498	645	383	796	742	801	777	668	490	699	707	655	550
FAIRBANKS ALASKA	574	600	277	275	488	619	591	518	619	641	548	289	302	342	423	366	256	359	206	327	636	422	497	251	445	397	---	748	780	786	719	477
FLAMING GORGE UTAH	576	231	547	648	332	561	423	372	586	544	778	702	659	736	745	684	747	753	727	707	721	587	636	589	405	448	506	691	313	204	739	577
INYOKERN CALIFORNIA	604	887	899	857	661	782	785	838	886	872	862	863	732	894	900	910	885	879	874	899	887	880	754	596	463	913	930	917	899	894	900	832
MAUNA LOA OB.HAWAII	827	786	777	789	683	645	564	846	842	844	860	855	686	618	817	841	670	761	585	501	535	632	482	343	231	289	757	845	839	722	805	686
PAGE ARIZONA	572	612	671	385	316	372	356	656	674	637	663	676	549	672	678	593	695	684	672	646	659	688	632	623	451	519	673	710	686	667	695	606
JUNE 1964																																
EPPLEY, NEWPORT R.I.	261	292	671	618	731	616	236	194	381	255	732	724	192	686	392	733	752	733	393	467	685	244	646	190	690	715	559	729	683	594		526
INYOKERN CALIFORNIA	889	---	866	849	839	896	---	924	925	893	910	908	888	885	713	882	914	917	894	---	909	898	924	915	902	899	927	952	935	935		896
JULY 1964																																
ARGONNE NAT. LAB.	587	680	323	759	656	186	138	364	459	590	381	589	332	487	603	610	652	237	899	623	571	636	415	535	369	672	544	633	696	475	259	515
CORVALLIS OREGON	356	425	771	---	---	787	687	333	787	772	749	740	758	158	535	657	699	440	772	421	622	588	772	755	762	755	736	652	513	311	279	606
FLAMING GORGE UTAH	717	715	720	601	730	709	705	651	411	705	670	652	508	416	468	694	660	---	645	---	---	345	272	687	690	661	632	562	562	582	547	604
INYOKERN CALIFORNIA	928	945	929	946	938	926	909	912	901	833	760	882	829	923	894	889	889	888	905	906	877	---	795	806	774	721	670	843	857	849	871	866
MATANUSKA ALASKA	---	335	363	506	373	290	562	447	506	214	182	356	559	633	618	651	623	433	555	626	609	230	221	374	501	528	381	438	512	135	275	434

Note. --Langley is the unit used to denote one gram calorie per square centimeter.
Values with an asterisk are interpolated.

SOLAR RADIATION DATA

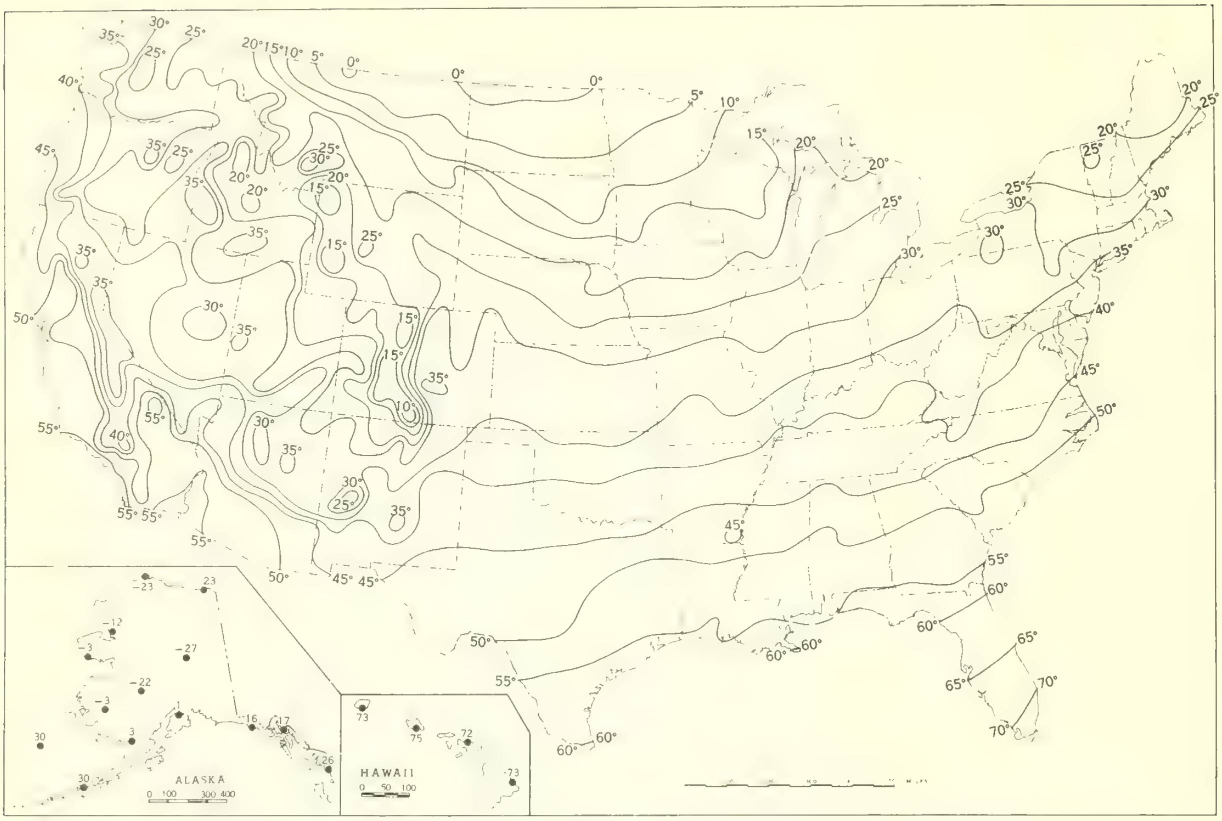
Daily totals and monthly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

DELAYED DATA

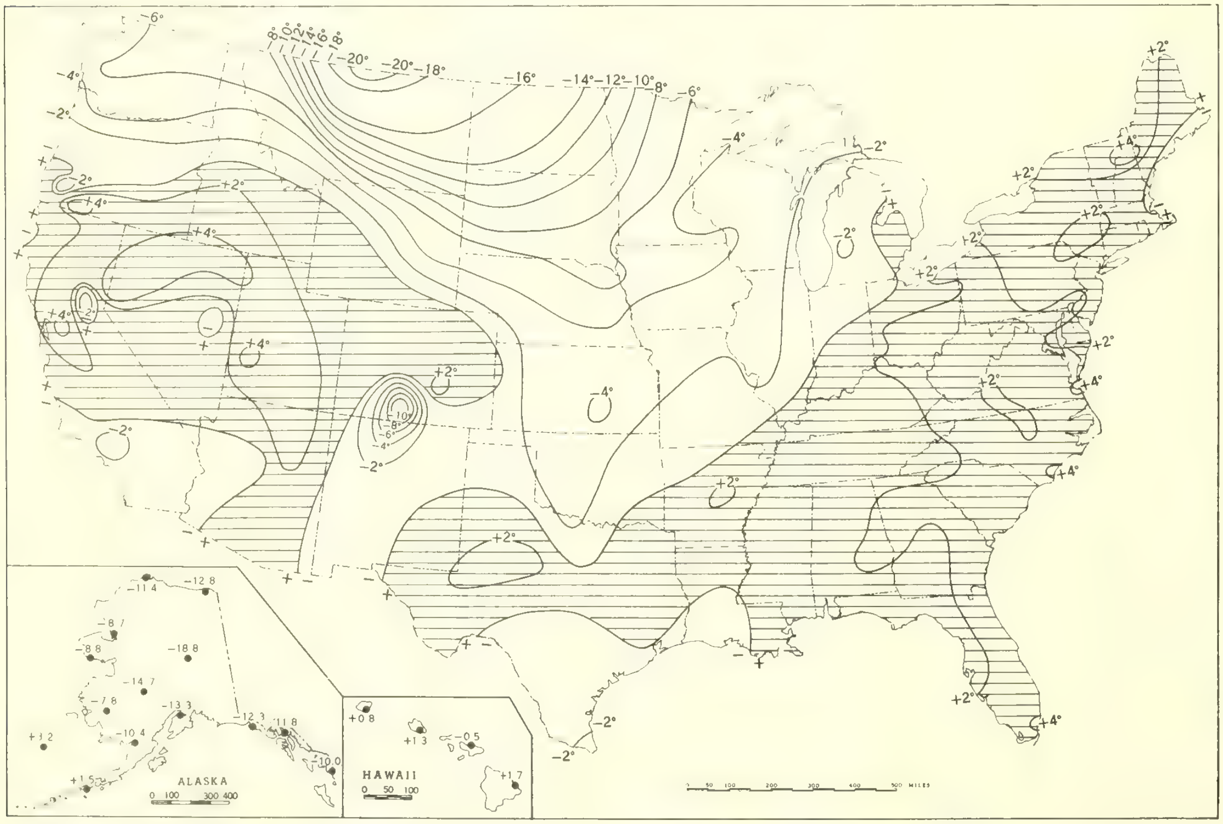
Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Avg.
JULY 1964																																
PAGE ARIZONA	696	686	690	666	675	675	657	594	538	633	607	645	620	394	477	604	626	643	652	582	392	504	538	582	612	539	524	574	---	383	340	578
AUGUST 1964																																
FLAMING GORGE UTAH	583	352	440	---	---	652	345	478	387	640	631	381	554	433	397	319	620	581	428	605	632	629	592	602	618	446	625	340	622	599	579	521
LOS ANGELES CALIF. U	650	659	675	659	628	637	677	636	617	607	594	563	511	468	548	688	654	654	648	668	632	658	650	549	586	547	432	446	517	448	324	588
MATANUSKA ALASKA	150	389	118	284	416	426	392	417	286	482	201	---	166	502	267	244	128	128	140	127	389	186	146	310	435	447	241	191	436	81	---	280
PAGE ARIZONA	495	355	397	581	595	599	562	565	587	512	400	345	371	559	483	566	594	477	505	603	595	603	591	573	529	435	563	561*	512	567	555	524*
SEPTEMBER 1964																																
FLAMING GORGE UTAH	590	534	602	589	582	449	569	538	523	557	555	---	445	276	457	527	529	228	516	493	480	512	506	498	498	499	494	376	325	---		491
LAKELAND FLORIDA	470	436	510	473	422	630	624	513	191	145	123	298	551	332	261	361	563	523	552	562	459	612	597	---	492	521	403	478	466	488		450
MATANUSKA ALASKA	411	413	381	249	360	407	393	257	390	332	327	309	176	263	177	143	185	122	258	196	163	114	209	194	66	100	109	173	143	87		237
PAGE ARIZONA	570	563	569	557	504	494	529	448	520	522	530	521	247	355	440	498	484	370	474	493	271	476	460	364	432	436	435	436	445	448		463
SEATTLE WASH. UNIV.	109	207	496	529	213	244	320	303	478	485	491	470	347	251	273	296	282	240	89	274	98	194	370	389	213	391	376	86	54	253		294
OCTOBER 1964																																
BARROW ALASKA	132	36	---	---	---	---	---	---	---	---	---	---	---	17	28	53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FAIRBANKS ALASKA	30	90	99	197	95	110	30	27	37	57	150	86	100	49	18	21	24	34	96	32	47	40	91	19	120	89	25	41	31	20	40	63
INYOKERN CALIFORNIA	574	571	553	546	547	517	448	537	548	533	525	513	469	340	484	474	464	485	500	493	481	469	455	449	423	451	419	165	409	433	429	474
LOS ANGELES CALIF. U	453	475	478	476	426	385	440	445	449	274	461	436	324	352	191	353	347	409	431	443	403	361	88	254	198	329	223	164	394	396	385	363
NOVEMBER 1964																																
EPPLEY, NEWPORT R.I.	307	286	235	284	218	134	259	228	265	236	52	127	131	269	237	70	254	259	63	58	227	241	233	207	151	69	223	103	82	90		187
FLAMING GORGE UTAH	161	---	---	---	307	---	302	287	292	---	240	---	80	184	225	136	189	119	273	281	---	---	208	126	---	200	240	207	104	231		209
GAINESVILLE FLORIDA	---	---	---	---	---	---	---	---	---	---	432	452	316	320	384	397	382	365	278	264	343	---	186	268	335	435	223	184	442	379		---
PAGE ARIZONA	291	285	346	340	338	305	317	322	226	167	345	282	193	292	114	303	308	252	284	280	274	243	272	230	259	182	246	253	249	254		268
SAN ANTONIO TEXAS	299	328	213	47	330	437	434	428	413	385	312	305	289	182	107	209	202	87	252	190	363	272	371	395	392	329	185	382	367	387		296
SEATTLE WASH. UNIV.	138	207	31	79	103	141	175	44	31	37	164	62	31	170	175	187	51	40	40	42	139	39	34	21	39	53	34	110	38	35		83
DECEMBER 1964																																
FLAMING GORGE UTAH	107	---	249	251	67	206	277	246	139	202	241	252	264	241	259	254	256	50	83	179	178	224	178	196	203	204	194	212	247	249	161	202
PAGE ARIZONA	189	---	126	223	149	228	261	111	125	231	90	245	242	173	230	149	249	241	131	197	94	107	27	95	66	211	62	105	271	241	228	170

U Indicates Urban sites.

Chart I. A. Average Temperature (°F.) at Surface, December 1964.



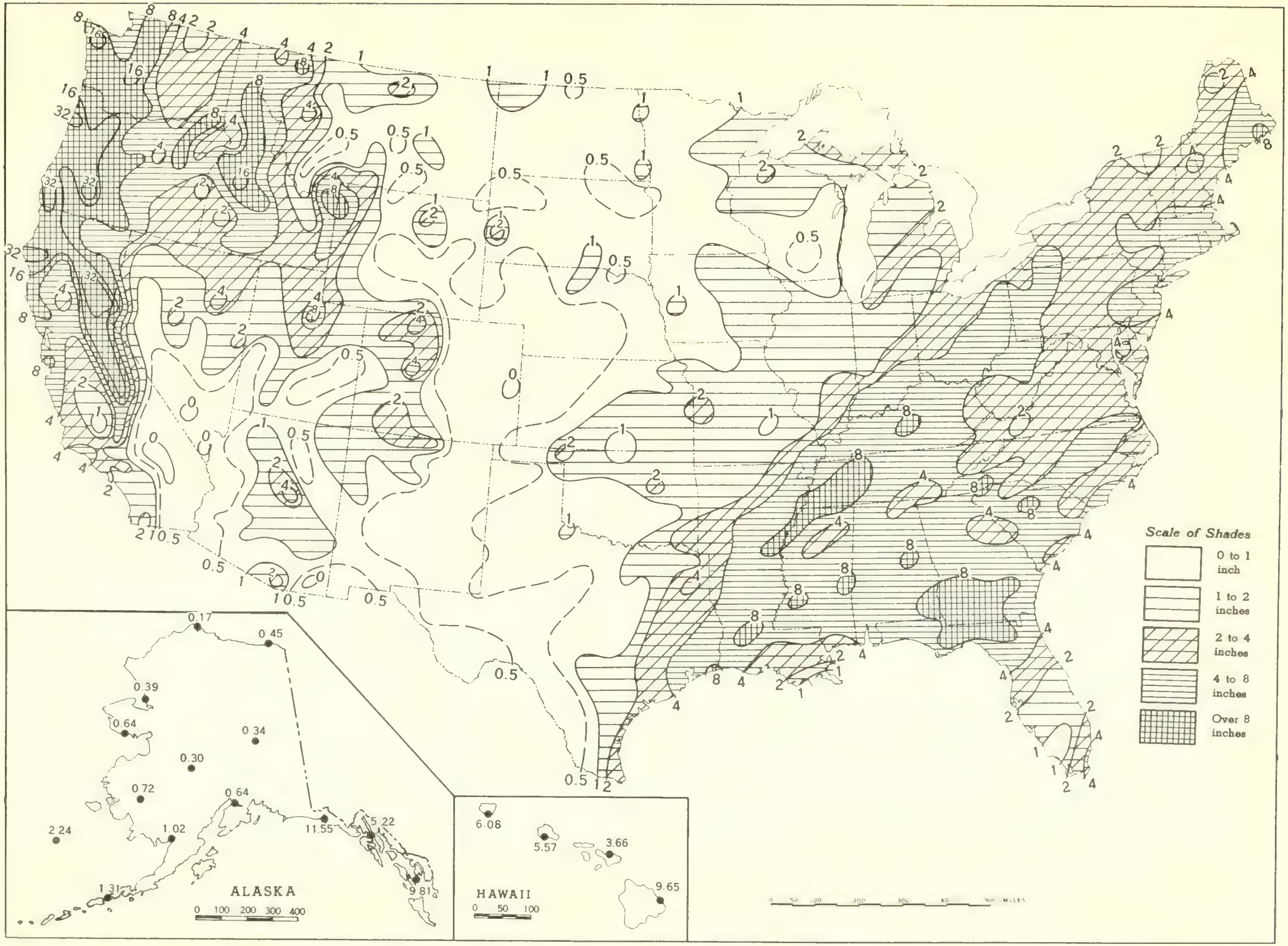
B. Departure of Average Temperature from Normal (°F.), December 1964.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

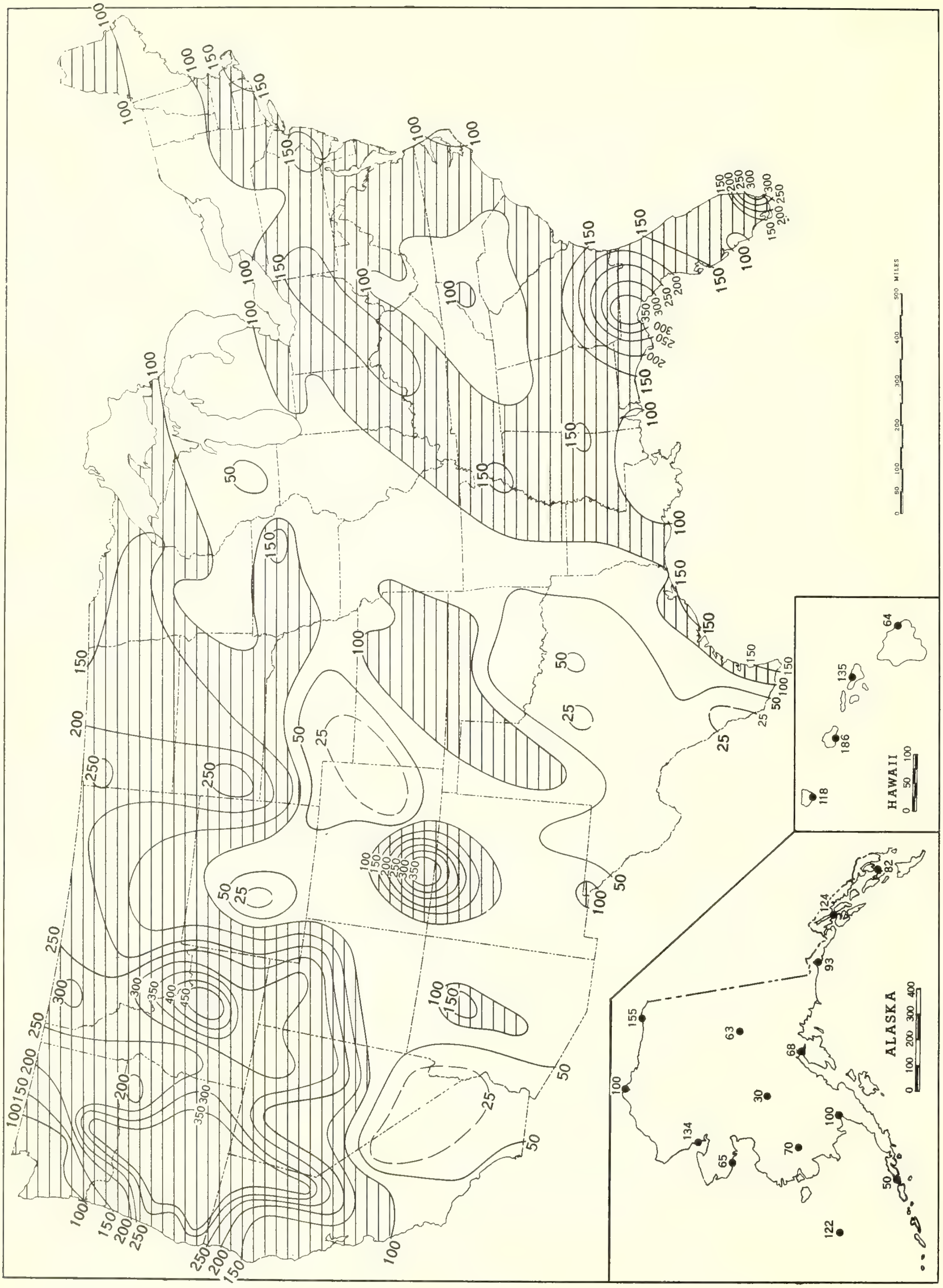
B. Departures from normal are based on the 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), December 1964.



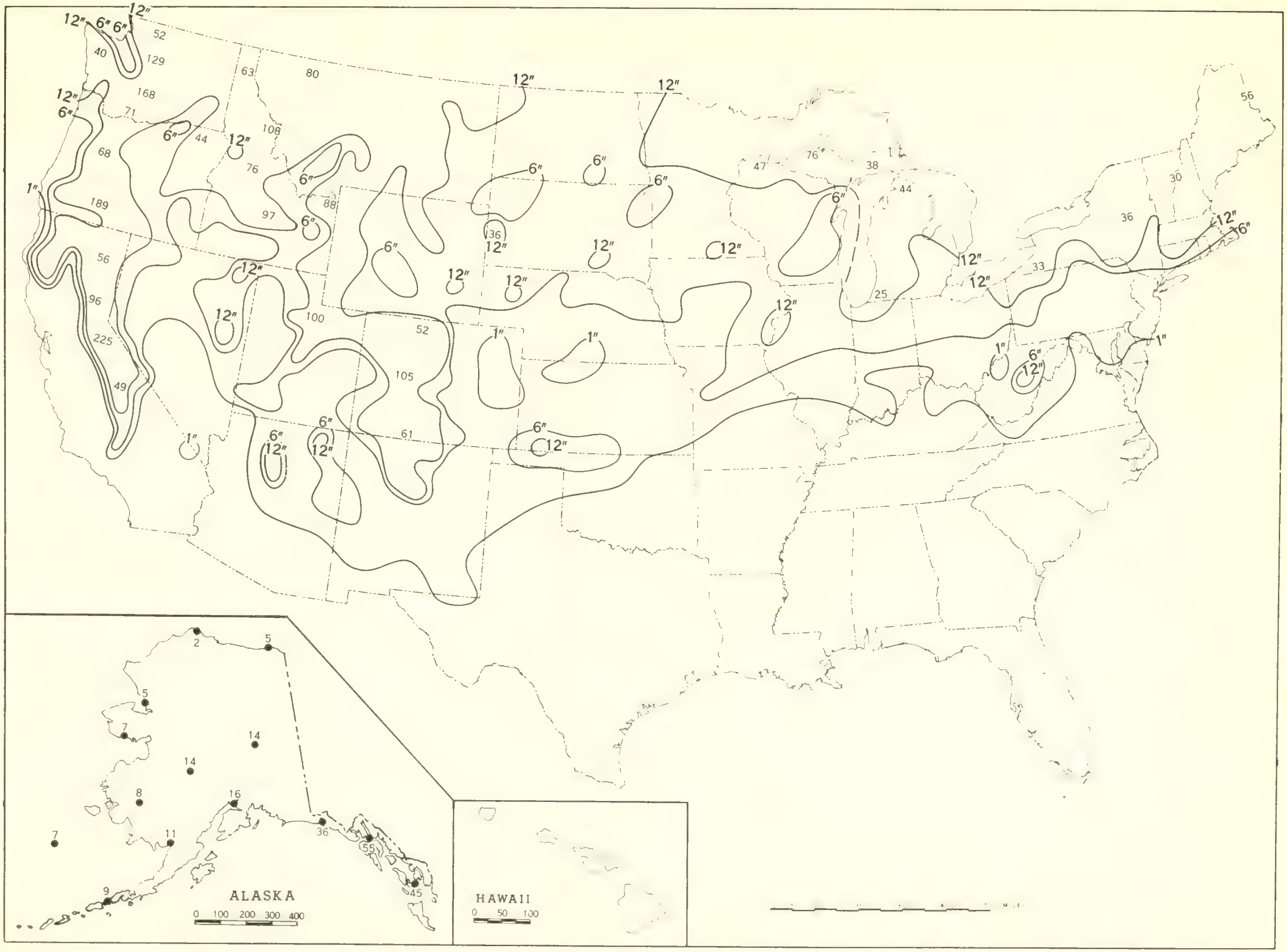
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, December 1964.



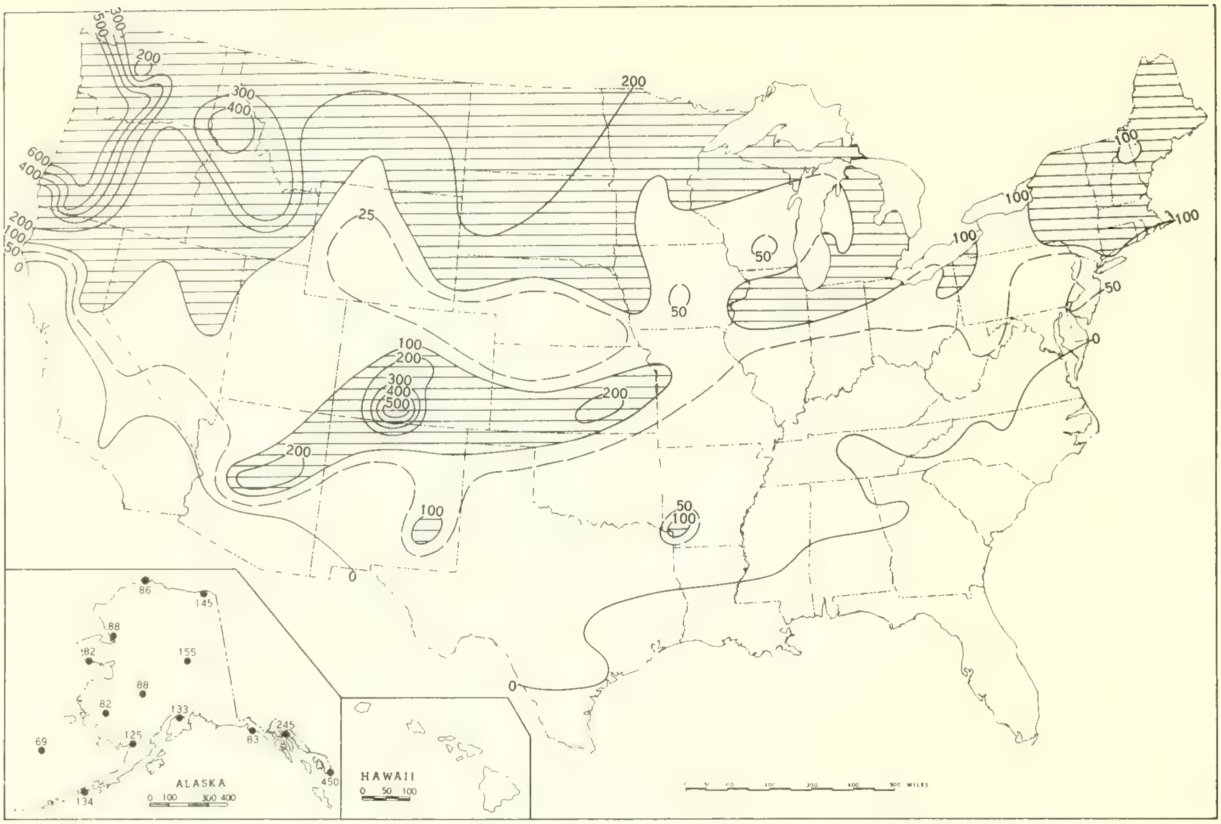
Normal monthly precipitation amounts are computed from 30-yr. normals (1931-60) for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), December 1964.

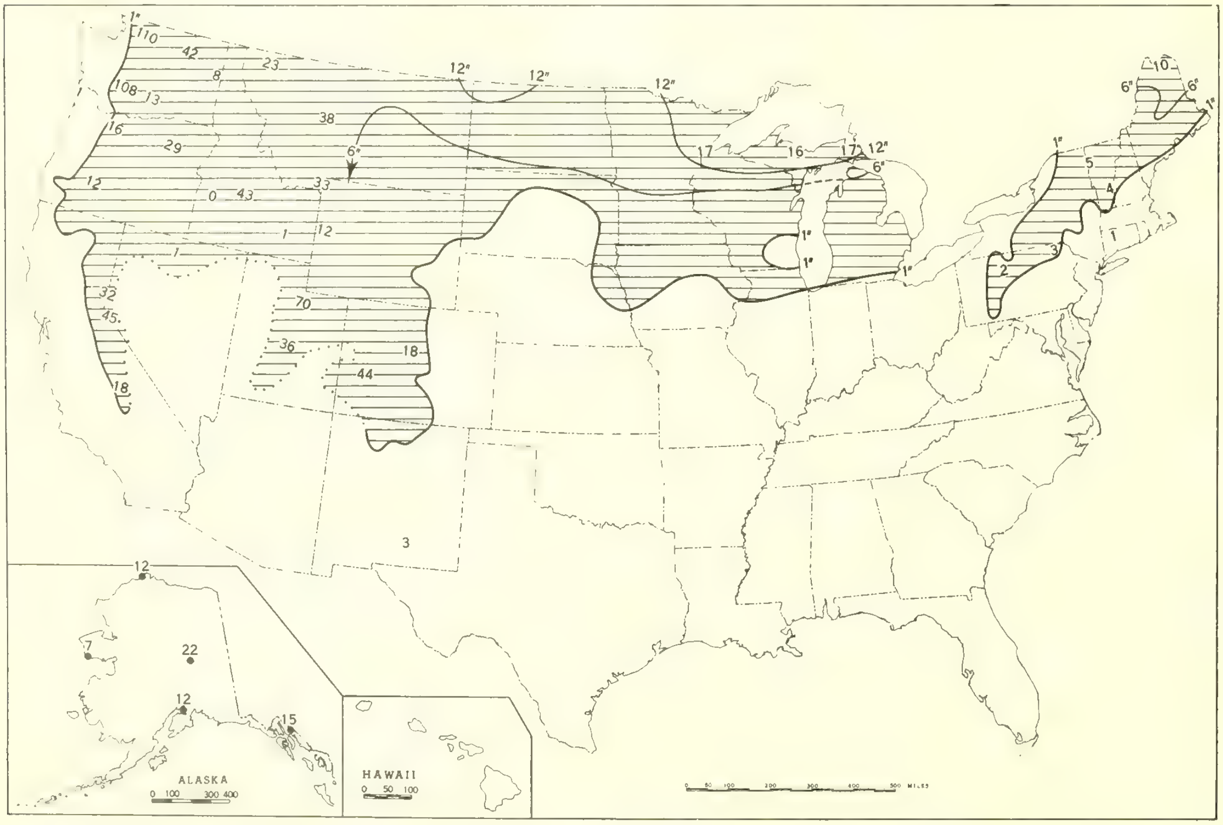


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, December 1964.

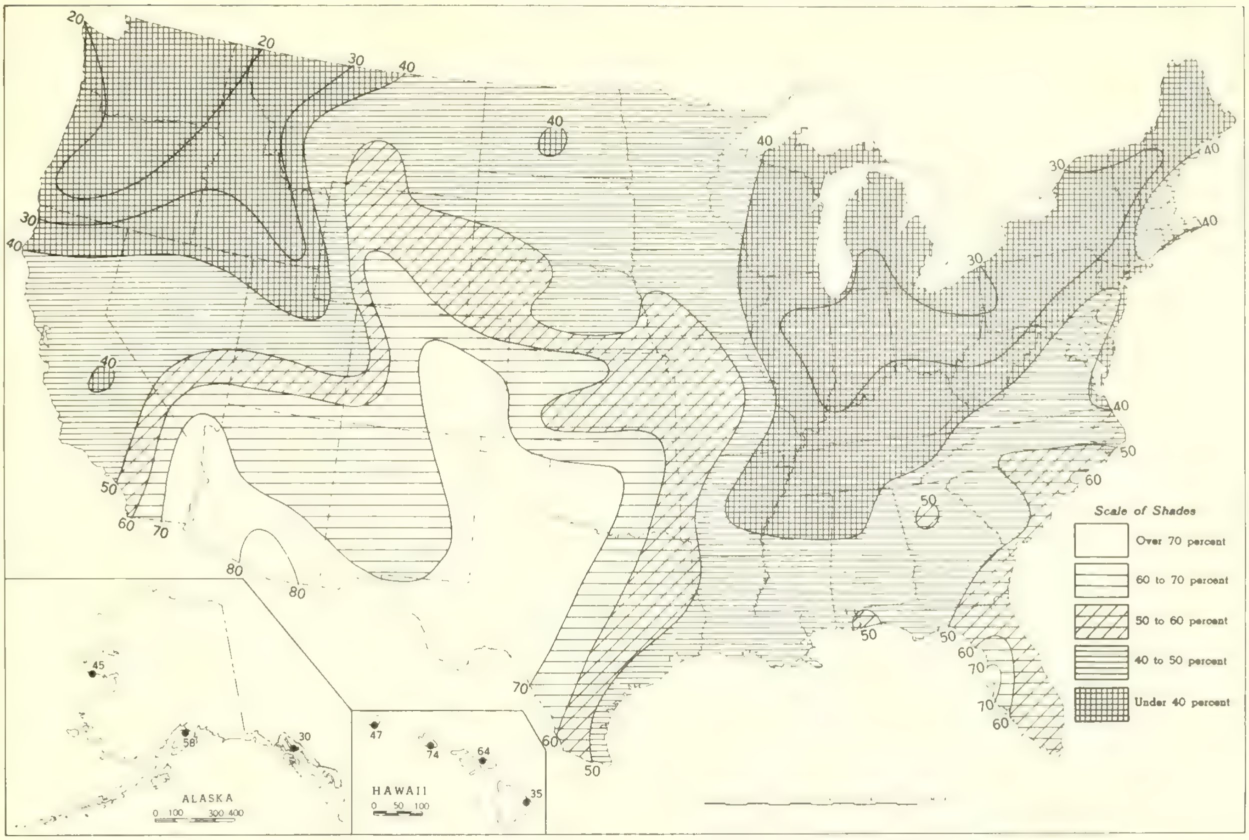


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., December 28, 1964

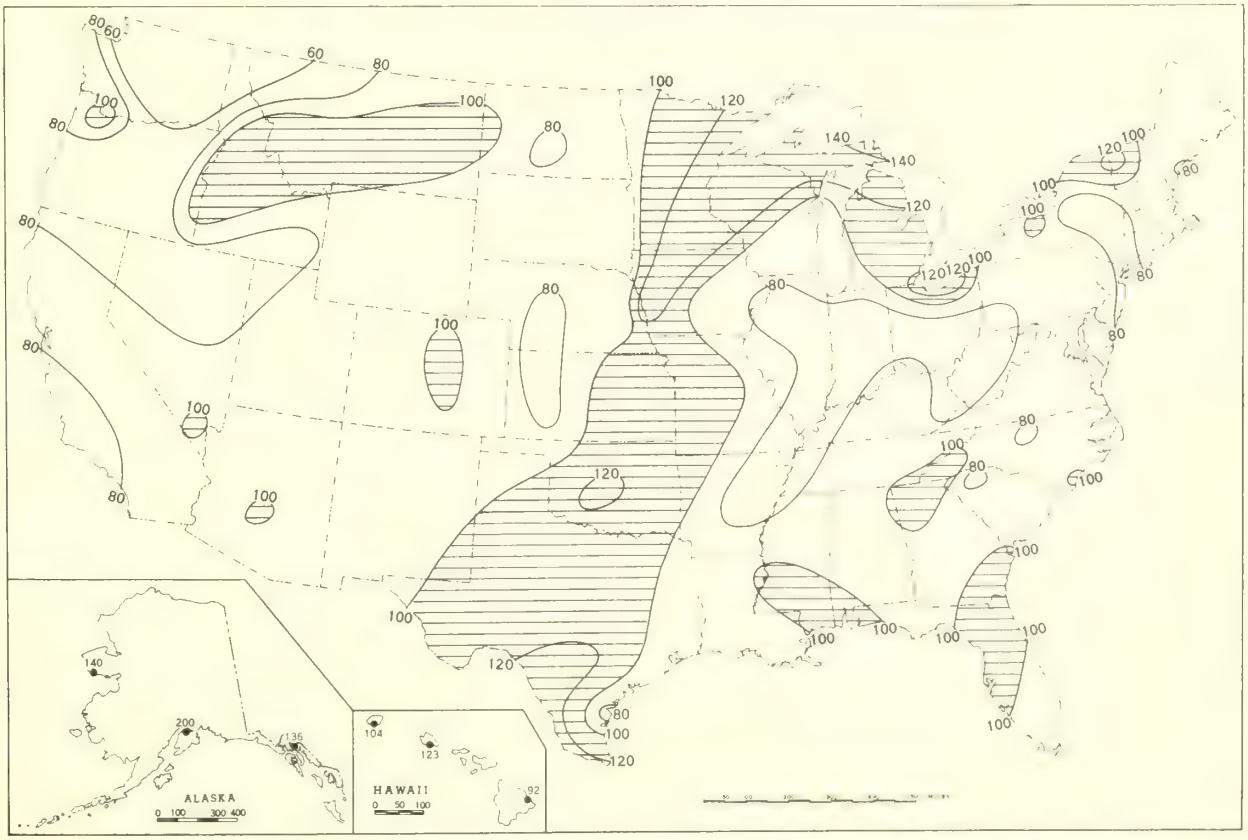


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a. m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, December 1964.

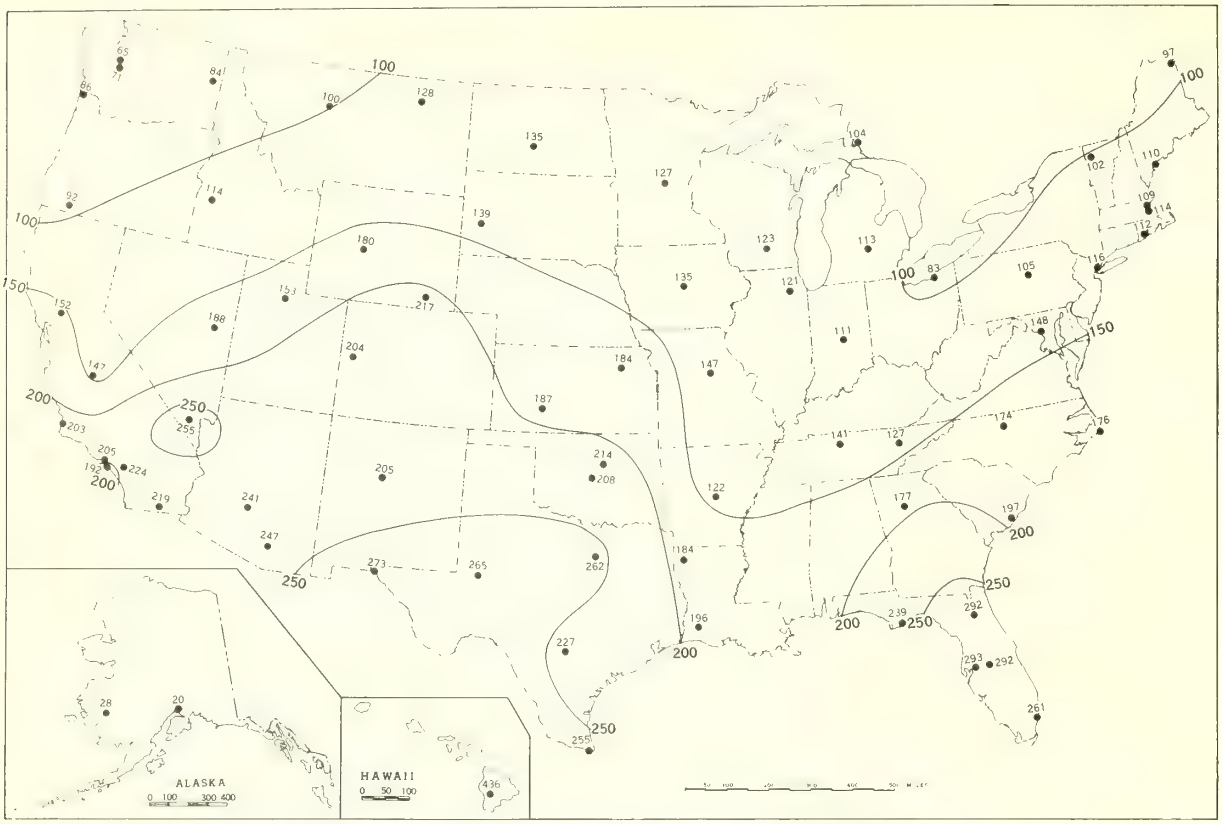


B. Percentage of Mean Monthly Sunshine, December 1964.

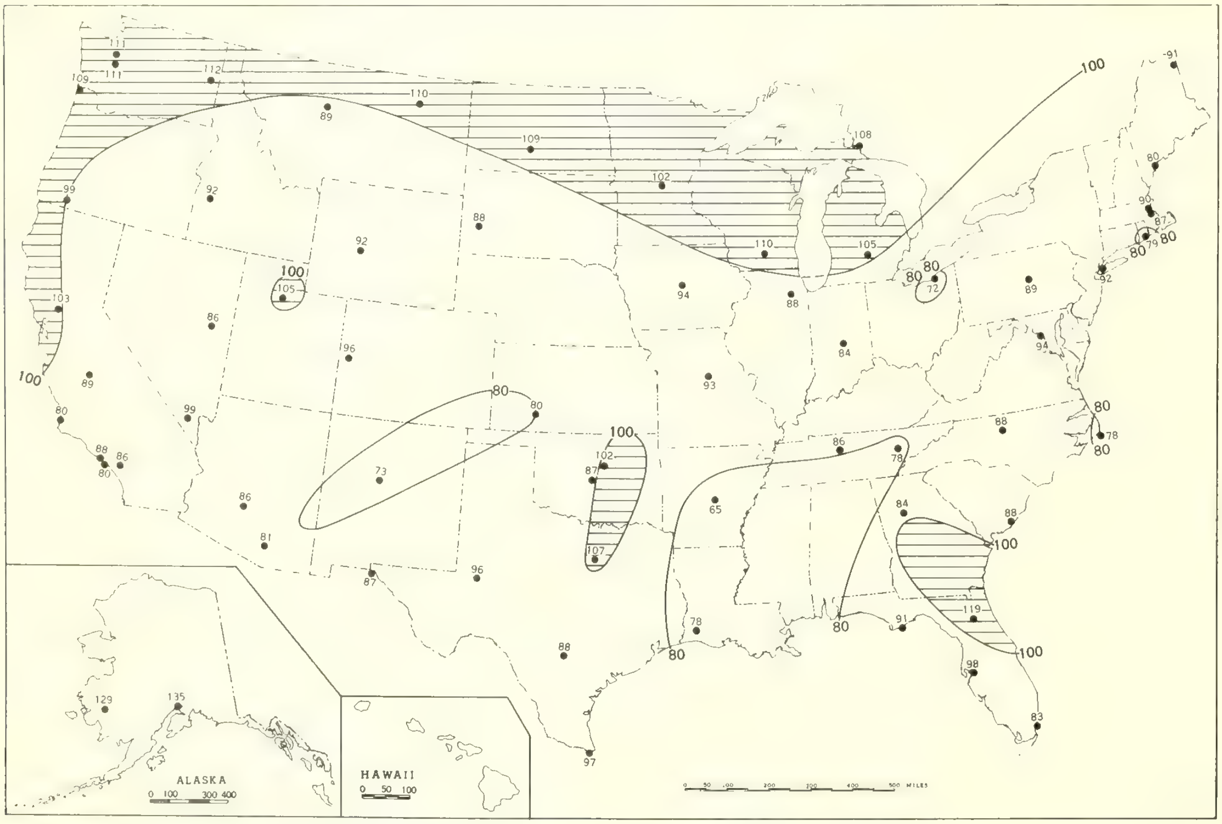


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, December 1964.

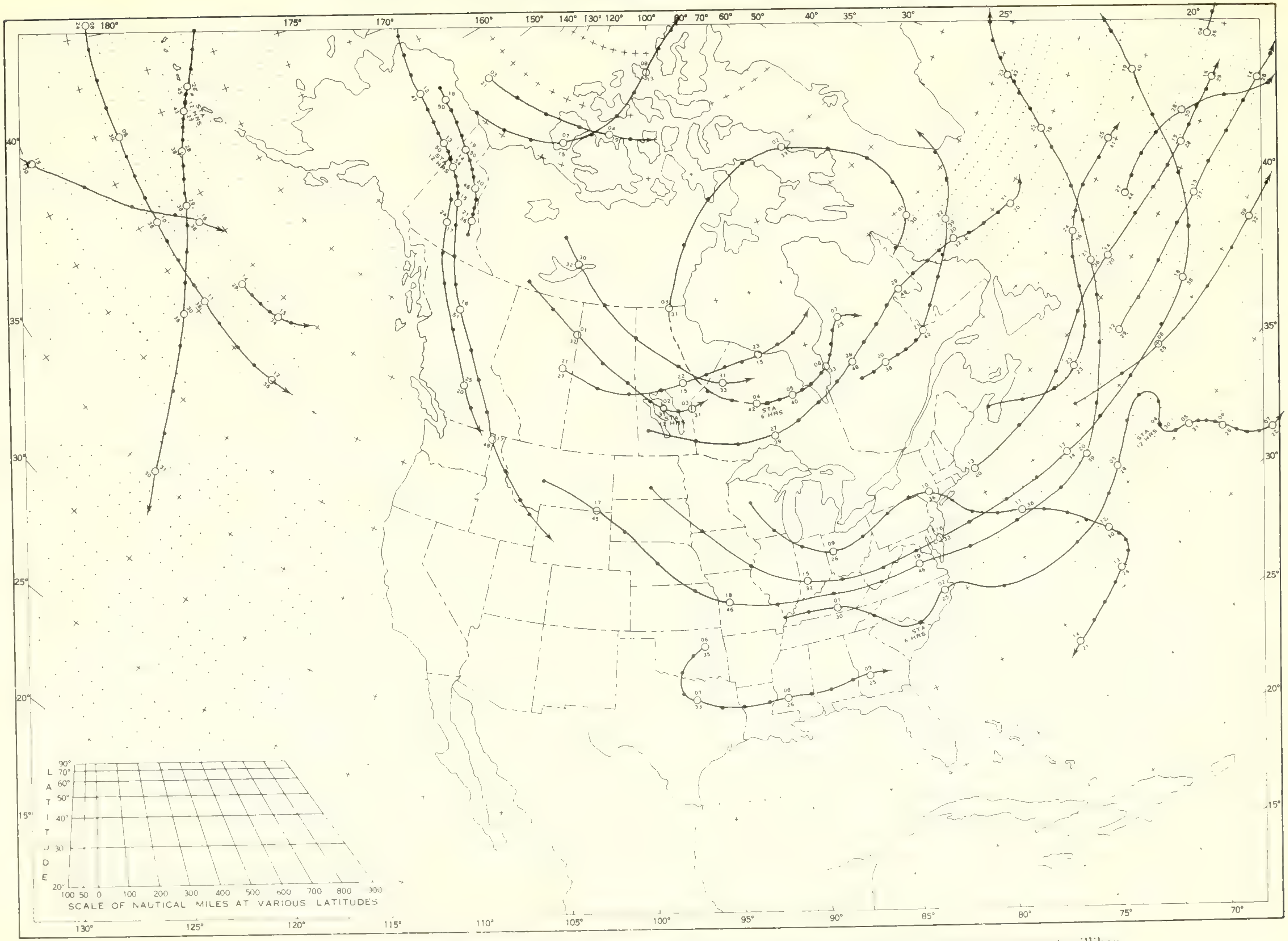


B. Percentage of Mean Daily Solar Radiation, December 1964.



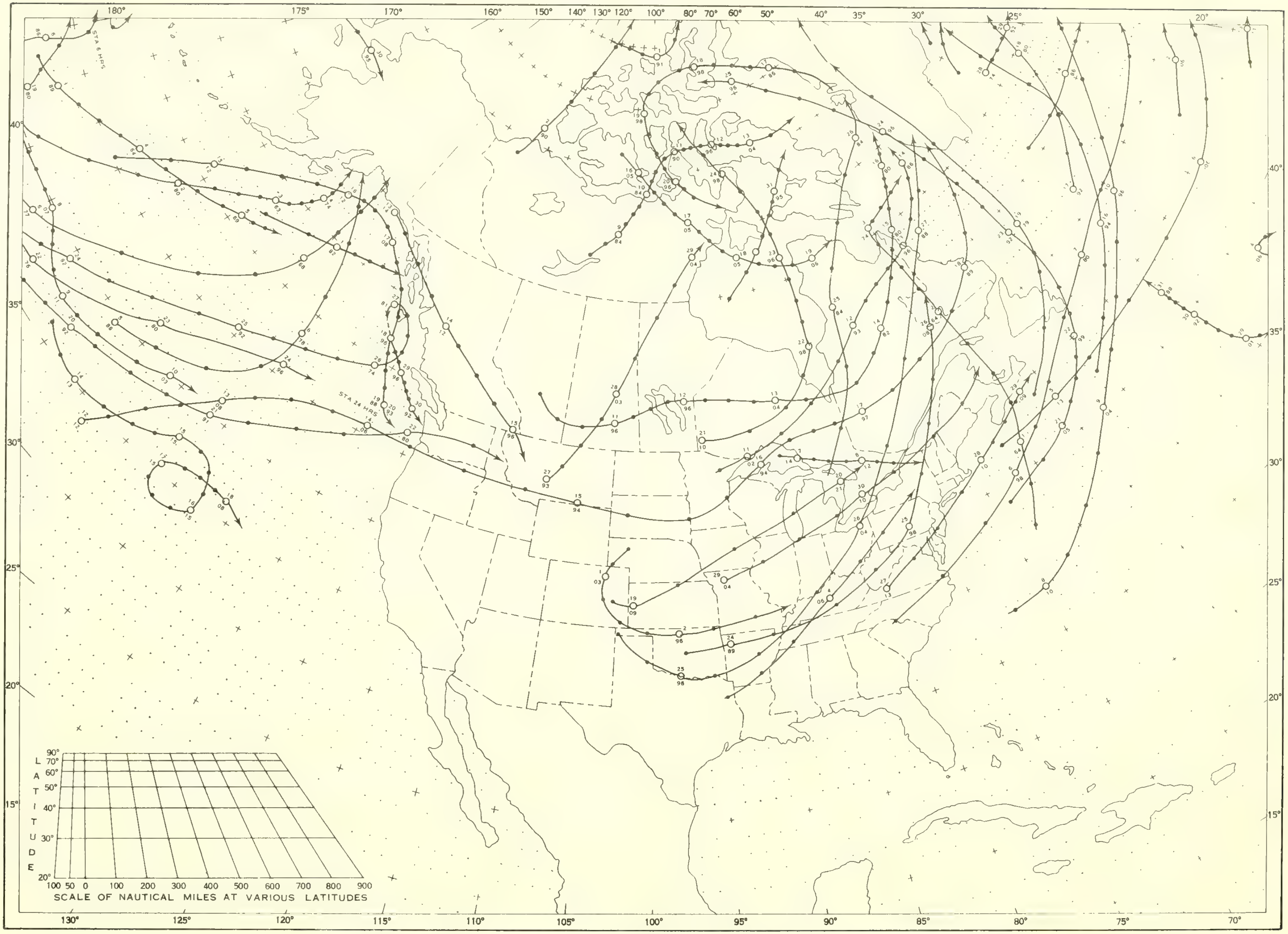
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956. B. Percentage of the mean based on at least 5 years of record during the period 1950-60, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, December 1964.



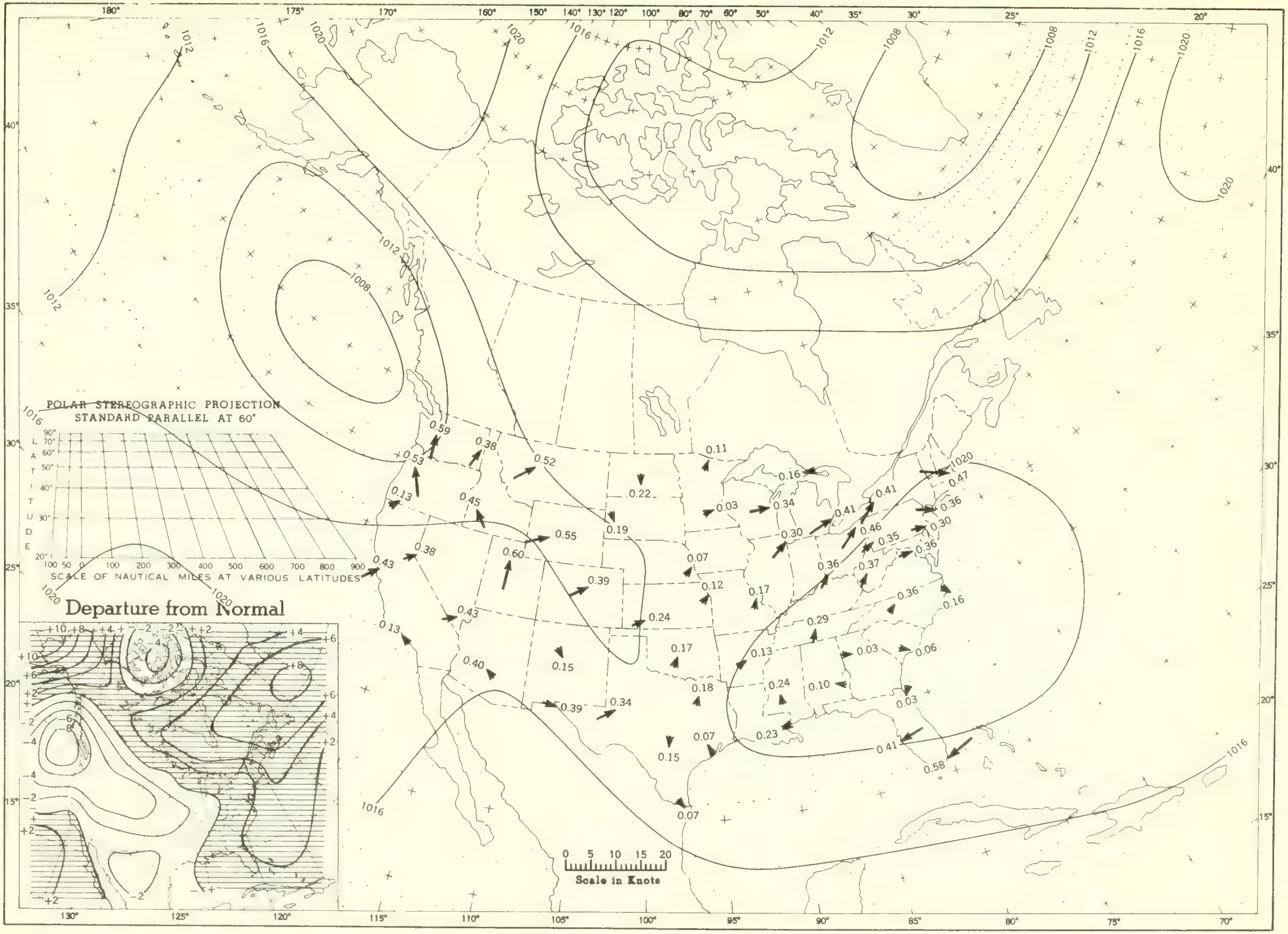
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, December 1964.



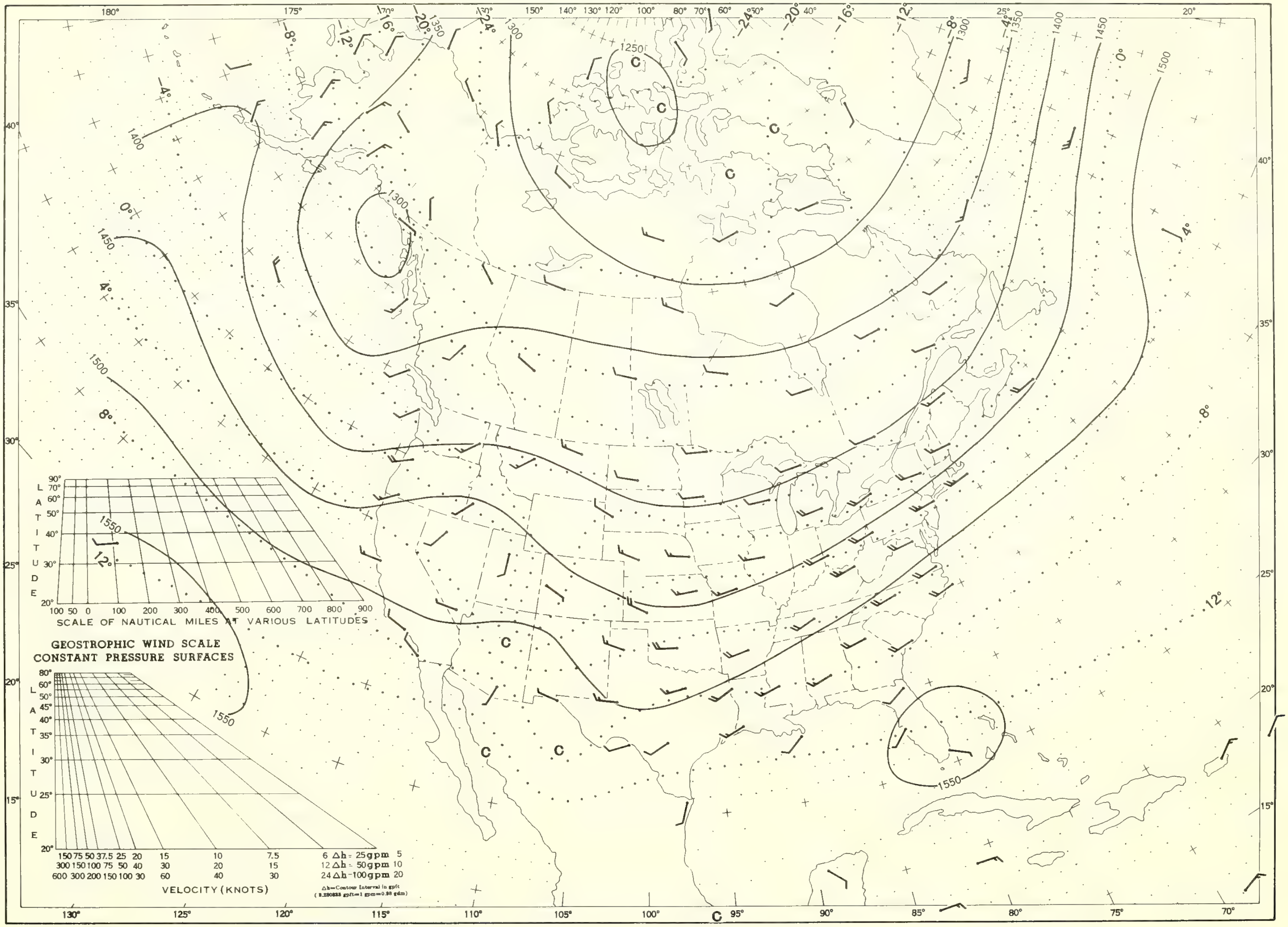
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Resultant Surface Wind, December 1964. Inset: Departure of Average Pressure (mb.) from Normal, December 1964.



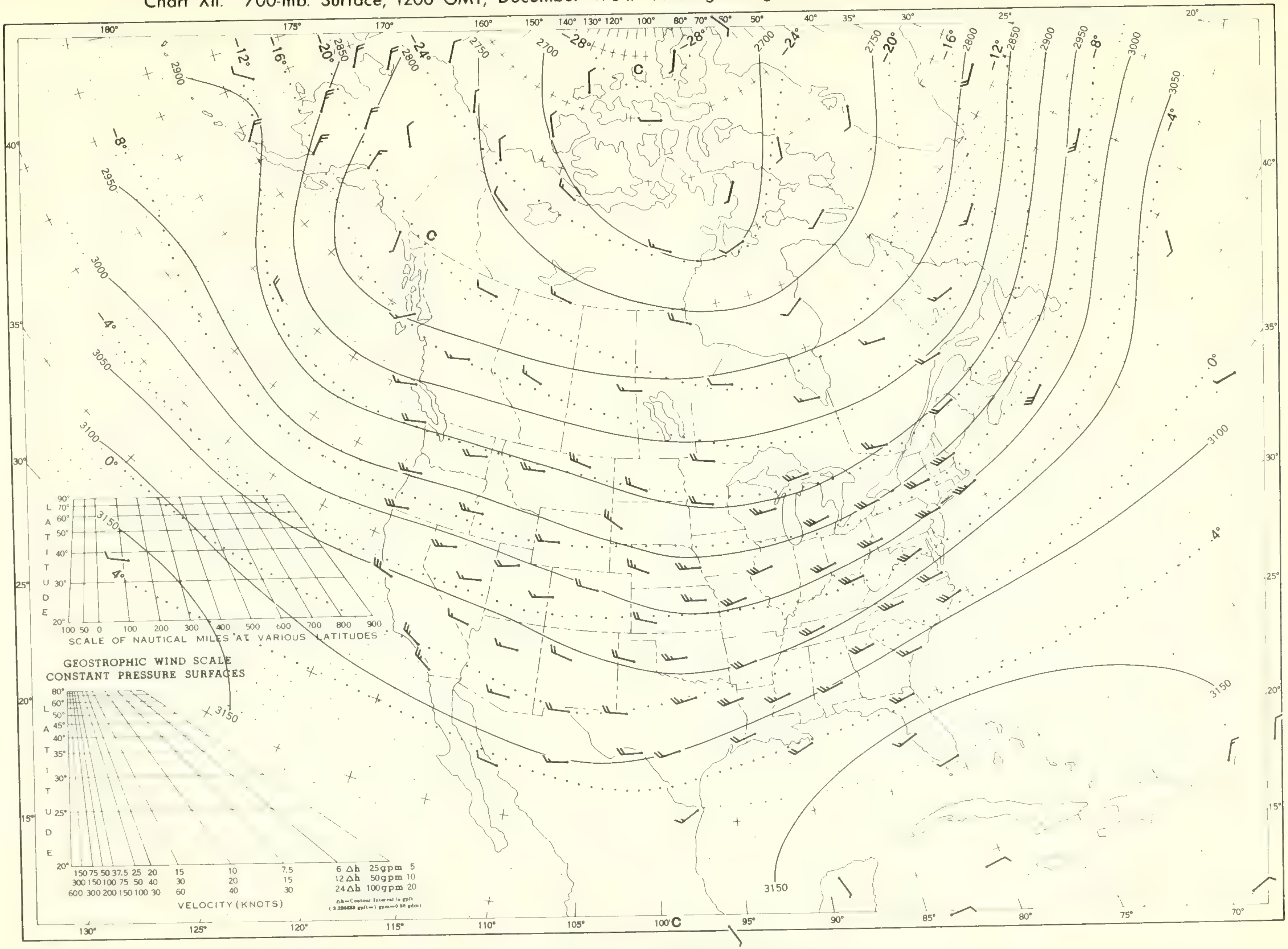
Average sea level pressures are obtained from the averages of 24 hourly readings. Resultant wind directions and speeds are shown by arrows. Constancy ratios (resultant speed ÷ average speed) are shown to two decimal places. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid over the oceans.

Chart XI. 850-mb. Surface, 1200 GMT, December 1964. Average Height and Temperature, and Resultant Winds.



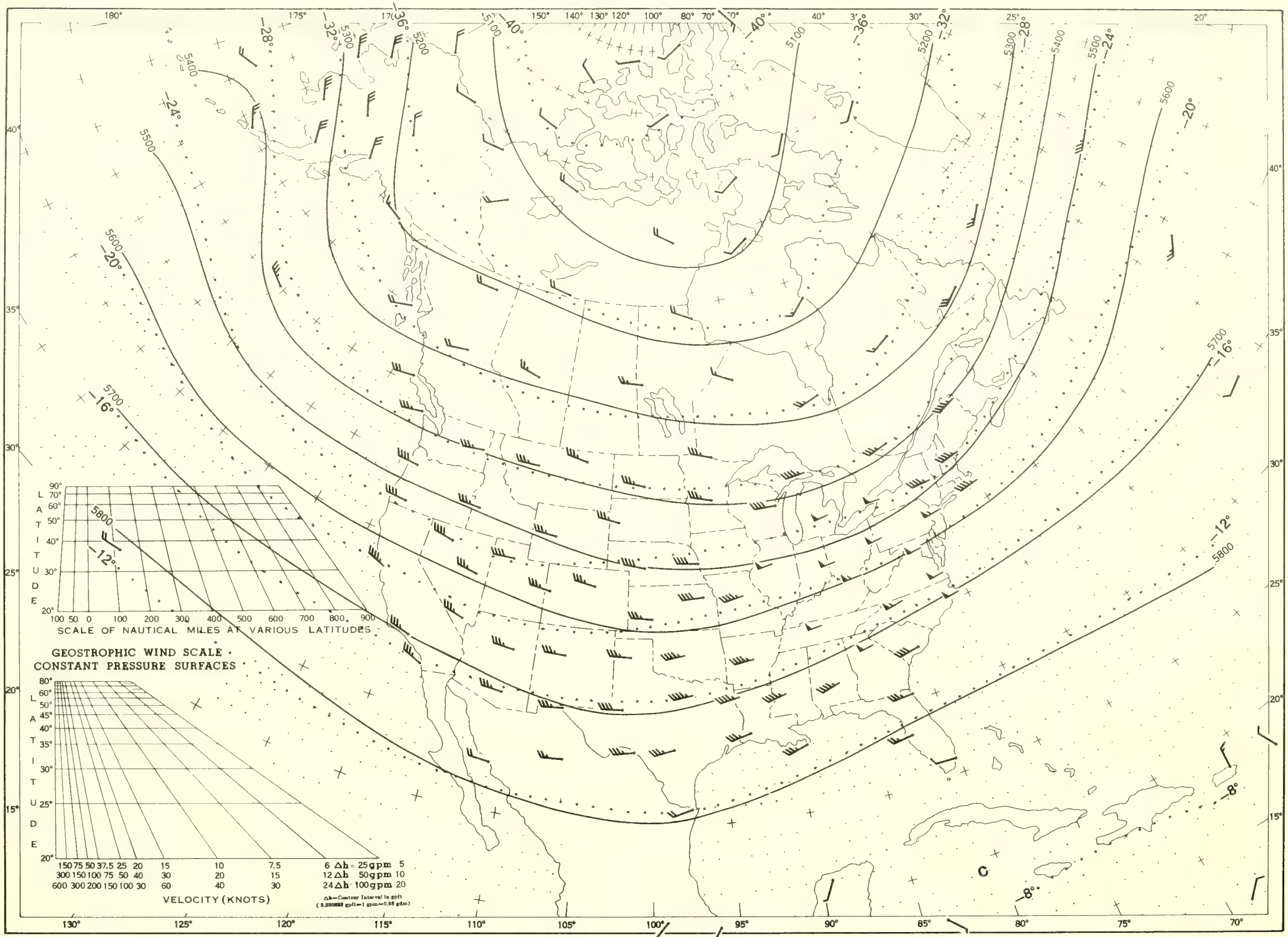
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, December 1964. Average Height and Temperature, and Resultant Winds.



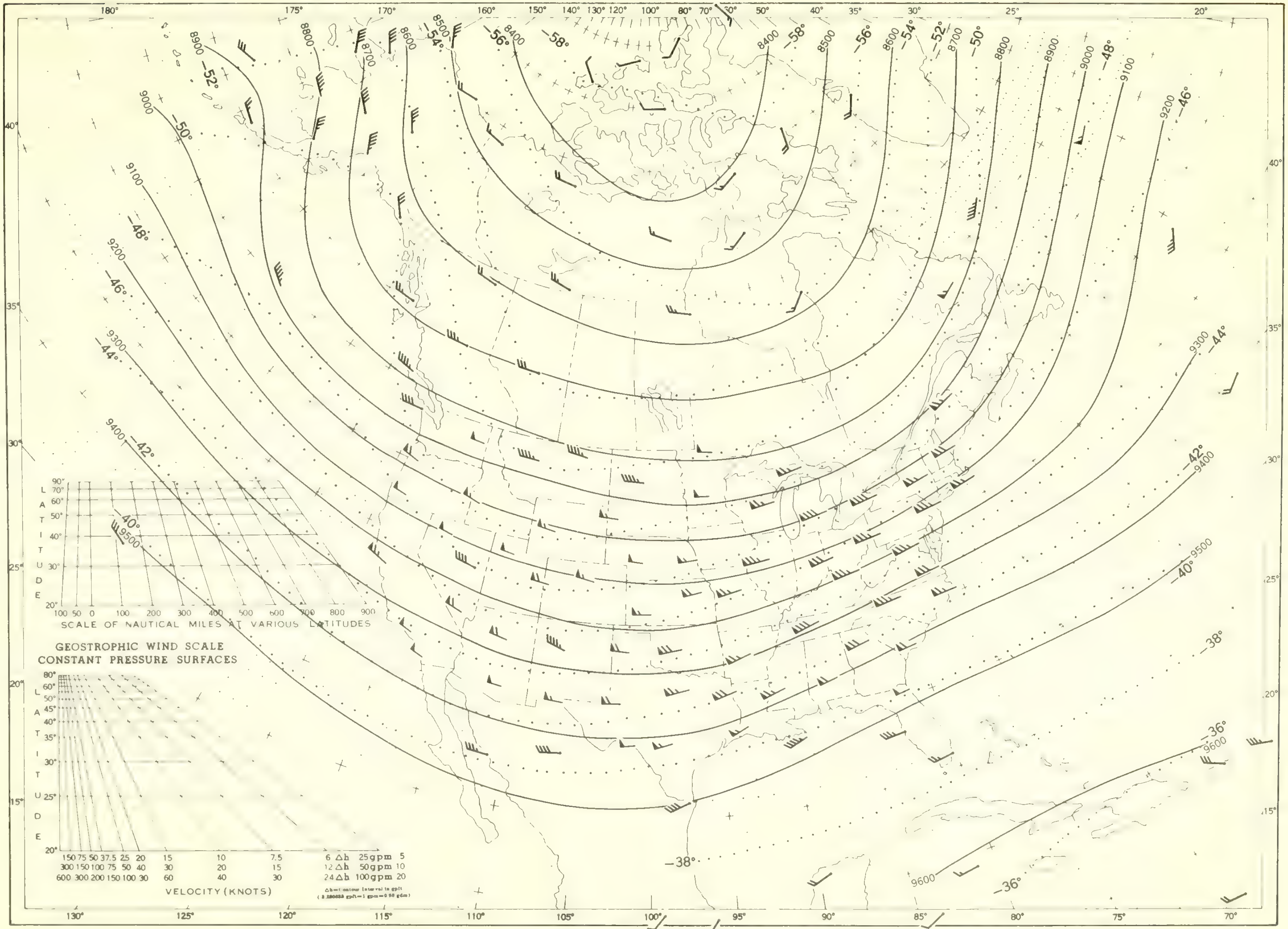
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, December 1964. Average Height and Temperature, and Resultant Winds.



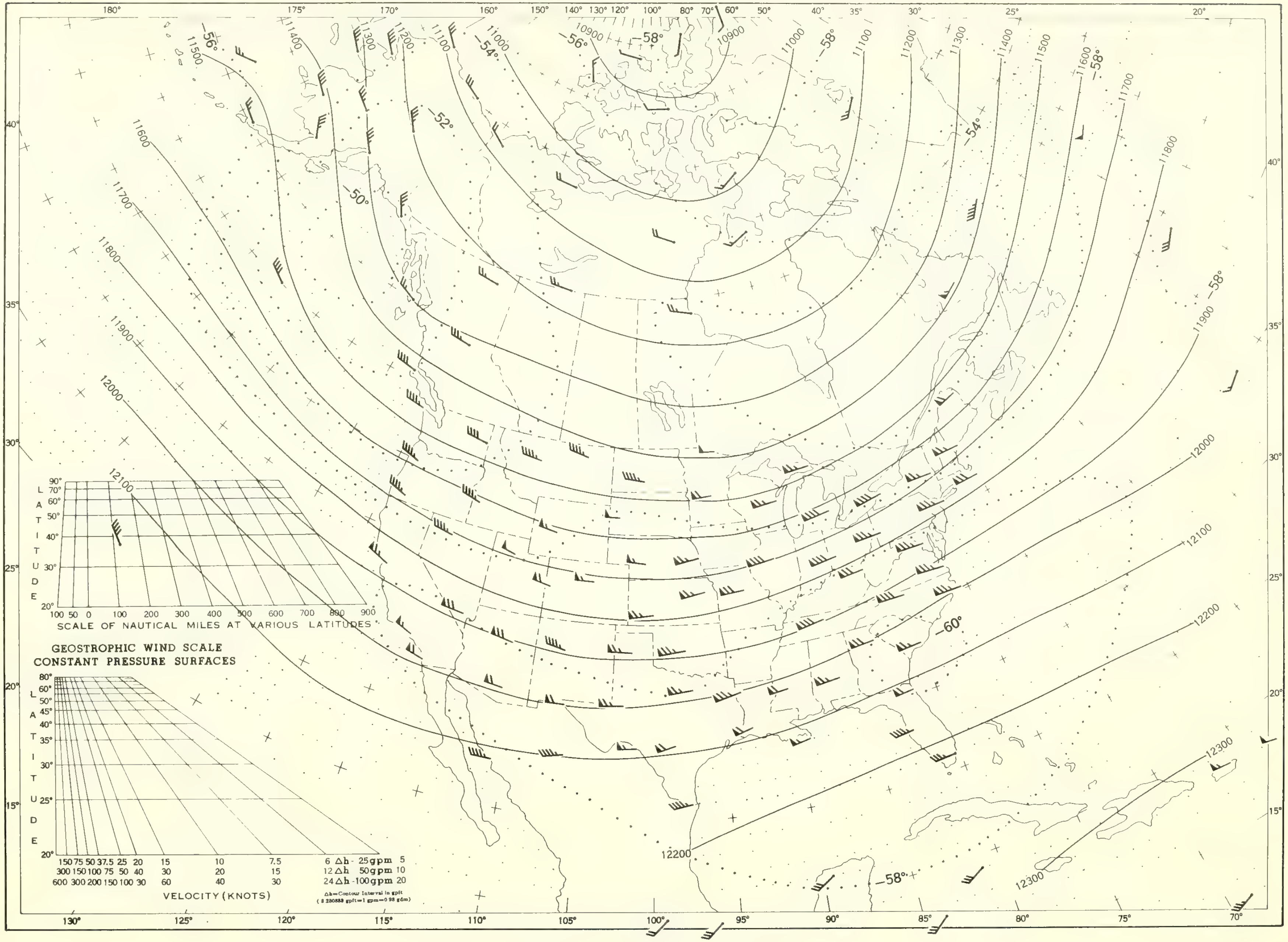
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, December 1964. Average Height and Temperature, and Resultant Winds.



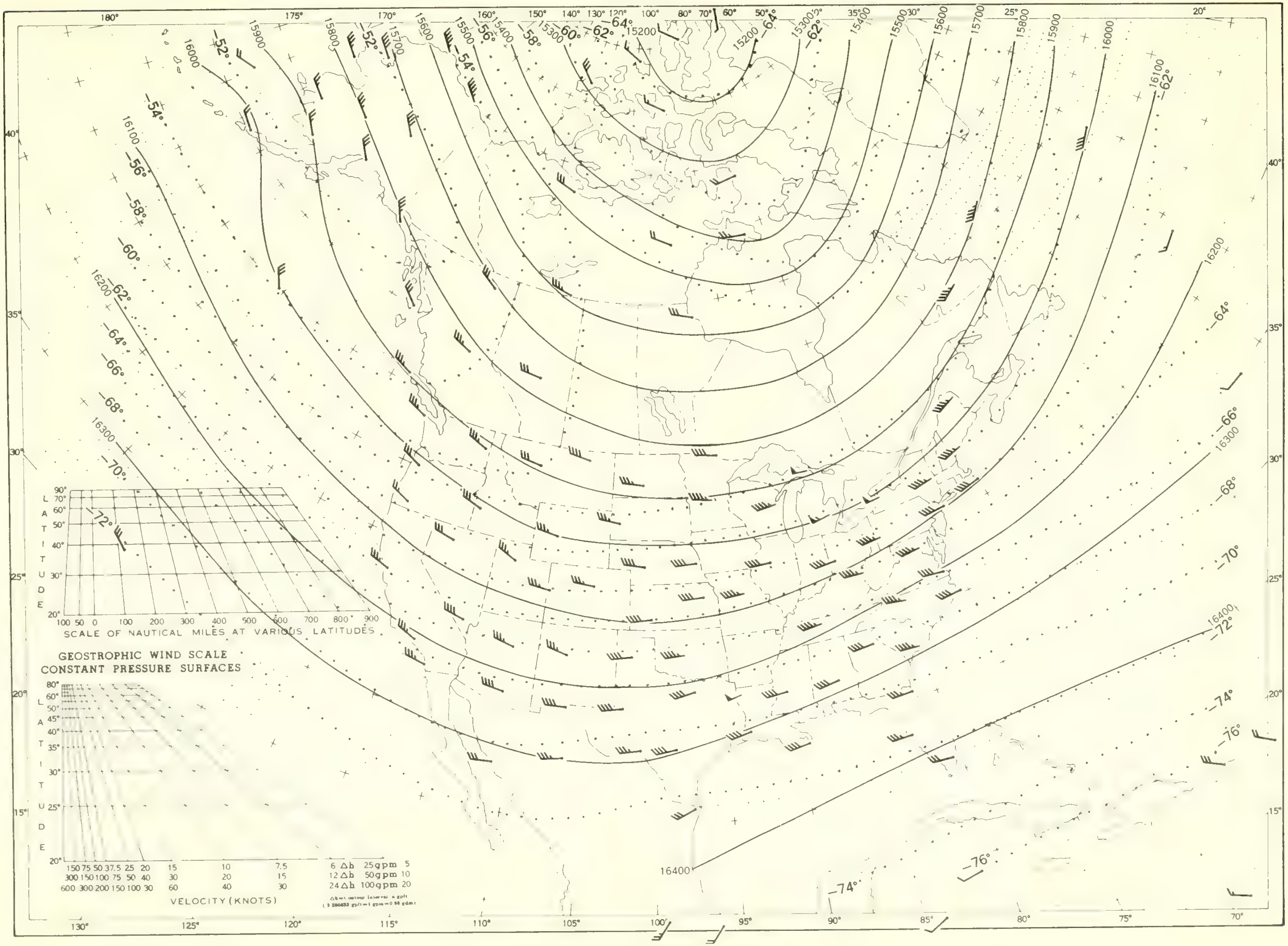
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, December 1964. Average Height and Temperature, and Resultant Winds.



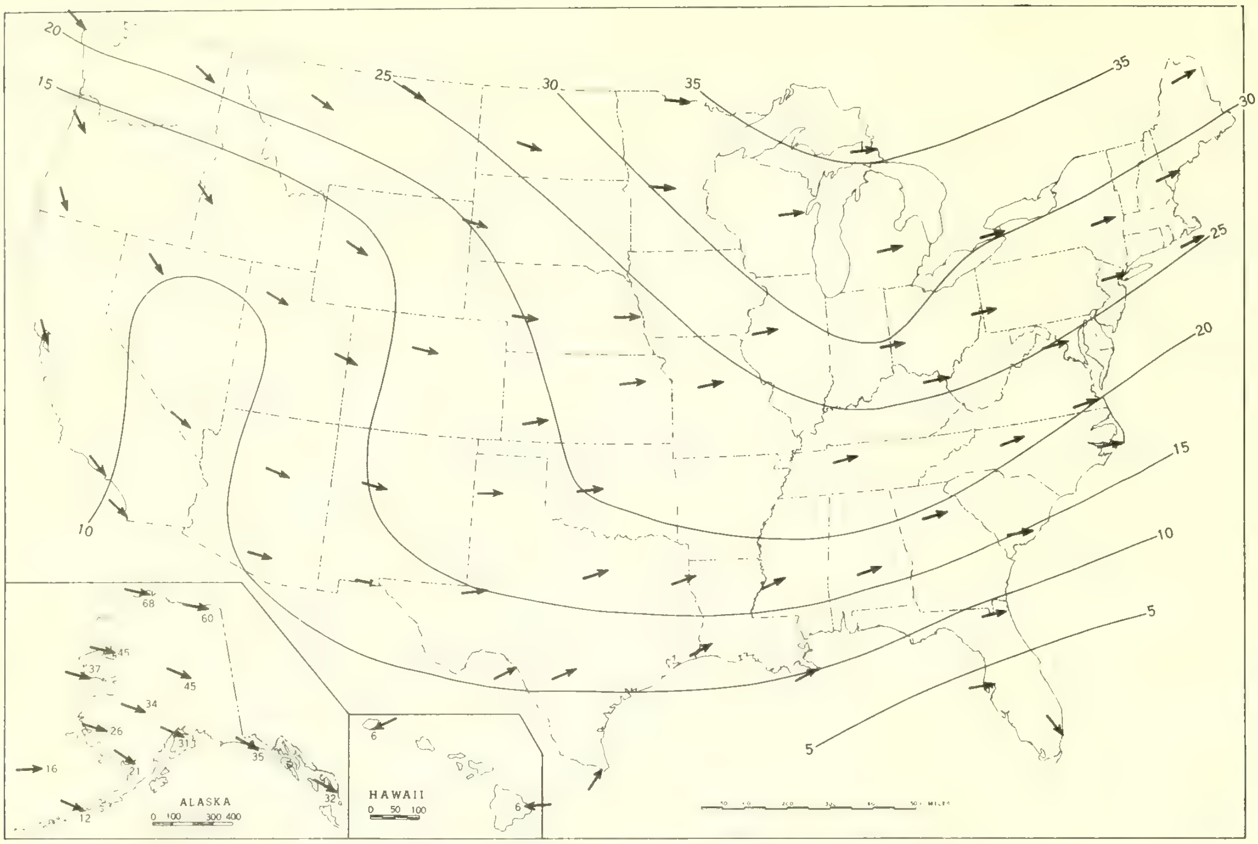
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, December 1964. Average Height and Temperature, and Resultant Winds.

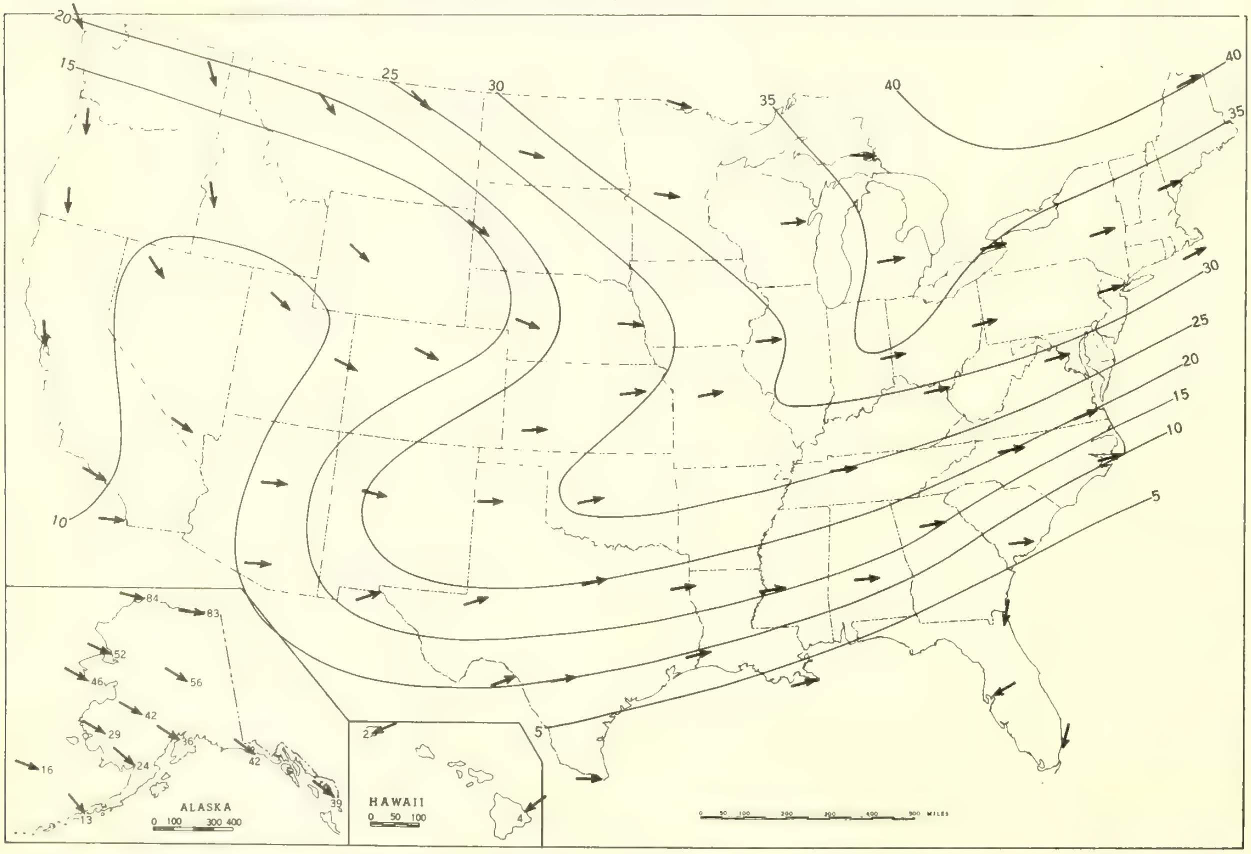


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, December 1964. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, December 1964. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

U. S. DEPARTMENT OF COMMERCE
JOHN T. CONNOR, Secretary
WEATHER BUREAU
ROBERT M. WHITE, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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ANNUAL 1964
Volume 15 No. 13

ASHEVILLE: 1965

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 15 No. 13 ANNUAL 1964

GENERAL SUMMARY OF WEATHER CONDITIONS

L. H. Seamon, Climatology
Weather Bureau, Washington, D. C.

The costliest weather factor of 1964 was deficient summer and autumn rainfall that resulted in periods of severe to extreme drought in northeastern areas from northern Virginia through sourther New England, in parts of Indiana and Illinois, and a Great Plains belt extending from southeastern Wyoming and the Nebraska Panhandle through western Texas. Other weather highlights included heavy snowfall in the western mountains, flood-producing rains in the Ohio River Basin in March and in the Pacific Northwest in December, record-breaking annual rainfall in the Southeast, and four hurricanes which were responsible for much rainfall in the Southeast and losses totaling about $500 million. About 50 deaths were attributed to hurricanes and 72 deaths to tornadoes.

Temperatures averaged below normal for every month except October and December in the Far West. East of the Rockies January and February were unseasonably cold and were followed by a warm spring, a cool summer, and a normal autumn. December was unusually cold west of the Great Lakes, but warmer than normal in most other parts of the Country.

JANUARY and FEBRUARY were cold in the East, ending the fourth consecutive cold winter there. January was the warmest in 20 years in the upper Mississippi Valley, while a few extreme southern stations reported near-record cold not only for January but also for February.

Precipitation was above normal during both January and February in the Atlantic Coastal States and unusually heavy in the Southeast. Heavy amounts in the western mountains during January built an unusually heavy snowpack which ranged up to more than 200 inches in the northern Cascades. January and February were both very dry in parts of the midcontinent area, and the latter month was extremely dry in the Far West. Heavy snow with local blizzard conditions occurred in the Northeast on January 13 with up to 20 inches of snow in eastern Pennsylvania causing one of the worst traffic tieups in recent years. Another snowstorm of note occurred in the Texas Panhandle the first week of February when up to 25-inch falls drifted 20 feet high, isolating several towns and ranches. Flurries were reported at Houston and Galveston during the third week.

The 1963-64 winter for the Country, excluding Alaska and Hawaii, was only slightly warmer than the winter of 1962-63, but it was much colder in the Far West, much warmer in the North Central Interior, and about as cold in the South where a few locations reported the coldest winter on record.

SPRING.--The season was cold in the Far West, mild east of the Rockies. Precipitation was extremely scanty in Atlantic coastal areas from North Carolina to southern New England, and the Ohio Valley thus setting the stage for the summer and fall drought.

The first several days of March were unusually warm. Abnormally cold weather during the remainder of the month was climaxed by a record-breaking cold wave in the Southeast at the end of the month. Peaches suffered heavy damage in the Carolinas and lesser damage in Georgia, Tennessee, Arkansas, and Mississippi. This was the coldest March on record at a few locations in the Far West. March precipitation was extremely heavy in the Ohio River Basin where Columbus and Cincinnati, Ohio; Louisville, Ky.; and Evansville, Ind., had their wettest March on record. During the first 10 days, 6 to 8 inches of rainfall between Louisville, Ky., and Cairo, Ill., and somewhat lesser amounts over the rest of the Ohio Basin caused severe flooding in the Ohio River and many of its tributaries. Damage was estimated at many millions of dollars. On March 16, strong, gusty winds in the San Fernando Valley, south coastal areas, and the San Bernardino Mountains of California, spread fires that caused millions of dollars damage in addition to comparable property damage from the wind. Tucson, Ariz., had a 5-inch snowfall on the 3d. On March 4 a tornado in Hardin and Wayne Counties, Tenn., caused millions of dollars damage.

A cold spell in the Far West on April 22 to 24 damaged some peaches and cherries in Oregon and fruit and grapes in California. April precipitation was rather widespread with record amounts in the middle Missippi Valley and Southeast. Numerous severe local storms took a heavy toll of property. Two of the worst of these included a hailstorm which caused damage estimated at $10 million in the vicinity of St. Louis, Mo., on the 2d, and a tornado which was blamed for 7 deaths and several million dollars damage at Wichita Falls, Tex., on the 3d.

Another cold spell in the Far West during the first half of May caused some crop damage in California and the Pacific Northwest. San Francisco, Calif., had its coolest May since 1899. Following the driest May on record in Maryland, Delaware, and locally in New Jersey, North Carolina, Pennsylvania, and West Virginia, drought was becoming serious by the end of the month. Many forest fires broke out in southern New England and some homes were burned. Outbreaks of tornadoes in the midcontinent area May 4 to 10 were responsible for several deaths and hundreds of injuries.

SUMMER.--In general, the summer was unusually hot only in the lower Great Plains, and was rather dry. The first week of June was unusually cool in the eastern half of the Country, and some locations in Kansas, Missouri, Louisiana, and the Northeast had their lowest temperatures ever recorded in June. Ithaca, N. Y., recorded 31° on the 5th and some ponds in the vicinity were frozen over. About midmonth, during another cool spell in the Northeast, snow squalls in northern Maine were the latest there on record and were only the second such occurrence in June. Drought continued from Maryland to New York, but precipitation was above normal in the northern Rockies and a flood in western Montana was responsible for 30 deaths and millions of dollars damage.

July was warmer than usual, except in the Southeast and Pacific Northwest where cloudiness prevented daytime temperatures from reaching their normal heights. The temperature at Atlanta, Ga., failed to reach 90° during July for the first time in 87 years. Precipitation was spotty but generally above normal in the Pacific Northwest. Charleston, S. C., in a wet spot in the Southeast, measured 23.75 inches for the wettest month there since 1738. In contrast the month was rather dry in the Northeast where some sections were plagued with drought for the third consecutive summer. Albany, N. Y., had only 42 percent of normal precipitation for the period April through July, the driest such period there since 1826.

August, relative to normal, was a very cool month, except hot in Texas. Portland, Maine, had its coolest August; Providence, R. I., its coolest since 1927; Missoula, Mont., since 1899; and Knoxville, Tenn., since 1889. During a cool spell at midmonth temperatures at some locations were the lowest ever for August. Heavy snow fell in the northern Rockies during the last week. Continued dry weather in the lower Ohio Valley and Northeast cut production of some crops, but rains in Texas improved the dry situation there.

Hurricane Cleo entered Florida in the vicinity of Miami on August 27 and caused heavy rains along her path to Virginia. Wind damage occurred mainly in a narrow strip along the Florida coast. The storm was blamed for nearly 200 injuries.

The first tornado fatalities of record in Arizona occurred west of Tucson on August 27 when 2 persons were killed, 8 injured, and several homes destroyed. Another tornado killed 3 persons, injured 23, and caused $2 million damage in the vicinity of Port Washington, Wis., on August 22.

AUTUMN.--Temperatures for autumn averaged about normal. Precipitation was below normal in the major portion of the country.

September was abnormally cool. Heavy rains were mostly limited to the lower Great Plains, parts of the Far Southwest, and upper Mississippi Valley where dry soil conditions were considerably relieved. Tucson, Ariz., had its wettest September since 1867 and its coolest since 1889. Heat and low relative humidity created a high fire hazard in northern California and three major fires burned nearly 100,000 acres. Reno Nev., recorded 100 percent of possible sunshine, the first time for September. Albany, N. Y., reported that its driest September since 1826 continued the record-breaking drought in that area. Reading, Pa., had its sixth driest growing season on record.

Dora, the first hurricane to pass inland over northeastern Florida and the second to affect Florida this season moved inland in the vicinity of St. Augustine during the night of September 9-10 and brought heavy rains to an area extending from Florida and southeast Alabama to southeast Virginia. Winds reached 100 m.p.h. on the coast. Property losses were heavy in Florida.

October was mostly fair and sunny, favorable for harvesting but increased soil moisture deficiencies except in the Southeast. The month was abnormally cool in the East, warm in the Far West.

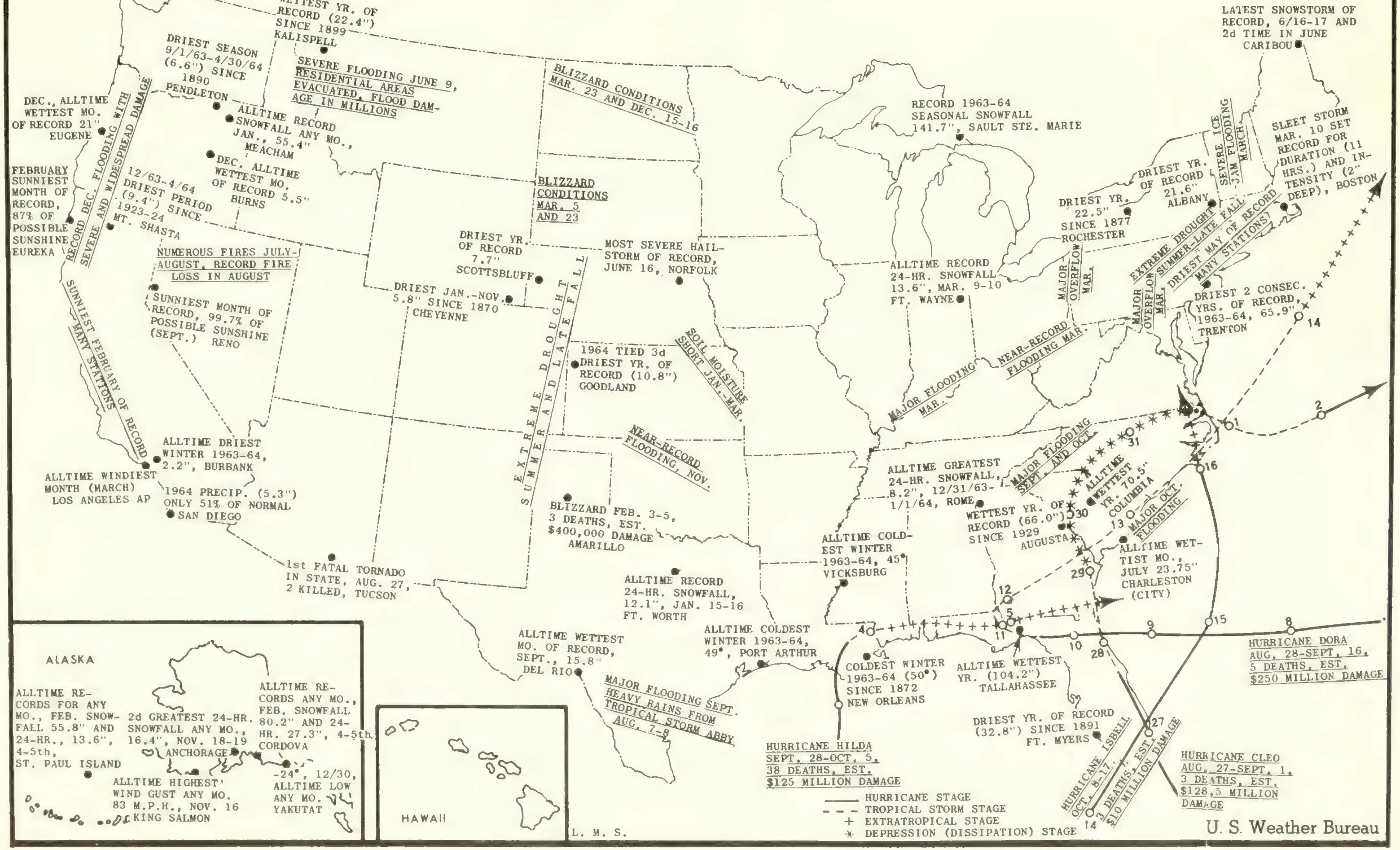
Hurricane Hilda reached St. Mary Parish, Louisiana on the afternoon of October 3. Winds of 100 m.p.h. extended some distance inland. Several tornadoes occurred in Louisiana during the hurricane's passage. A combination of wind and up to 10 inches of rain caused extensive crop and property damage in Louisiana.

Hurricane Isbell moved inland near Everglades, Fla., on the afternoon of October 14 and offshore about 20 miles north of Palm Beach Fla., during the evening of the same day. At least 11 tornadoes occurred in east Florida coast counties during the hurricane's passage, causing about 30 injuries. Vegetable crops suffered heavy damage.

November, relative to normal, was mild east of the Rockies and cold in the Far West. Precipitation was mostly normal or above with unusually heavy amounts in California and the lower Great Plains. Extremely cold weather the third week continued the remainder of the month between the Great Lakes and the Rockies where some stations reported their coldest November. Snowfall was unusually heavy for November in the western mountains. November precipitation helped replenish water supplies over much of the Nation and furnished complete relief in some sections. Some heavy local flooding occurred in Kansas and Oklahoma the second half of the month.

In DECEMBER above normal precipitation nearly everywhere except portions of the central and lower midcontinent area furnished further drought relief in the Northeast and Midwest. But unusually heavy to record-breaking amounts in the Far West caused disastrous floods in western Oregon and northern California. Snowfall was unusually heavy in the Cascade-Sierra Nevada Mountains. The month was among the coldest west of the Great Lakes, but mostly near normal elsewhere.

HIGHLIGHTS - YEAR 1964


WETTEST YR. OF RECORD (22.4") SINCE 1899 KALISPELL
DRIEST SEASON 9/1/63-4/30/64 (6.6") SINCE 1890 PENDLETON
SEVERE FLOODING JUNE 9, RESIDENTIAL AREAS EVACUATED, FLOOD DAMAGE IN MILLIONS
BLIZZARD CONDITIONS MAR. 23 AND DEC. 15-16
DEC., ALLTIME WETTEST MO. OF RECORD 21" EUGENE
RECORD DEC. FLOODING WITH SEVERE AND WIDESPREAD DAMAGE
ALLTIME RECORD SNOWFALL ANY MO., JAN., 55.4" MEACHAM
DEC. ALLTIME WETTEST MO. OF RECORD 5.5" BURNS
FEBRUARY SUNNIEST MONTH OF RECORD, 87% OF POSSIBLE SUNSHINE EUREKA
12/63-4/64 DRIEST PERIOD (9.4") SINCE 1923-24 MT. SHASTA
BLIZZARD CONDITIONS MAR. 5 AND 23
NUMEROUS FIRES JULY-AUGUST, RECORD FIRE LOSS IN AUGUST
DRIEST YR. OF RECORD 7.7" SCOTTSBLUFF
MOST SEVERE HAILSTORM OF RECORD, JUNE 16, NORFOLK
SUNNIEST MONTH OF RECORD, 99.7% OF POSSIBLE SUNSHINE (SEPT.) RENO
DRIEST JAN.-NOV. 5.8" SINCE 1870 CHEYENNE
EXTREME DROUGHT SUMMER AND LATE FALL
1964 TIED 3d DRIEST YR. OF RECORD (10.8") GOODLAND
SOIL MOISTURE SHORT JAN.-MAR.
SUNNIEST FEBRUARY OF RECORD MANY STATIONS
ALLTIME DRIEST WINTER 1963-64, 2.2", BURBANK
ALLTIME WINDIEST MONTH (MARCH) LOS ANGELES AP
1964 PRECIP. (5.3") ONLY 51% OF NORMAL SAN DIEGO
NEAR-RECORD FLOODING, NOV.
BLIZZARD FEB. 3-5, 3 DEATHS, EST. $400,000 DAMAGE AMARILLO
1st FATAL TORNADO IN STATE, AUG. 27, 2 KILLED, TUCSON
ALLTIME RECORD 24-HR. SNOWFALL, 12.1", JAN. 15-16 FT. WORTH
ALLTIME WETTEST MO. OF RECORD, SEPT., 15.8" DEL RIO
ALLTIME COLDEST WINTER 1963-64, 49°, PORT ARTHUR
MAJOR FLOODING SEPT. HEAVY RAINS FROM TROPICAL STORM ABBY AUG. 7-8
RECORD 1963-64 SEASONAL SNOWFALL 141.7", SAULT STE. MARIE
ALLTIME RECORD 24-HR. SNOWFALL 13.6", MAR. 9-10 FT. WAYNE
MAJOR FLOODING MAR.
NEAR-RECORD FLOODING MAR.
DRIEST YR. 22.5" SINCE 1877 ROCHESTER
MAJOR OVERFLOW MAR.
DRIEST YR. OF RECORD 21.6" ALBANY
SEVERE ICE JAM FLOODING MARCH
EXTREME DROUGHT SUMMER-LATE FALL
MAJOR OVERFLOW MAR.
DRIEST MAY OF RECORD MANY STATIONS
LATEST SNOWSTORM OF RECORD, 6/16-17 AND 2d TIME IN JUNE CARIBOU
SLEET STORM MAR. 10 SET RECORD FOR DURATION (11 HRS.) AND INTENSITY (2" DEEP), BOSTON
DRIEST 2 CONSEC. YRS. OF RECORD, 1963-64, 65.9" TRENTON
ALLTIME GREATEST 24-HR. SNOWFALL, 8.2", 12/31/63-1/1/64, ROME
MAJOR FLOODING SEPT. AND OCT.
ALLTIME WETTEST YR. 70.5" COLUMBIA
WETTEST YR. OF RECORD (66.0") SINCE 1929 AUGUSTA
MAJOR OCT. FLOODING
ALLTIME WETTIST MO., JULY 23.75" CHARLESTON (CITY)
ALLTIME COLDEST WINTER 1963-64, 45° VICKSBURG
COLDEST WINTER 1963-64 (50°) SINCE 1872 NEW ORLEANS
ALLTIME WETTEST YR. (104.2") TALLAHASSEE
DRIEST YR. OF RECORD (32.8") SINCE 1891 FT. MYERS
HURRICANE HILDA SEPT. 28-OCT. 5, 38 DEATHS, EST. $125 MILLION DAMAGE
HURRICANE ISBELL OCT. 8-17, 3 DEATHS, EST. $10 MILLION DAMAGE
HURRICANE CLEO AUG. 27-SEPT. 1, 3 DEATHS, EST. $128.5 MILLION DAMAGE
HURRICANE DORA AUG. 28-SEPT. 16, 5 DEATHS, EST. $250 MILLION DAMAGE
1
2
4
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31
HURRICANE STAGE
TROPICAL STORM STAGE
+ EXTRATROPICAL STAGE
✱ DEPRESSION (DISSIPATION) STAGE
ALASKA
ALLTIME RECORDS FOR ANY MO., FEB. SNOWFALL 55.8" AND 24-HR., 13.6", 4-5th, ST. PAUL ISLAND
2d GREATEST 24-HR. SNOWFALL ANY MO., 16.4", NOV. 18-19 ANCHORAGE
ALLTIME RECORDS ANY MO., FEB. SNOWFALL 80.2" AND 24-HR. 27.3", 4-5th CORDOVA
ALLTIME HIGHEST WIND GUST ANY MO. 83 M.P.H., NOV. 16 KING SALMON
-24°, 12/30, ALLTIME LOW ANY MO. YAKUTAT
HAWAII
L. M. S.
U. S. Weather Bureau

EXCESSIVE PRECIPITATION

(Excessive Short Duration Rainfall)

YEAR 1964

This table contains statistics of maximum amounts of rainfall during the calendar year **1964.** Data presented in this table are generally from stations equipped with recording gages. Stations are at City Office locations unless otherwise shown.

Excessive precipitation data for the years 1896-1935 inclusive, generally present the accumulated amounts of precipitation for each 5, 10, or 20 minute intervals during storms in which the rate of fall equaled or exceeded .25 inch in any 5 minute period, or .30 in any 10 minute period, or .35 in any 15 minute period, etc., the tabulation beginning with the 5 minute period where the rate of .05 inch in 5 minutes began and continuing by 10 or 20 minute intervals up to 120 minutes. A detailed explanation of the method used may be found in the publications listed in the last paragraph of this explanation.

The present method, adopted with data for the calendar year 1936, gives the maximum fall of precipitation for the periods 5 to 180 minutes, the maximum amounts being taken for the periods in which the fall is greatest for the given time, and is tabulated to show maximum amounts for 5, 10, 15, 20, 30, 45, 60, 80, 100, 120, 150 and 180 minutes, even if the fall does not equal the excessive rate for some of the periods. (The 15 minute amount was not computed for 1936-43 and the 150 minute amount was not computed for 1944 through 1948).

The following Table A shows limits at which precipitation was considered excessive in this publication:

TABLE A

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.25	60	.80
10	.30	80	1.00
15	.35	100	1.20
20	.40	120	1.40
30	.50	150	1.70
45	.65	180	2.00

This table is made up from the formula, A = t + 20 where A is the accumulated depth in hundredths of inches and t is the time in minutes.

For the years 1936 through 1948 stations in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, Oklahoma, and San Juan, P. R. used the limits shown in the following Table B:

TABLE B

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.40	60	1.50
10	.50	80	1.90
15	.60	100	2.30
20	.70	120	2.70
30	.90	150	3.30
45	1.20	180	3.90

This table is made up from the formula A = 2t + 30. Its use, however, was discontinued at the end of 1948 and Table A is used by all sections for 1949 and the following years.

Publication of Data. A summary of maximum precipitation data for the years prior to 1896 is published in the annual report of the Chief of the Weather Bureau for 1895-1896. Excessive precipitation data for the period 1881-1896 are published in the annual report of the Chief of the Weather Bureau 1896-1897. Data for the years 1897 through 1934 have been published in the appropriate annual reports of the Chief of the Weather Bureau. For the years 1935 through 1949 these data are published in the appropriate issue of the United States Meteorological Yearbook. For 1950 and succeeding years excessive precipitation are presented in the annual issues of the Climatological Data, National Summary.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ALASKA												
ANCHORAGE						NONE						
ANNETTE												
NOV 2	.32*	.64*	.72	.74*	.77	.84	.86	.88	.92	.98	1.11	1.17
FAIRBANKS						NONE						
JUNEAU						NONE						
YAKUTAT						NONE						
ALABAMA												
BIRMINGHAM												
JAN 9	.27	.41	.43	.55	.67	.78	.93	.98	1.01	1.05	1.10	1.19
MAR 2	.15	.30	.35	.40	.44	.58	.76	.94	1.11	1.29	1.41	1.56
MAR 14	.38	.58	.64	.66	.75	.92	.99	1.03	1.03	1.03	1.03	1.03
MAY 2	.25	.42	.49	.54	.59	.63	.65	.91	.93	1.05	1.42	1.59
MAY 23	.38	.55	.61	.73	.87	.92	.93	.94	.95	.95	.95	.95
JUN 6	.27	.52	.55	.64	.85	.96	1.01	1.05	1.11	1.20	1.27	1.89
JUL 12	.21	.32	.34	.40	.68	.80	.89	.90	.91	.92	.99	1.01
JUL 31	.26	.34	.38	.43	.56	.62	.62	.62	.62	.62	.62	.62
AUG 11	.23	.43	.60	.62	.65	.66	.68	.72	.72	.72	.72	.72
SEP 29	.25	.50	.55	.73	1.00	1.29	1.32	1.39	1.60	1.71	1.84	1.89
DEC 4	.28	.46	.50	.56	.70	.86	.91	.97	1.00	1.07	1.13	1.15
HUNTSVILLE												
JAN 24	.15	.24	.28	.36	.52	.61	.69	.73	.89	.95	1.05	1.07
MAR 9	.33	.43	.44	.45	.46	.47	.47	.49	.50	.50	.58	.62
MAR 14	.15	.30	.35	.43	.65	.77	1.00	1.30	1.40	1.45	1.49	1.54
MAR 14	.20	.30	.35	.42	.55	.65	.79	.97	1.24	1.38	1.50	1.58
APR 6	.23	.38	.45	.56	.60	.62	.64	.64	.66	.67	.68	.72
APR 7	.28	.47	.59	.87	1.17	1.30	1.33	1.36	1.37	1.39	1.42	1.51
APR 13 *	.39	.67	.74	.82	.90	.94	.99	1.12	1.20	1.30	1.42	1.44
APR 24	.27	.47	.50	.60	.64	.66	.71	.75	.77	.78	.78	.78
MAY 28	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
JUN 12	.33	.64	.71	.83	.99	1.34	1.50	1.68	1.89*	1.90	1.90	1.90
JUN 17	.35	.65	.75	.95	1.17	1.27	1.27	1.27	1.27	1.27	1.27	1.27
JUL 1	.35	.65	.80	.98	1.11	1.13	1.16	1.16	1.16	1.16	1.16	1.16
JUL 12 *	.40	.60	.65	.80	1.02	1.09	1.25	1.39	1.50	1.55	1.60	1.71
JUL 12	.25	.27	.28	.30	.34	.38	.42	.47	.55	.63	.69	.72
JUL 20	.33	.35	.41	.46	.46	.46	.47	.50	.50	.50	.50	.50
AUG 4 *	.45*	.80	.82	.85	.91	.93	.94	.98	1.01	1.05	1.05	1.05
SEP 28	.23	.33	.35	.35	.36	.37	.38	.39	.39	.40	.40	.40
SEP 29	.35	.56	.62	.71	.82	.87	.92	.98	1.00	1.00	1.00	1.00
DEC 24	.20	.30	.32	.33	.34	.34	.36	.37	.38	.38	.38	.38
MOBILE												
JAN 6	.50	.65	.68	.75	.76	.80	.85	.89	.94	1.09	1.18	1.20
JAN 8	.15	.23	.27	.35	.51	.65	.81	.93	1.03	1.17	1.27	1.30
MAR 2	.20	.35	.36	.43	.54	.62	.73	1.05	1.20	1.42	1.50	1.60
APR 6	.45	.89	1.02	1.29	1.57	1.90	2.02	2.05	2.06	2.09	2.14	2.16
APR 13	.20	.30	.42	.47	.63	.68	.71	.75	.77	.82	.82	.82
APR 14	.26	.35	.50	.60	.87	.92	.99	1.10	1.10	1.10	1.10	1.10
APR 26	.50	.90	1.30	1.50	1.68	1.90	2.30	2.55	2.65	2.72	2.80	2.87
APR 27	.70	1.13	1.45	1.90*	2.45	2.70	2.88	3.26	3.44	3.51	3.74	3.79
MAY 1	.40	.63	.64	.65	.65	.67	.67	.67	.67	.67	.67	.67
MAY 2	.60	1.20	1.49	1.77	2.00	2.25	2.40	2.51	2.55	2.58	2.59	2.60
JUN 22	.30	.53	.65	.78	1.10	1.50	1.75	1.76	1.76	1.76	1.76	1.76
JUN 25	.31	.43	.52	.59	.71	.75	.75	.75	.75	.75	.75	.75
JUL 3	.24	.45	.55	.70	.97	1.00	1.07	1.07	1.49	1.69	1.69	1.69
JUL 4	.30	.59	.69	.73	.78	.80	.80	.80	.80	.80	.80	.80
JUL 11	.35	.55	.75	.98	1.10	1.25	1.32	1.34	1.34	1.34	1.34	1.34
JUL 13	.20	.40	.57	.64	.65	.65	.65	.65	.65	.65	.65	.65
JUL 21	.35	.68	.93	1.05	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
AUG 2	.50	.96	1.16	1.42	1.74	1.79	1.80	1.80	1.80	1.80	1.80	1.80
AUG 22	.36	.43	.70	.82	.89	.93	.93	.93	.95	.95	.95	.95
AUG 23	.42	.80	1.05	1.12	1.36	1.48	1.51	1.52	1.52	1.52	1.52	1.52
SEP 28	.42	.47	.55	.73	.73	.75	.75	.75	.75	.75	.75	.75
NOV 24	.23	.45	.55	.68	1.10	1.18	1.22	1.25	1.26	1.27	1.32	1.34
NOV 28	.26	.43	.48	.53	.55	.59	.63	.66	.68	.69	.71	.76
DEC 4	.25	.39	.45	.48	.49	.49	.49	.49	.59	.62	.62	.62
DEC 24	.30	.57	.72	.75	.80	.82	.95	.99	1.05	1.05	1.05	1.11
MONTGOMERY												
JAN 24	.26	.48	.51	.53	.55	.61	.61	.61	.61	.61	.61	.61
MAR 2	.34	.45	.50	.54	.57	.61	.69	.81	.85	.95	1.01	1.03
MAR 4	.30	.37	.37	.37	.42	.44	.44	.45	.51	.53	.53	.53
MAR 14	.33	.39	.46	.48	.50	.75	.78	.80	.80	.80	.81	1.22
MAR 15	.18	.28	.41	.46	.49	.52	.56	.62	.65	.65	.65	.65
APR 6	.41	.64	.69	.73	.79	.91	1.07	1.20	1.23	1.23	1.23	1.27
APR 8	.32	.50	.63	.76	1.07	1.39	1.66	2.05	2.79	3.19	3.32	3.85
APR 27	.18	.26	.35	.50	.51	.64	.86	1.06	1.17	1.31	1.52	1.63
JUN 6	.27	.44	.54	.61	.65	.68	.69	.70	.74	.74	.75	.75
JUL 1	.32	.51	.54	.55	.55	.55	.55	.55	.55	.55	.56	.57
JUL 3	.24	.32	.39	.60	.72	.97	1.04	1.05	1.07	1.09	1.09	1.09
JUL 4	.27	.39	.41	.41	.46	.56	.61	.82	.87	.93	.97	1.04
JUL 29	.28	.44	.57	.63	.71	.72	.73	.73	.73	.73	.73	.74
AUG 1	.32	.42	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
AUG 12	.13	.23	.34	.36	.54	.56	.58	.58	.58	.58	.58	.58
SEP 11	.20	.34	.40	.43	.46	.58	.68	.81	.88	.95	1.11	1.28
SEP 30	.35	.52	.61	.67	.73	.75	.79	.80	.80	.80	.80	.80
OCT 4	.22	.40	.46	.63	.81	1.17	1.34	1.57	1.78	1.94	2.73	2.90
DEC 24	.32	.54	.61	.66	.72	1.02	1.18	1.23	1.26	1.31	1.47	1.56
DEC 26	.32	.59	.84	1.03	1.28	1.49	1.52	1.52	1.52	1.52	1.52	1.52
ARIZONA												
FLAGSTAFF												
JUL 15	.32	.47	.55	.57	.78	1.20	1.20	1.39	1.55	1.69	1.77*	2.44
JUL 30	.38	.68	.78	.92	.98	1.05	1.05	1.06	1.06	1.09	1.10	1.12
PHOENIX												
SEP 14	.40	.60	.86	1.10*	1.25	1.36	1.37	1.37	1.37	1.37	1.37	1.37
PRESCOTT						NONE						
TUCSON												
AUG 1	.29	.38	.46	.53	.64	.86	1.13	1.36	1.59	1.77	1.78	1.78
SEP 10	.25	.47	.59	.80	.90	1.02	1.12	1.21	1.39	1.34	1.44	1.45
SEP 14	.30	.42	.55	.59	.62	.62	.62	.62	.62	.62	.62	.62
OCT 16	.31	.35	.35	.35	.35	.37	.38	.38	.38	.38	.38	.39
ARIZONA												
WINSLOW												
JUL 30	.25	.35	.44	.45	.46	.47	.47	.47	.47	.47	.48	.48
AUG 12	.29	.58	.79	1.08*	1.56	1.75*	1.83	2.07	2.08*	2.08	2.08*	2.08
YUMA						NONE						
ARKANSAS												
FORT SMITH												
MAR 8	.24	.37	.47	.68	.93	1.05	1.08	1.15	1.16	1.20	1.25	1.25
MAR 24	.24	.44	.50	.58	.69	.73	.75	.75	.75	.75	.77	.77
APR 3	.60	1.00	1.15	1.30	1.48	1.72	2.35	2.97	3.80	4.08	4.45	4.50
APR 5	.23	.46	.55	.68	.88	.95	1.10	1.13	1.15	1.40	1.67	1.75
APR 12	.20	.32	.42	.45	.49	.50	.50	.50	.50	.50	.50	.50
APR 24	.14	.24	.37	.39	.46	.67	.67	.77	.77	.77	.77	.77
MAY 11	.30	.42	.53	.63	.78	.98	1.02	1.20	1.52	1.75	1.80	2.30
AUG 21	.32	.34	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37
AUG 28	.45	.79	1.13	1.22	1.52	1.63	1.65	1.70	1.80	1.81	1.90	1.95
LITTLE ROCK												
APR 5	.20	.35	.50	.54	.65	.68	.70	.70	.71	.72	.73	.75
APR 21	.17	.25	.33	.50	.61	.67	.75	.91	.92	1.00	1.10	1.15
APR 23	.28	.45	.60	.75	1.00	1.05	1.20	1.28	1.34	1.43	1.65	1.75
APR 25	.20	.35	.40	.45	.49	.49	.52	.55	.58	.63	.63	.64
APR 26	.20	.31	.38	.40	.43	.43	.43	.43	.43	.43	.43	.43
MAY 10	.25	.30	.39	.42	.57	.70	.75	.82	.84	.89	.90	.91
JUL 8	.31	.32	.33	.33	.33	.36	.60	.60	.60	.60	.60	.60
JUL 9	.42	.83	.94	1.20	1.40	1.42	1.42	1.42	1.42	1.42	1.42	1.42
JUL 26	.17	.27	.41	.47	.60	.70	.70	.71	.72	.75	.75	.75
AUG 11	.39	.62	.75	1.05	1.15	1.20	1.20	1.20	1.20	1.20	1.20	1.20
SEP 17	.26	.32	.38	.45	.55	.72	.93	1.03	1.13	1.18	1.35	1.55
SEP 27 T	M	M	M	M	M	M	M	1.11	1.24	1.33	1.34	1.45
NOV 27	.25	.40	.45	.45	.45	.47	.47	.47	.47	.47	.47	.47
DEC 3	.18	.20	.28	.33	.50	.70	.90	1.03	1.07	1.16	1.20	1.33
TEXARKANA												
APR 24	.54	.81	.86	1.05	1.70	1.92	2.26	2.60	2.72	2.78	2.78	2.78
MAY 29	.20	.30	.35	.37	.50	.69	.72	.84	.98	1.02	1.07	1.11
MAY 30	.28	.34	.37	.39	.43	.45	.45	.45	.45	.45	.45	.45
JUN 23	.26	.29	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
JUL 16	.26	.45	.69	.76	.88	.90	1.00	1.02	1.02	1.02	1.02	1.02
JUL 29	.25	.42	.61	.82	.95	1.50	1.75	1.75	1.75	1.75	1.75	1.75
AUG 10	.25	.35	.44	.54	.70	.71	.73	.99	1.00	1.00	1.00	1.00
AUG 22	.24	.30	.34	.41	.46	.53	.58	.59	.61	.68	.72	.76
SEP 16	.18	.28	.39	.44	.53	.66	.79	.84	.88	.89	.89	.89
SEP 17	.27	.39	.53	.61	.98	1.25	1.60	1.69	1.91	2.05	2.24	2.36
SEP 20	.22	.35	.48	.64	.83	.92	1.00	1.05	1.05	1.05	1.05	1.05
NOV 14	.25	.38	.42	.44	.46	.46	.46	.46	.46	.46	.46	.46
NOV 19	.34	.54	.64	.74	.85	.92	.96	1.12	1.15	1.16	1.19	1.19
DEC 3	.25	.38	.50	.57	.74	.85	.97	1.03	1.41	1.54	1.57	1.60
CALIFORNIA												
BAKERSFIELD						NONE						
BLUE CANYON						NONE						
BURBANK						NONE						
EUREKA U						NONE						
FRESNO						NONE						
LOS ANGELES						NONE						
MT SHASTA R						NONE						
OAKLAND												
JAN 20 *	.20*	.32*	.39	.46*	.59	.73*	.83	.95	1.04*	1.11	1.25*	1.37
RED BLUFF												
DEC 26	.19	.34	.38	.43	.48	.49	.50	.50	.50	.51	.51	.51
SACRAMENTO												
JAN 2[illegible]	.18	.31	.39	.44	.50	.58	.65	.80	.92	1.04	1.23	1.52
SAN DIEGO						NONE						
SAN FRANCISCO						NONE						
SAN FRANCISCO U						NONE						
COLORADO												
ALAMOSA						NONE						
DENVER						NONE						
GRAND JUNCTION						NONE						
PUEBLO												
APR 29	.42	.51	.55	.60	.65	.68	.72	.76	.81	.85	.93	.97
AUG 7	.15	.28	.34	.48	.64	.79	.80	.82	.83	.84	.84	.84
AUG 14	.22	.38	.50	.60	.73	.76	.79	.84	.84	.84	.84	.84
CONNECTICUT												
BRIDGEPORT												
MAY 19	.47	.49	.49	.51	.55	.60	.60	.60	.60	.60	.60	.60
HARTFORD												
JUL 29	.25	.44	.48	.55	.59	.61	.66	.68	.69	.69	.69	.69
AUG 12	.18	.35	.37	.45	.57	.67	.84	.87	1.00	1.00	1.00	1.00
NEW HAVEN												
JUL 29	.25	.36	.38	.38	.39	.42	.43	.43	.43	.43	.43	.43
AUG 8	.18	.34	.43	.49	.49	.77	.77	.77	.77	.77	.77	.77
AUG 12	.26	.41	.50	.58	.71	.80	1.06	1.20	1.28	1.31	1.32	1.32
AUG 18	.32	.40	.41	.41	.43	.48	.51	.51	.51	.51	.51	.51
DELAWARE												
WILMINGTON												
JUN 8	.26	.40	.48	.56	.66	.68	.68	.68	.68	.68	.68	.68

T Clock malfunction
M No record

EXCESSIVE SHORT DURATION RAINFALL

YEAR 1964

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
DIST. OF COLUMBIA												
WASH NATL AP												
MAY 13	.16	.32	.35	.46	.63	.79	.90	.98	1.08	1.15	1.16	1.16
JUN 19	.18	.32	.36	.40	.47	.48	.51	.55	.57	.57	.57	.57
JUL 21	.26	.30	.34	.35	.35	.36	.37	.37	.37	.37	.37	.37
AUG 30	.31	.39	.42	.46	.53	.54	.54	.54	.54	.54	.56	.57
SEP 29	.23	.31	.32	.32	.34	.42	.48	.68	.70	.73	.74	.76
FLORIDA												
APALACHICOLA U												
FEB 18	.47	.79	.88	.91	.94	1.07	1.15	1.25	1.32	1.36	1.39	1.42
MAR 19	.32	.59	.73	.84	.98	1.07	1.12	1.24	1.29	1.43	1.54	1.59
APR 27	.21	.40	.54	.74	.97	1.35	1.50	1.80	2.26	2.77	3.29	3.44
APR 27	.32	.58	.71	.89	1.14	1.22	1.25	1.47	1.76	1.82	1.88	2.35
APR 28	.18	.35	.47	.52	.77	1.00	1.25	1.40	1.61	1.94	2.05	2.15
JUN 21	.30	.55	.72	.75	.76	.77	.77	.77	.77	.77	.77	.77
DAYTONA BEACH												
FEB 8	.28	.41	.44	.47	.58	.60	.63	.64	.64	.68	.68	.68
FEB 18	.25	.39	.40	.41	.42	.42	.43	.43	.43	.43	.43	.45
MAR 17	.17	.30	.39	.49	.63	.75	.80	.85	.87	.89	.98	1.04
MAR 26	.40	.50	.55	.84	.91	.93	.94	.94	.94	.94	.99	1.03
APR 28	.50	.80	.83	.93	.98	.99	1.41	1.53	1.55	1.67	1.92	1.94
MAY 2	.32	.63	.78	1.08	1.18	1.19	1.19	1.19	1.21	1.21	1.21	1.22
JUN 6	.37	.47	.49	.52	.58	.63	.63	.63	.63	.63	.63	.63
JUN 17	.25	.40	.43	.45	.50	.51	.52	.55	.55	.56	.57	.57
JUN 26	.36	.52	.67	.75	.82	1.06	1.30	1.38	1.45	1.49	1.51	1.51
JUN 27	.25	.44	.48	.50	.50	.50	.50	.50	.50	.50	.50	.50
JUN 28	.42	.57	.67	.86	1.14	1.23	1.28	1.29	1.29	1.29	1.29	1.30
JUL 2	.30	.50	.62	.80	.89	1.25	1.42	1.53	1.69	1.72	1.75	2.09
AUG 5	.20	.25	.34	.40	.64	.64	.64	.64	.64	.64	.64	.64
AUG 10	.23	.46	.50	.56	.59	.60	.67	.70	.70	.70	.72	.73
AUG 11	.30	.50	.70	1.00	1.30	1.35	2.44	2.70	2.76	2.77	2.89	2.90
AUG 17	.33	.66	.67	.67	.67	.67	.67	.67	.67	.67	.67	.67
AUG 27	.35	.51	.57	.58	.60	.77	1.02	1.08	1.40	1.47	1.62	1.70
SEP 1	.30	.45	.50	.55	.90	.97	1.02	1.18	1.23	1.24	1.25	1.27
SEP 12	.30	.35	.40	.42	.44	.44	.44	.44	.44	.44	.44	.51
OCT 15	.34	.48	.75	.78	.80	.80	.80	.80	.80	.80	.80	.80
DEC 4	.35	.55	.60	.62	.64	.66	.75	.76	.76	.76	.76	.76
DEC 5	.25	.38	.45	.55	.65	.74	.79	.81	.86	.89	.95	1.03
FORT MYERS												
JAN 12	.27	.33	.37	.43	.45	.47	.52	.60	.66	.68	.69	.70
FEB 5	.29	.40	.45	.59	.62	.68	.71	1.12	1.33	1.37	1.48	1.54
MAR 20	.33	.52	.68	.83	1.07	1.20	1.24	1.25	1.25	1.25	1.26	1.26
MAR 21	.53	.61	.63	.65	.66	.67	.70	.71	.71	.72	.72	.72
JUN 27	.27	.52	.62	.80	1.20	1.36	1.44	1.45	1.45	1.48	1.51	1.51
JUL 17	.25	.40	.42	.47	.47	.47	.47	.47	.47	.47	.47	.47
JUL 30	.20	.32	.35	.37	.42	.45	.45	.45	.45	.45	.45	.45
AUG 9	.73	.88	.91	.93	.95	.96	.97	.99	1.00	1.00	1.00	1.00
AUG 21	.27	.52	.56	.71	.80	.84	.85	.85	.86	.87	.87	.87
SEP 2	.20	.33	.42	.50	.64	.76	.77	.78	.78	.81	.81	.83
SEP 4	.77	1.02	1.25	1.60	1.65	1.67	1.95	2.52	2.69	2.70	2.73	2.76
SEP 12	.31	.36	.40	.43	.56	.61	.66	.68	.70	.70	.70	.70
SEP 12	.27	.33	.34	.36	.40	.65	.70	.71	.71	.71	.71	.71
SEP 13	.25	.35	.35	.35	.36	.36	.48	.55	.75	.75	.78	.78
SEP 15	.47	.87	.92	1.10	1.26	1.51	1.60	1.73	1.82	1.89	1.93	1.94
DEC 27	.18	.31	.32	.40	.44	.45	.46	.46	.57	.59	.59	.70
JACKSONVILLE												
JAN 17	.20	.29	.33	.38	.52	.64	.73	.78	.78	.78	.79	.81
MAR 26	.36	.60	.76	.86	.93	.97	.97	.97	.98	.98	1.00	1.02
MAY 1	.38	.54	.55	.75	.89	1.26	1.38	1.53	1.59	1.59	1.59	1.59
MAY 2	.25	.39	.53	.58	.61	.68	.74	.78	.90	1.25	1.38	1.60
JUN 6	.52	.98	1.44	1.72	2.11	2.25	2.27	2.29	2.29	2.30	2.31	2.33
JUN 28	.29	.45	.57	.63	.66	.70	.75	.77	.79	.79	.79	.79
JUL 16	.23	.38	.48	.54	.58	.62	.63	.65	.65	.65	.66	.66
JUL 23	.28	.37	.49	.61	.73	.75	.75	.76	.76	.76	.76	.77
JUL 26	.15	.26	.33	.38	.54	.62	.71	.81	.95	1.03	1.07	1.25
AUG 28	.12	.22	.34	.43	.53	.64	.72	.76	.78	.82	.86	.97
SEP 9	.12	.22	.29	.34	.50	.67	.86	1.02	1.12	1.16	1.24	1.39
SEP 26	.28	.45	.52	.55	.60	.73	1.13	1.23	1.28	1.38	1.44	1.44
OCT 2	.30	.56	.77	.94	1.15	1.29	1.29	1.29	1.29	1.29	1.29	1.29
DEC 3	.22	.35	.51	.61	.71	.84	1.14	1.39	1.50	1.51	1.56	1.58
KEY WEST												
MAR 21	.21	.32	.47	.59	.71	.78	.78	.78	.78	.78	.78	.78
MAR 28	.35	.52	.60	.70	.73	.73	.73	.73	.73	.73	.73	.73
MAY 15	.28	.38	.41	.44	.52	.59	.61	.63	.65	.68	.69	.70
JUN 3	.17	.29	.36	.41	.47	.58	.66	.71	.81	.90	1.11	1.20
JUN 4	.25	.45	.55	.56	.61	.64	.68	.87	.89	.89	.91	.92
JUN 5	.48	.65	.74	.77	.87	1.14	1.24	1.33	1.35	1.37	1.42	1.62
JUN 21	.23	.30	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33
AUG 20	.22	.36	.46	.52	.55	.56	.57	.59	.61	.62	.62	.63
SEP 7	.41	.49	.52	.56	.64	.65	.66	.66	.66	.91	.92	.92
SEP 18	.22	.37	.47	.52	.57	.63	.88	.90	.96	1.10	1.22	1.24
DEC 16	.33	.52	.58	.61	.65	.80	.81	.83	.86	.89	.92	.93
DEC 16	.23	.33	.38	.40	.68	.75	.85	.87	.93	1.06	1.25	1.27
MIAMI BEACH U												
JAN 12	.30	.58	.74	.83	.95	1.15	1.30	1.52	1.56	1.56	1.56	1.56
MAR 23	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28
APR 16	.20	.33	.35	.37	.40	.55	.60	.85	.85	.85	.85	.85
APR 28	.23	.32	.35	.42	.60	.83	.85	.89	1.06	1.09	1.12	1.12
APR 29	.25	.39	.46	.55	.76	.84	1.00	1.26	1.39	1.50	1.68	2.22
APR 30	.25	.45	.47	.65	.78	.80	.80	.80	.80	.80	.80	.80
MAY 14	.23	.34	.35	.36	.38	.54	.71	.73	.75	.75	.75	.75
JUN 5	.51	.74	.80	1.05	1.33	1.42	1.46	1.47	1.50	1.50	1.51	1.51
JUN 5	.43	.58	.66	.69	.89	1.00	1.06	1.17	1.32	1.38	1.53	1.63
JUN 6	.36	.52	.65	.70	.73	.73	.73	.74	.81	.82	.87	.87
JUN 8	.25	.47	.50	.56	.62	.64	.64	.64	.69	.77	.78	.78
JUL 6	.26	.48	.52	.54	.82	1.02	1.30	1.36	1.52	1.54	1.55	1.55
JUL 16	.26	.45	.51	.57	.65	.78	1.00	1.00	1.03	1.03	1.03	1.03
AUG 5	.26	.38	.51	.64	.90	1.01	1.06	1.11	1.11	1.11	1.11	1.11
AUG 11	.15	.30	.35	.38	.52	.52	.61	.61	.61	.61	.61	.61
AUG 20	.20	.27	.37	.40	.53	.58	.61	.63	.63	.66	.75	.78
MIAMI												
MAR 21	.29	.31	.31	.31	.31	.31	.33	.33	.33	.33	.33	.34
APR 30	.25	.48	.51	.51	.54	.65	.66	.98	1.15	1.16	1.20	1.35
MAY 13	.26	.32	.40	.55	.55	.57	.60	.62	.62	.62	.62	.62
MAY 14	.45	.90	1.00	1.20	1.64	1.80	1.82	1.82	1.82	1.82	1.82	1.82
FLORIDA												
MIAMI												
JUN 3	.25	.45	.50	.57	.65	.69	.69	.69	.71	.71	.71	.71
JUN 5	.35	.60	.60	.90	.90	.91	.92	.92	.93	.95	.95	.96
JUN 5	.33	.50	.55	.60	.90	1.05	1.12	1.45	1.60	1.78	1.78	1.86
JUN 6	.28	.35	.43	.58	.83	1.00	1.48	1.49	1.68	1.69	1.72	1.74
JUN 8	.33	.43	.44	.45	.46	.46	.47	.63	.70	.73	.73	.73
JUN 10	.40	.55	.56	.65	.75	.95	1.00	1.06	1.07	1.07	1.08	1.08
JUN 28	.17	.30	.35	.37	.53	.62	.64	.64	.64	.64	.64	.64
JUL 1	.25	.30	.32	.32	.32	.32	.32	.32	.32	.32	.32	.33
JUL 6	.15	.30	.35	.45	.53	.55	.60	.70	.94	.97	.98	.98
JUL 8	.20	.38	.43	.50	.58	.59	.60	.60	.60	.60	.60	.60
JUL 25	.38	.75	.92	.97	1.04	1.05	1.06	1.07	1.08	1.08	1.08	1.08
AUG 20	.38	.65	.68	.85	1.08	1.20	1.30	1.36	1.40	1.40	1.46	1.50
AUG 27	.60	1.10	1.30	1.60	2.50	3.00	*3.75	4.15	4.65	5.00	5.50	5.70
SEP 13	.26	.31	.32	.33	.39	.52	.52	.53	.53	.53	.53	.53
SEP 15	.25	.40	.45	.54	.66	.77	.81	.95	.99	1.03	1.04	1.05
SEP 16	.26	.30	.35	.40	.48	.48	.50	.51	.52	.53	.53	.53
OCT 12	.50	.82	.90	1.05	1.40	1.80	2.20	2.35	2.50	2.58	2.60	2.69
OCT 14	.35	.37	.39	.42	.65	.70	.93	1.05	1.20	1.25	1.50	1.56
OCT 28	.18	.30	.35	.43	.62	.92	1.12	1.47	1.67	2.02	2.11	2.20
NOV 29	.58	.73	.83	.93	1.07	1.10	1.13	1.15	1.17	1.17	1.17	1.17
DEC 5	.42	.75	.90	1.25	1.60	2.00	2.23	2.40	2.42	2.42	2.42	2.42
DEC 19	.25	.35	.45	.59	.75	.97	1.15	1.35	1.46	1.46	1.73	1.75
MIAMI U												
APR 30	.30	.43	.57	.61	.76	.82	.85	.86	.90	.90	.90	.91
MAY 14	.29	.53	.70	.83	1.09	1.29	1.37	1.42	1.42	1.42	1.42	1.42
MAY 29	.16	.29	.38	.47	.63	.72	.75	.79	.80	.80	.80	.80
JUN 3	.27	.40	.47	.51	.59	.60	.60	.61	.62	.63	.63	.64
JUN 5	.52	.75	.98	1.11	1.12	1.30	1.30	1.30	1.31	1.32	1.33	1.33
JUN 5	.22	.33	.38	.44	.68	.88	.95	1.09	1.20	1.42	1.51	1.56
JUN 6	.31	.43	.52	.61	.70	.93	1.36	1.38	1.49	1.50	1.53	1.54
JUN 10	.60	.93	1.25	1.48	1.61	1.73	1.82	1.85	1.85	1.86	1.86	1.86
JUN 28	.25	.35	.40	.42	.46	.46	.46	.46	.46	.46	.46	.46
JUL 16	.16	.27	.33	.40	.50	.60	.66	.86	.92	.93	.93	.93
JUL 25	.22	.36	.47	.53	.62	.66	.67	.67	.70	.71	.71	.71
AUG 5	.27	.47	.56	.58	.59	.59	.59	.59	.59	.59	.59	.59
AUG 14	.30	.49	.55	.58	.62	.64	.65	.66	.74	.74	.74	.74
AUG 20	.55	.71	.81	.93	1.13	1.46	1.56	1.60	1.61	1.62	1.67	1.71
OCT 7	.39	.66	.84	.99	1.14	1.26	1.34	1.39	1.41	1.42	1.43	1.43
OCT 12	.21	.28	.36	.51	.67	.98	1.23	1.58	1.72	1.75	1.76	1.76
OCT 14	.32	.45	.49	.52	.79	.84	.88	.93	1.08	1.45	1.72	1.76
OCT 28	.25	.42	.53	.63	.81	1.09	1.30	1.55	1.83	2.02	2.15	2.20
OCT 31	.26	.32	.41	.44	.45	.46	.46	.46	.46	.46	.46	.46
DEC 5	.31	.50	.74	.90	1.10	1.45	1.58	1.72	1.74	1.74	1.74	1.74
DEC 19	.20	.37	.48	.60	.77	.95	1.05	1.16	1.18	1.32	1.41	1.41
ORLANDO												
JAN 12	.18	.26	.30	.35	.52	.63	.75	.96	1.17	1.31	1.41	1.44
JAN 12	.25	.32	.37	.45	.51	.65	.77	.85	.87	.90	.92	.94
FEB 8	.36	.59	.62	.73	.82	.83	.84	.85	.86	.87	.88	.88
MAR 28	.27	.36	.39	.44	.56	.67	.87	.91	1.13	1.24	1.32	1.38
APR 27	.20	.27	.39	.44	.69	.84	.96	1.04	1.05	1.11	1.11	1.11
APR 28	.40	.55	.58	.59	.60	.60	.60	.60	.60	.60	.60	.60
MAY 1	.29	.44	.50	.54	.66	.70	.78	.97	1.04	1.11	1.14	1.25
MAY 14	.19	.25	.31	.40	.54	.60	.66	.68	.70	.70	.70	.70
MAY 14	.25	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
JUN 5	.40	.75	.94	1.15	1.43	1.71	1.89	2.02	2.09	2.10	2.10	2.20
JUN 10	.31	.49	.51	.54	.56	.59	.60	.60	.60	.60	.60	.60
JUN 26	.56	.63	.64	.70	.75	.75	.75	.75	.75	.75	.75	.75
JUN 28	.28	.30	.32	.36	.39	.39	.39	.39	.39	.39	.39	.39
JUN 29	.46	.81	.90	.92	.94	.95	.95	.95	.95	.95	.95	.95
JUL 1	.16	.25	.34	.39	.50	.52	.56	.58	.58	.59	.61	.62
JUL 3	.55	.90	1.04	1.30	1.95	2.19	2.28	2.33	2.34	2.34	2.34	2.34
JUL 17	.31	.40	.54	.60	.64	.68	.69	.72	.74	.75	.77	.78
JUL 25	.30	.35	.39	.42	.46	.47	.50	.54	.60	.63	.65	.66
AUG 5	.28	.52	.67	.77	.82	.83	.83	.83	.83	.83	.83	.83
AUG 6	.44	.70	.85	.91	.95	1.02	1.05	1.05	1.05	1.06	1.08	1.09
AUG 7	.27	.39	.48	.55	.81	.82	.83	.85	.85	.85	.85	.85
AUG 11	.22	.31	.42	.44	.52	.54	.57	.62	.68	.68	.70	.71
AUG 27	.26	.35	.38	.42	.45	.50	.58	.72	.91	1.04	1.22	1.38
SEP 1	.45	.74	.81	.89	1.13	1.51	1.58	1.61	1.65	1.65	1.73	1.73
SEP 10	.15	.30	.42	.44	.64	.80	.99	1.09	1.20	1.23	1.31	1.39
OCT 3	.25	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37
PENSACOLA												
JAN 6	.54	1.03	1.15	1.34	1.50	1.65	1.80	1.94	1.98	2.08	2.30	2.44
JAN 8	.29	.53	.68	.90	1.09	1.20	1.46	1.91	2.12	2.39	2.68	2.79
MAR 2	.20	.32	.38	.41	.58	.76	.95	1.14	1.33	1.44	1.59	1.68
APR 6	.27	.43	.52	.57	.65	.72	.76	.85	1.00	1.08	1.52	1.61
APR 13	.35	.50	.55	.62	.80	1.05	1.29	1.35	1.39	1.40	1.40	1.42
APR 14	.27	.30	.37	.43	.48	.54	.75	.82	.88	.91	.96	.98
APR 26	.41	.71	.84	.95	1.02	1.04	1.07	1.11	1.12	1.12	1.12	1.12
APR 26	.38	.60	.76	.92	1.30	1.68	1.81	1.84	1.86	1.87	1.89	1.91
APR 26	.51	.74	.99	1.36	1.62	2.25	2.51	2.99	3.22	3.29	3.41	3.44
APR 27	.40	.64	.81	.97	1.04	1.12	1.39	1.57	1.61	1.64	1.65	1.65
MAY 1	.26	.35	.37	.37	.37	.37	.37	.41	.41	.41	.41	.43
JUN 24	.28	.49	.58	.63	.68	.74	.82	.86	.86	.86	.86	.86
JUL 4	.27	.32	.36	.36	.36	.43	.43	.43	.43	.43	.43	.43
JUL 10	.29	.37	.55	.65	.82	.91	.99	1.03	1.04	1.08	1.09	1.10
JUL 11	.27	.38	.39	.39	.40	.52	.63	.64	.64	.64	.64	.64
JUL 11	.17	.30	.39	.45	.61	.72	.76	.79	.82	.88	.94	.97
JUL 13	.28	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
JUL 17	.38	.55	.64	.68	.81	.84	.84	.85	.86	.86	.86	.86
JUL 19	.24	.46	.60	.70	.82	.85	.85	.87	.90	.91	.91	.92
JUL 22	.30	.50	.63	.70	.77	.80	.81	.86	.91	.95	.99	1.01
JUL 28	.29	.44	.52	.53	.55	.55	.56	.56	.56	.56	.56	.56
SEP 18	.31	.39	.45	.48	.63	.79	.94	1.07	1.08	1.08	1.08	1.08
SEP 19	.30	.49	.63	.69	.70	.72	.72	.72	.72	.72	.72	.72
SEP 22	.35	.57	.68	.73	.74	.74	.78	.81	.81	.81	.81	.81
OCT 6	.27	.46	.53	.55	.56	.59	.62	.75	.81	.85	.90	.91
OCT 18	.22	.33	.44	.51	.61	.61	.61	.68	.79	.84	.84	.85
NOV 24	.58	.96	1.24	1.44	1.54	1.60	1.61	1.63	1.63	1.64	1.66	1.67
DEC 25	.65	1.08	1.26	1.34	1.40	1.61	1.82	2.00	2.14	2.18	2.21	2.34
DEC 25	.35	.57	.79	.92	1.08	1.28	1.29	1.30	1.30	1.30	1.30	1.30
DEC 25	.22	.38	.43	.46	.49	.54	.61	.62	.62	.62	.62	.64
TAMPA												
FEB 18	.20	.31	.35	.42	.51	.60	.82	.95	1.08	1.22	1.38	1.50
APR 27	.47	.75	.84	.94	1.02	1.09	1.16	1.21	1.24	1.27	1.36	1.44
APR 27	.17	.32	.40	.44	.53	.58	.62	.65	.66	.66	.69	.74
APR 28	.27	.50	.60	.65	.82	.93	1.00	1.02	1.04	1.08	1.17	1.40
MAY 19	.25	.38	.41	.50	.74	.84	1.03	1.20	1.32	1.38	1.51	1.56
MAY 25	.30	.42	.43	.44	.49	.70	.71	.72	.83	.83	.83	.83
JUN 6	.43	.85	1.05	1.25	1.45	1.56	1.65	1.80	2.22	2.36	2.56	2.61
JUN 13	.35	.64	.90	.99	1.04	1.04	1.06	1.06	1.06	1.16	1.18	1.18

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
FLORIDA												
TAMPA U												
JUN 22	.20	.32	.35	.37	.38	.38	.38	.38	.38	.38	.38	.38
JUN 27	.25	.27	.28	.30	.30	.44	.47	.50	.50	.50	.50	.50
JUN 30	.54	.93	.96	1.20	1.49	1.61	1.70	1.72	1.73	1.77	1.77	1.77
JUL 1	.55	1.08	1.35	1.55	1.87	2.31	*2.41	2.60	2.76	*2.80	2.81	2.82
JUL 4	.25	.46	.47	.62	.62	.62	.62	.62	.62	.63	.65	.65
JUL 18	.55	.95	1.08	1.35	*2.15	2.60	*3.30	4.15	4.80	5.05	5.27	5.38
JUL 18	.32	.60	.63	.65	.66	.67	.70	.74	.85	.90	1.05	1.25
JUL 23	.51	.88	1.06	1.24	1.29	1.43	1.49	1.49	1.49	1.49	1.49	1.49
JUL 26	.44	.75	.89	.95	1.30	1.58	2.17	2.21	2.21	2.21	2.23	2.23
AUG 5	.23	.29	.37	.50	.53	.75	.79	.86	.88	.89	.97	1.02
AUG 7	.41	.53	.55	.61	.75	1.01	1.05	1.05	1.08	1.08	1.10	1.10
AUG 8	.24	.47	.54	.56	.56	.56	.56	.56	.56	.56	.56	.56
AUG 10	.41	.48	.70	.83	.97	.99	.99	1.41	1.42	1.42	1.42	1.55
AUG 12	.30	.42	.50	.56	.58	.60	.60	.60	.60	.60	.60	.60
AUG 13	.55	.67	.79	.86	.88	.89	.89	.89	1.12	1.50	1.50	1.50
AUG 20	.57	.80	.83	.89	.91	.93	.95	.95	.95	.99	1.10	1.10
OCT 4	.36	.70	.76	.86	1.17	1.43	1.60	1.70	1.87	1.94	2.04	2.17
NOV 20	.48	.70	.74	.75	.78	.85	1.13	1.25	1.32	1.44	1.52	1.52
NOV 25	.16	.30	.35	.39	.54	.67	.77	.83	.90	.98	.98	1.01
DEC 4	.30	.58	.74	.93	1.38	1.65	2.15	2.85	3.05	*3.50	3.82	*4.27
DEC 4	.21	.38	.48	.68	.81	1.04	1.23	1.56	1.68	1.84	2.05	2.13
DEC 13	.24	.40	.42	.45	.47	.49	.55	.56	.58	.68	.71	.72
DEC 26	.30	.40	.42	.43	.53	.58	.58	.61	.62	.64	.67	.74
TAMPA												
JAN 12	.21	.35	.40	.48	.55	.64	.70	.76	.84	1.12	1.17	1.32
FEB 7	.34	.36	.37	.37	.40	.40	.44	.47	.48	.48	.51	.51
FEB 18	.35	.55	.62	.67	.85	.90	.96	1.16	1.25	1.30	1.45	1.51
MAY 2	.47	.77	.91	.96	1.10	1.52	1.57	1.60	1.60	1.60	1.60	1.74
JUN 11	.38	.40	.50	.65	.70	.70	.70	.70	.70	.70	.70	.70
JUN 19	.25	.35	.45	.50	.85	1.20	1.25	1.25	1.25	1.25	1.25	1.25
JUN 25	.60	1.02	1.15	1.35	1.58	1.73	1.75	1.75	1.75	1.75	1.75	1.75
JUN 30	.35	.52	.75	.85	.90	1.20	1.35	1.41	1.46	1.49	1.50	1.54
JUL 1	.30	.60	.70	.92	1.10	1.15	1.17	1.18	1.19	1.20	1.23	1.24
JUL 24	.25	.26	.28	.29	.32	.32	.33	.33	.33	.33	.33	.33
JUL 25	.23	.43	.55	.62	.67	.68	.88	.95	.99	1.15	1.21	1.25
JUL 26	.30	.33	.34	.34	.35	.35	.36	.50	.51	.51	.53	.87
JUL 26	.52	.59	.60	.67	.86	.95	.97	1.06	1.08	1.18	1.55	2.02
JUL 26	.25	.42	.42	.50	.67	.75	1.17	1.29	1.61	1.63	1.73	2.01
JUL 26	.52	.59	.60	.62	.86	.95	1.17	1.29	1.61	1.63	1.73	2.14
AUG 6	.25	.42	.50	.68	.98	1.10	1.10	1.10	1.10	1.10	1.10	1.10
AUG 8	.35	.65	.77	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AUG 10	.25	.46	.50	.62	.63	.63	.64	.64	.68	.69	.71	.76
AUG 11	.28	.50	.60	.80	.83	.87	.87	.87	.87	.87	.87	.87
AUG 16	.31	.38	.43	.51	.55	.58	.62	.65	.65	.65	.65	.65
AUG 20	.23	.36	.47	.60	.86	.90	1.05	1.21	1.24	1.24	1.25	1.26
AUG 22	.15	.26	.32	.40	.60	.67	.87	1.25	1.50	1.60	1.65	1.65
AUG 25	.28	.35	.38	.41	.42	.47	.49	.49	.49	.49	.49	.49
SEP 4	.28	.47	.52	.70	1.03	1.42	1.62	1.70	1.70	1.71	1.71	1.71
SEP 5	.21	.31	.38	.45	.66	.68	.68	.70	1.01	1.15	1.19	1.25
SEP 12	.30	.45	.50	.55	.75	1.00	1.05	1.14	1.14	1.14	1.14	1.14
OCT 1	.26	.30	.35	.43	.63	.63	.75	.75	.75	.75	.75	.75
OCT 2	.38	.50	.55	.58	.58	.62	.62	.62	.62	.85	1.10	1.10
DEC 5	.28	.48	.60	.80	1.19	1.28	1.28	1.28	1.28	1.38	1.52	1.55
DEC 27	.25	.45	.53	.62	.63	.65	.66	.66	.66	.66	.66	.66
WEST PALM BEACH												
FEB 4	.20	.30	.36	.42	.54	.64	.67	.76	.96	1.11	1.26	1.41
MAR 21	.20	.33	.38	.38	.42	.45	.51	.77	.78	.78	.78	.78
APR 10	.45	.80	1.14	1.24	1.34	1.79	1.88	1.88	1.88	1.88	1.88	1.88
APR 15	.12	.20	.32	.32	.51	.58	.58	.59	.59	.59	.59	.59
APR 25	.26	.51	.68	.69	.75	.75	.75	.76	.80	.80	.80	.81
APR 29	.24	.48	.70	.86	1.28	1.69	1.93	2.02	2.02	2.04	2.08	2.18
APR 29	.29	.41	.57	.63	.68	.70	.78	.86	.87	.87	.87	.87
MAY 14	.55	.90	1.20	1.31	1.68	1.73	1.73	1.74	1.74	1.74	1.74	1.74
MAY 20	.28	.47	.59	.74	1.14	1.49	1.69	2.20	2.23	2.39	2.45	2.45
JUN 1	.25	.38	.51	.65	.66	.66	.75	.76	.77	.77	.77	.77
JUN 4	.25	.35	.44	.56	.75	.85	.91	.95	.98	.98	.98	.99
JUN 5	.20	.40	.42	.43	.44	.44	.45	.45	.46	.46	.46	.46
JUN 6	.32	.50	.82	.96	1.20	1.25	1.26	1.26	1.26	1.26	1.75	1.85
JUN 7	.39	.55	.56	.56	.58	.58	.58	.58	.58	.58	.58	.58
JUN 25	.45	.85	*1.25	1.48	1.81	2.00	2.03	2.03	2.03	2.03	2.03	2.03
JUL 4	.24	.37	.45	.47	.48	.50	.50	.50	.50	.50	.50	.50
JUL 8	.18	.27	.35	.43	.53	.55	.56	.56	.56	.56	.56	.56
JUL 16	.25	.30	.34	.37	.41	.58	.72	.80	.82	.82	.82	.82
JUL 24	.55*	.95	1.10	1.20	1.30	1.32	1.33	1.34	1.34	1.34	1.36	1.36
AUG 6	.25	.33	.38	.40	.41	.41	.41	.43	.45	.50	.50	.57
AUG 14	.27	.41	.48	.50	.53	.54	.54	.54	.54	.54	.54	.54
AUG 19	.20	.40	.54	.55	.55	.55	.55	.55	.55	.56	.56	.56
SEP 5	.25	.40	.58	.68	.80	.88	.93	.95	.99	1.00	1.00	1.00
SEP 15	.30	.50	.79	1.00	1.29	1.31	1.31	1.32	1.33	1.34	1.35	1.63
SEP 20	.17	.31	.43	.54	.58	.67	.74	.74	.99	1.10	1.25	1.30
SEP 21	.17	.26	.32	.41	.55	.68	.69	.69	.69	.69	.69	.69
SEP 24	.44	.84	1.04	1.19	1.69	1.75	1.77	1.79	1.83	1.83	1.83	1.83
OCT 11	.57	.87	.93	1.12	1.33	1.57	2.30	2.33	2.36	2.36	2.36	2.36
OCT 11	.48	.84	.96	1.18	1.35	1.64	2.28	2.36	2.37	2.37	2.37	2.37
OCT 14	.27	.47	.60	.67	.80	.90	1.00	1.40	1.60	1.70	1.90	1.98
OCT 30	.20	.37	.45	.55	.72	.90	1.00	1.04	1.06	1.09	1.10	1.11
NOV 22	.35	.60	.85	1.10	1.35	2.10	2.25	2.70	2.80	2.90	2.97	3.04
DEC 5	.25	.40	.55	.64	.66	.67	.68	.82	1.34	1.44	1.44	1.45
GEORGIA												
ATHENS												
JAN 25	.21	.38	.40	.50	.65	.74	.97	1.01	1.01	1.02	1.03	1.03
JUN 23	.40	.57	.60	.82	1.08	1.29	1.51	1.60	1.63	1.64	1.65	1.66
JUN 24	.26	.50	.55	.62	.62	.63	.64	.64	.64	.64	.64	.64
JUL 13	.28	.42	.56	.80	1.10	1.16	1.18	1.22	1.22	1.22	1.22	1.22
JUL 18	.18	.30	.40	.55	.65	.67	.81	.88	1.05	1.34	1.62	1.64
JUL 20	.25	.26	.27	.28	.34	.34	.34	.34	.34	.34	.38	.38
ATLANTA												
JAN 25	.21	.36	.52	.57	.62	.69	.77	.86	.98	1.02	1.03	1.04
APR 25	.20	.29	.37	.44	.45	.70	.77	.78	.79	.79	.81	.83
APR 27	.30	.43	.49	.60	.67	.75	.84	.98	1.06	1.07	1.07	1.13
JUN 1	.50	.51	.51	.51	.51	.51	.51	.51	.51	.51	.51	.51
JUN 23	.39	.57	.68	.73	.78	1.02	1.07	1.07	1.07	1.07	1.07	1.07
JUL 22	.16	.30	.38	.53	.70	1.00	1.25	1.50	1.60	1.64	1.64	1.64
AUG 4	.28	.37	.50	.56	.57	.61	.61	.61	.61	.62	.65	.66
AUG 10	.25	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
AUG 11	.20	.40	.55	.59	.60	.60	.60	.63	.65	.66	.80	.80
AUG 22	.25	.50	.65	.67	.70	.78	.79	.85	.90	.91	.91	.93
AUGUSTA												
MAR 26	.28	.45	.55	.62	.75	.90	1.07	1.28	1.29	1.29	1.29	1.32

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
GEORGIA												
AUGUSTA												
APR 8	.35	.44	.45	.50	.60	.74	.84	.95	1.08	1.11	1.25	1.33
APR 27	.22	.42	.58	.64	.80	.86	.91	.96	1.03	1.09	1.25	1.33
JUN 1	.18	.32	.35	.36	.37	.37	.37	.37	.38	.38	.39	.39
JUN 12	.44	.86	1.12	1.34	1.72	2.20	2.62	2.82	2.87	2.90	2.93	2.95
JUN 13	.27	.50	.55	.60	.66	.68	.70	.70	.70	.70	.70	.70
JUL 2	.45	[illegible]	.82	.98	1.04	1.06	1.06	1.06	1.09	1.10	1.10	1.10
JUL 13	.20	.35	.42	.46	.50	.51	.51	.51	.51	.51	.51	.51
JUL 14	.33	.38	.40	.43	.45	.45	.45	.45	.45	.45	.45	.45
JUL 19	.25	.46	.67	.82	1.28	1.41	1.54	1.60	1.65	1.65	1.66	1.66
JUL 20	.35	.50	.56	.58	.78	.88	.90	.95	1.24	1.50	1.54	1.73
JUL 29	.25	.30	.35	.40	.45	.46	.47	.47	.47	.47	.47	.47
AUG 10	.48	.76	.92	1.08	1.21	1.24	1.42	1.54	1.58	1.62	1.90	2.02
AUG 29	.35	.69	.77	.88	1.02	1.06	1.20	1.25	1.34	1.45	1.55	1.62
AUG 30	.30	.60	.75	.82	.83	.83	.83	.83	.83	.83	.83	.83
OCT 4	.28	.50	.52	.57	.58	.59	.59	.59	.59	.59	.60	.61
DEC 26	.28	.50	.53	.59	.63	.66	.75	.78	.80	.80	.84	.84
COLUMBUS												
JAN 25	.30	.47	.51	.53	.56	.61	.64	.65	.67	.70	.72	.74
MAR 2	.23	.35	.42	.47	.56	.73	1.06	1.24	1.30	1.39	1.52	1.61
MAR 14	.25	.30	.40	.42	.65	.95	.96	.98	.98	.98	.98	.99
APR 6	.39	.54	.55	.57	.64	.69	.70	.85	1.09	1.34	1.64	1.64
APR 7	.25	.26	.29	.31	.36	.37	.38	.39	.39	.39	.39	.39
APR 8	.29	.49	.52	.60	.78	.83	.98	1.27	1.58	1.72	1.95	2.25
APR 27	.15	.20	.27	.30	.45	.67	.80	.92	.99	1.19	1.20	1.44
MAY 2	.17	.21	.30	.42	.46	.55	.65	.75	.85	.98	1.18	1.35
MAY 12	.31	.48	.49	.50	.51	.52	.53	.53	.53	.53	.53	.53
JUN 6	.26	.33	.38	.40	.60	.64	.75	.80	.84	.91	.99	1.00
JUN 21	.25	.33	.35	.36	.38	.39	.39	.39	.39	.39	.39	.39
JUN 26	.32	.57	.59	.60	.74	.80	.80	.80	.81	.82	.85	.86
JUL 1	.20	.30	.40	.50	.55	.57	.60	.65	.68	.68	.68	.68
JUL 12	.25	.45	.49	.58	.62	.64	.74	.85	.85	.86	.88	.89
JUL 14	.17	.32	.40	.41	.43	.47	.48	.48	.48	.48	.48	.48
JUL 20	.50	.77	.81	.82	.83	.84	.84	.84	.84	.84	.84	.84
JUL 21	.28	.37	.49	.64	.77	.99	1.05	1.09	1.10	1.10	1.10	1.10
JUL 23	.28	.50	.60	.73	1.09	1.21	1.23	1.24	1.40	1.43	1.44	1.45
JUL 24	.30	.37	.39	.40	.44	.45	.45	.45	.45	.45	.45	.45
JUL 25	.27	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
AUG 12	.65	1.00	1.15	1.36	1.57	1.78	1.95	2.29	2.51	2.63	2.68	2.73
AUG 22	.20	.32	.35	.41	.42	.49	.57	.57	.59	.59	.64	.72
SEP 30	.35	.60	.70	.90	1.15	1.29	1.36	1.37	1.38	1.38	1.38	1.38
OCT 1	.27	.31	.35	.43	.50	.50	.50	.50	.50	.50	.50	.50
OCT 4	.30	.56	.60	.67	1.00	1.19	1.35	1.52	1.70	1.80	1.96	2.11
OCT 4	.35	.55	.60	.68	.84	1.20	1.33	1.47	1.76	1.77	1.97	[illegible]
DEC 24	.39	.61	.67	.71	.75	.76	.77	.84	.89	.95	.96	[illegible]
DEC 25	.26	.48	.57	.64	.75	.95	1.37	1.47	1.61	1.63	1.85	2.06
DEC 26	.28	.35	.38	.42	.61	.65	.68	.68	.68	.68	.68	.68
MACON												
MAR 2	.35	.45	.49	.52	.59	.67	.81	.96	1.12	1.26	1.37	1.45
APR 6	.15	.29	.40	.48	.58	.69	.80	1.07	1.24	1.33	1.48	1.53
APR 8	.41	.66	.87	1.01	1.28	1.59	1.64	1.88	1.96	2.06	2.24	2.55
APR 8	.24	.33	.44	.47	.54	.60	.61	.66	.67	.80	1.05	1.22
JUL 31	.27	.34	.36	.36	.36	.36	.37	.39	.39	.39	.41	.44
AUG 11	.39	.69	.82	1.02	1.04	1.07	1.08	1.08	1.09	1.10	1.10	1.10
AUG 28	.34	.52	.62	.63	.64	.64	.64	.64	.64	.64	.64	.65
DEC 25	.32	.44	.49	.52	.54	.56	.63	.71	.78	.85	.94	1.19
DEC 26	.16	.25	.36	.42	.47	.48	.51	.53	.53	.54	.55	.65
ROME												
JAN 24	.32	.38	.42	.45	.53	.68	1.04	1.12	1.22	1.26	1.31	1.36
MAR 4	.32	.44	.51	.53	.54	.65	.74	.76	.76	.76	.76	.76
MAR 14	.35	.43	.57	.61	.70	.80	.85	1.00	1.07	1.15	1.29	1.33
MAR 25	.40	.54	.61	.69	.80	1.01	1.46	1.67	1.72	1.87	2.09	2.13
APR 7	.37	.42	.53	.59	.65	.79	1.14	1.27	1.29	1.30	1.31	1.33
JUN 5	.23	.38	.49	.49	.58	.62	.62	.62	.63	.63	.64	.74
JUN 13	.24	.30	.35	.40	.53	.74	.85	.97	1.03	1.03	1.03	1.05
JUN 24	.33	.55	.63	.65	.69	.69	.71	.72	.72	.72	.72	*.72
JUL 8	.18	.26	.30	.45	.60	.72	.84	.87	.86	.87	.93	1.17
JUL 17	.29	.49	.62	.64	.71	.72	.72	.72	.72	.72	.72	.72
JUL 30	.50	.67	.78	.83	.88	.88	.88	.89	.90	.90	.90	.91
AUG 4	.21	.37	.44	.55	.62	.63	.63	.63	.64	.66	.66	.66
SEP 29	.18	.33	.45	.48	.62	.62	.75	.89	.95	1.00	1.02	1.02
OCT 4	.23	.38	.40	.50	.68	.87	.95	1.04	1.08	1.28	1.63	1.78
DEC 4	.32	.52	.53	.54	.55	.57	.62	.68	.73	.78	.85	1.05
SAVANNAH												
FEB 18	.22	.30	.33	.46	.59	.71	.87	1.04	1.25	1.36	1.62	1.75
MAR 3	.23	.32	.35	.37	.39	.40	.43	.45	.50	.54	.65	.73
MAR 15	.47	.47	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48
APR 27	.26	.41	.48	.53	.58	.62	.68	.73	.83	.91	1.01	1.05
JUN 18	.20	.36	.44	.51	.55	.62	.64	.65	.65	.65	.65	.65
JUL 4	.23	.35	.45	.48	.49	.52	.57	.63	.65	.66	.67	.68
JUL 10	.13	.25	.35	.41	.44	.44	.46	.48	.48	.48	.48	.48
JUL 14	.30	.48	.68	.72	.80	.85	.90	.93	.93	.93	.93	.93
JUL 17	.27	.52	.63	.70	.75	.81	1.10	1.29	1.68	1.74	1.76	1.90
JUL 18	.35	.58	.72	.93	1.15	1.24	1.30	1.38	1.60	1.70	1.91	2.08
JUL 18	.21	.27	.48	.52	.62	.64	.65	.66	.67	.67	.79	.81
JUL 19	.37	.65	.74	.76	1.00	[illegible]	1.48	1.64	1.79	1.97	2.09	2.09
JUL 20	.24	.44	.66	.86	1.04	1.06	1.06	1.14	1.21	1.26	1.29	1.29
JUL 20	.34	.47	.52	.55	.58	.58	.58	.63	.65	.71	.75	.75
JUL 22	.33	.62	.87	1.14	1.40	1.52	1.53	1.54	1.54	1.64	2.15	2.19
JUL 26	.23	.37	.48	.51	.53	.54	.54	.54	.54	.54	.54	.59
JUL 31	.40	.67	.74	.85	1.13	1.45	1.79	1.82	1.83	1.84	1.88	1.93
AUG 5	.22	.39	.49	.53	.54	.54	.55	.55	.55	.55	.55	.55
AUG 28	[illegible]	.33	.46	.50	.83	1.17	1.45	1.73	1.90	2.31	2.66	2.86
SEP 10	.29	.40	.45	.46	.52	.59	.79	.86	1.00	1.15	1.23	1.28
SEP 12	.12	.20	.28	.37	.50	.60	.72	.94	1.00	1.13	1.19	1.22
OCT 1	.32	.53	.65	.73	.83	.84	.85	.85	.85	.85	.85	.85
OCT 2	.25	.49	.66	.80	1.04	1.28	1.37	1.38	1.41	1.44	1.47	1.51
DEC 4	.17	.30	.44	.49	.65	.83	.94	1.05	1.09	1.12	1.16	1.17
DEC 4	.23	.35	.44	.51	.64	.68	.80	.98	1.30	1.37	1.44	1.52
HAWAII												
HILO												
JAN 5	.22	.32	.33	.33	.34	.47	.46	.56	.63	.65	.76	.90
JAN 6	.29	.58	.67	.73	.98	1.20	1.28	1.51	1.79	1.87	2.13	2.17
FEB 13	.24	.35	.41	.54	.66	.71	.72	.76	.80	.80	.81	.87
FEB 14	.28	.36	.38	.41	.41	.47	.61	.66	.76	.76	.78	1.02
FEB 22	.45*	.80	.95	1.04	1.24	1.31	1.32	1.33	1.39	1.39	1.40	1.45
FEB 24	.17	.30	.35	.40	.59	.78	1.00	1.08	1.13	1.16	1.31	1.38
FEB 24 E	.18	.30	.34	.40	.63	.65	.68	.79	1.07	1.24	1.34	1.38
MAR 1	.35	.50	.54	.60	.63	.65	.66	.68	.70	.74	.74	.76
MAR 1	.23	.37	.42	.50	.78	.83	.86	.94	1.01	1.06	1.09	1.14

E Estimated

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
HAWAII												
HILO												
MAR 7	.24	.30	.32	.32	.33	.35	.40	.40	.43	.43	.48	.48
MAR 9	.15	.30	.34	.41	.46	.57	.61	.67	.69	.71	1.03	1.11
MAR 20	.25	.31	.36	.44	.50	.59	.59	.59	.59	.59	.59	.59
MAR 21	.27	.45	.49	.50	.50	.53	.85	.88	.88	.88	1.02	1.16
MAR 22	.37	.47	.51	.53	.55	.57	.57	.57	.58	.58	.64	.84
MAR 24	.13	.25	.33	.42	.57	.68	.83	.86	.89	.92	1.02	1.05
MAY 24	.20	.39	.51	.62	.92	1.09	1.47	1.70	1.88	1.98	2.48	2.60
NOV 5	.19	.37	.39	.41	.47	.48	.53	.54	.55	.65	.75	1.06
NOV 6	.28	.50	.58	.73	.94	1.10	1.68	1.90	2.16	2.58	3.00	3.32
NOV 7	.26	.42	.46	.50	.57	.63	.78	1.05	1.18	1.25	1.66	1.83
NOV 8	.28	.40	.48	.68	.76	.94	1.24	1.66	1.80	1.90	2.07	2.20
NOV 9	.22	.36	.43	.56	.60	.70	.79	.80	.82	.95	1.03	1.07
NOV 11	.17	.29	.37	.47	.50	.57	.60	.70	.90	.93	1.10	1.15
NOV 12	.28	.50	.53	.55	.63	.68	.80	.80	.80	.80	.80	.80
HONOLULU												
MAR 4	.19	.33	.42	.47	.70	.87	.90	.90	.92	1.01	1.03	1.05
MAR 23	.22	.29	.33	.42	.64	.77	.79	.98	1.13	1.15	1.15	1.15
DEC 19	.25	.32	.38	.41	.48	.61	.79	.80	.82	1.03	1.05	1.09
KAHULUI						NONE						
LIHUE												
JAN 4	.25	.42	.59	.64	.76	1.19	1.31	1.40	1.42	1.51	2.12	2.17
MAR 8	.32	.49	.68	.89	1.19	1.43	1.86	2.19	2.54	2.73	2.95	3.19
MAR 23	.48	.65	.74	.86	1.00	1.09	1.09	1.65	1.84	1.97	1.97	1.98
MAR 25	.42	.62	.72	.79	.87	.87	.87	.87	.87	.87	.87	.87
JUL 12	.25	.31	.35	.42	.43	.43	.43	.43	.43	.43	.43	.43
JUL 24	.20	.30	.36	.41	.46	.47	.48	.48	.48	.48	.48	.48
NOV 25	.26	.37	.40	.41	.43	.52	.60	.76	.76	.76	.76	.76
NOV 25	.26	.42	.50	.54	.68	.74	.97	1.16	1.19	1.20	1.21	1.25
NOV 26	.21	.32	.38	.44	.58	.63	.67	.70	.72	.74	.75	.83
DEC 16	.33	.50	.62	.68	.78	.91	1.00	1.07	1.12	1.19	1.22	1.28
IDAHO												
BOISE												
JUL 29	.18	.31	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
LEWISTON												
JUN 5 T	M	M	.96	.96	.96	.96	.96	.96	.96	.96	.96	.96
JUL 15	*.35	.49	.57	.60	.66	.71	.87	.88	.89	.90	.92	.94
JUL 30	.26	.28	.29	.31	.34	.34	.34	.34	.34	.34	.34	.34
POCATELLO						NONE						
ILLINOIS												
CAIRO U												
JUL 28	.17	.32	.34	.34	.34	.34	.34	.42	.44	.44	.44	.44
AUG 22	.25	.33	.38	.39	.41	.42	.42	.43	.44	.44	.44	.44
AUG 22	.20	.34	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
AUG 27	.33	.38	.42	.43	.44	.44	.44	.44	.44	.44	.44	.44
CHICAGO O HARE												
MAY 8	.27	.41	.47	.55	.69	.79	.79	.79	.79	.79	.79	.79
JUN 22	.30	.50	.70	.83	1.00	1.09	1.13	1.13	1.13	1.13	1.13	1.13
JUL 7	.22	.40	.42	.43	.55	.55	.55	.57	.61	.63	.66	.67
JUL 18	.25	.44	.65	.78	1.00	1.23	1.32	1.34	1.36	1.38	1.43	1.45
AUG 3	.38	.48	.65	.85	.99	1.05	1.07	1.10	1.10	1.10	1.10	1.10
AUG 21	.33	.53	.67	.80	.88	.94	.98	1.02	1.07	1.10	1.15	1.17
SEP 22	.30	.52	.55	.72	.96	1.05	1.15	1.22	1.25	1.26	1.27	1.32
NOV 15	.28	.43	.47	.51	.59	.59	.92	.99	.99	1.07	1.07	1.07
CHICAGO MIDWAY												
JUL 18	.32	.42	.60	.72	.91	1.02	1.02	1.02	1.03	1.07	1.38	1.42
JUL 21	.22	.28	.33	.44	.55	.73	.74	.87	.95	1.03	1.19	1.19
JUL 25	.26	.48	.68	.87	.88	.88	.88	.89	.89	.89	.90	.90
JUL 28	.27	.50	.55	.56	.57	.57	.58	.59	.59	.59	.59	.59
AUG 2	.33	.43	.62	.65	.65	.66	.66	.85	.95	.95	.95	.95
SEP 20	.24	.46	.51	.53	.53	.53	.53	.53	.53	.53	.53	.53
MOLINE												
APR 21	.18	.33	.43	.50	.52	.67	.68	.82	.95	1.01	1.02	1.02
MAY 6	.26	.49	.53	.61	.62	.62	.62	.62	.62	.62	.62	.62
MAY 8	.16	.25	.39	.45	.53	.57	.63	.69	.71	.71	.71	.71
JUN 14	.13	.22	.31	.42	.51	.71	.72	.74	.77	.79	.83	.86
JUL 7	.36	.51	.73	.85	.93	.94	.97	.99	1.01	1.05	1.07	1.09
JUL 19	.20	.34	.40	.43	.44	.44	.46	.46	.46	.46	.46	.46
JUL 25	.22	.40	.44	.52	.64	.69	.69	.71	.72	.72	.94	.98
JUL 31	.37	.56	.64	.73	.90	.94	.99	1.03	1.04	1.07	1.12	1.14
AUG 20	.26	.50	.62	.78	1.00	1.28	1.44	1.55	1.62	1.69	1.71	1.82
SEP 22	.36	.70	.83	.84	.89	1.03	1.09	1.13	1.14	1.14	1.14	1.14
SEP 25	.26	.33	.36	.40	.44	.44	.44	.44	.44	.44	.44	.44
NOV 27	.22	.33	.37	.45	.54	.61	.70	.80	.86	.92	1.06	1.09
PEORIA												
APR 20	.33	.43	.43	.43	.43	.43	.59	.63	.75	1.02	1.06	1.06
MAY 6	.19	.33	.38	.41	.42	.44	.46	.50	.52	.53	.56	.56
JUN 19	.22	.41	.60	.74	.84	1.14	1.44	1.69	1.90	2.10	2.26	2.28
AUG 21	.20	.30	.43	.52	.54	.74	.78	.92	.94	.96	1.02	1.14
SEP 22	.25	.44	.49	.52	.54	.56	.57	.58	.62	.63	.64	.64
SEP 26	.16	.25	.35	.42	.62	.90	1.07	1.13	1.20	1.22	1.23	1.27
NOV 27	.27	.35	.46	.55	.76	.92	1.16	1.34	1.51	1.58	1.66	1.70
ROCKFORD												
APR 21	.35	.68	.89	1.12	1.29	1.78	*2.03	2.12	2.15	*2.16	2.16	*2.24
JUN 14	.18	.27	.38	.45	.54	.76	.93	1.21	1.38	1.51	1.73	1.95
JUN 21	.40	.69	.90	1.11	*1.55	2.00	*2.09	2.10	2.10	2.10	2.10	2.10
JUL 7	.45	.73	.80	.87	.97	1.01	1.04	1.06	1.06	1.06	1.07	1.07
JUL 18	.25	.39	.46	.51	.77	.85	1.02	1.13	1.29	1.41	1.54	1.59
JUL 27	.25	.33	.40	.44	.45	.45	.45	.45	.45	.45	.45	.48
AUG 21	.20	.31	.40	.41	.47	.58	.65	.74	.80	.94	1.07	1.14
SEP 20	.30	.43	.45	.46	.47	.47	.47	.47	.53	.53	.53	.53
SEP 22	.22	.32	.40	.49	.62	.71	.83	.94	.98	1.03	1.04	1.04
NOV 2	.26	.34	.44	.47	.50	.85	.93	1.05	1.16	1.25	1.43	1.55
SPRINGFIELD												
APR 4	.28	.37	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38
APR 19	.22	.32	.37	.39	.40	.41	.43	.44	.44	.44	.44	.44
APR 19	.26	.37	.41	.41	.42	.44	.58	.65	.75	.78	.85	.93
APR 19	.16	.28	.34	.50	.54	.67	.83	.97	.98	.99	1.00	1.00
APR 20	.22	.42	.51	.57	.59	.94	1.05	1.09	1.12	1.13	1.15	1.16
JUN 21	.19	.38	.45	.55	.61	.63	.64	.64	.66	.68	.68	.68
AUG 21	.16	.30	.44	.54	.70	1.01	1.09	1.10	1.16	1.16	1.16	1.16

T Clock malfunction
M No record

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ILLINOIS												
SPRINGFIELD												
NOV 15	.38	.65	.67	.69	.81	1.11	1.25	1.35	1.53	1.59	1.64	1.66
INDIANA												
EVANSVILLE												
MAR 4	.18	.36	.40	.45	.57	.63	.84	.93	1.00	1.12	1.20	1.24
MAR 8	.27	.34	.46	.52	.63	.69	.96	1.15	1.24	1.32	1.45	1.51
APR 19	.20	.30	.35	.48	.59	.71	.76	1.00	1.19	1.19	1.25	1.25
APR 21	.17	.30	.40	.43	.44	.55	.57	.59	.60	.60	.60	.60
JUN 18	.32	.40	.48	.49	.50	.51	.60	.91	.94	.94	.96	.96
AUG 22	.15	.23	.35	.40	.45	.51	.56	.56	.56	.56	.56	.56
SEP 18	.24	.33	.44	.66	.78	.83	.92	.93	.93	.93	.93	.93
FORT WAYNE												
MAY 26	.16	.23	.33	.40	.43	.56	.61	.77	.83	.85	1.00	1.08
JUN 19	.23	.36	.42	.44	.48	.50	.52	.59	.65	.66	.69	.72
AUG 17	.16	.30	.34	.34	.34	.34	.34	.34	.34	.34	.34	.34
INDIANAPOLIS												
MAR 8	.22	.34	.46	.56	.68	.80	.82	1.13	1.19	1.27	1.61	1.67
APR 19	.25	.32	.38	.44	.54	.62	.67	.71	.72	.77	.82	.82
APR 20	.20	.28	.36	.42	.50	.59	.64	.66	.70	.72	.77	.78
APR 22	.17	.26	.37	.39	.41	.44	.45	.45	.45	.45	.45	.45
JUN 12	.45	.53	.60	.66	.68	.69	.75	.75	.75	.75	.75	.75
JUN 21	.16	.28	.38	.48	.57	.60	.62	.62	.62	.62	.62	.62
JUL 7	.28	.47	.49	.55	.58	.58	.58	.58	.65	.68	.68	.68
JUL 21	.30	.40	.50	.60	.66	.71	.71	.71	.71	.71	.71	.71
JUL 25	.36	.42	.60	.80	.90	.94	.96	.98	.98	.98	.98	.98
NOV 15	.20	.38	.42	.46	.53	.58	.58	.58	.58	.58	.58	.58
NOV 15	.21	.32	.36	.40	.40	.50	.60	.66	.72	.77	.79	1.00
SOUTH BEND												
MAR 8	.32	.45	.46	.48	.54	.56	.57	.64	.69	.72	.74	.74
APR 29	.27	.48	.53	.58	.59	.71	1.06	1.10	1.12	1.12	1.14	1.22
MAY 8	.45	.47	.49	.50	.51	.51	.51	.51	.51	.51	.51	.51
JUN 12	.26	.37	.41	.47	.48	.49	.50	.56	.58	.60	.65	.67
JUN 19	.20	.35	.40	.45	.50	.55	.59	.65	.70	.80	.88	.98
JUN 21	.21	.31	.35	.36	.40	.41	.48	.53	.59	.63	.66	.66
JUN 22	.57	.73	.79	.91	1.23	1.25	1.27	1.27	1.27	1.27	1.27	1.27
JUL 6	.20	.32	.40	.51	.55	.60	.76	.80	.90	.90	.90	.90
JUL 7	.50	.62	.64	.69	.72	.77	.81	.82	.83	.83	.83	.83
JUL 22	.45	.83	.95	1.32	1.48	1.50	1.50	1.50	1.50	1.50	1.50	1.50
AUG 11	.36	.40	.41	.51	.56	.56	.60	.85	.95	.95	.95	1.00
AUG 21	.25	.33	.34	.38	.63	.69	.71	.73	.78	.80	.82	.85
IOWA												
BURLINGTON												
JUN 14	.25	.35	.39	.48	.50	.55	.58	.58	.58	.58	.58	.58
JUN 20	.62	.82	.92	1.00	1.07	1.24	1.24	1.24	1.27	1.30	1.54	1.62
JUL 25	.50	.68	.69	.70	.72	.73	.73	.73	.74	.74	.74	.74
SEP 20	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
SEP 22	.30	.42	.46	.48	.50	.52	.55	.55	.55	.55	.55	.55
SEP 26	.16	.32	.33	.35	.62	.66	.70	.72	1.03	1.07	1.08	1.13
DES MOINES												
JUN 14	.24	.40	.42	.50	.66	.71	.75	.76	.78	.80	.86	.90
JUN 20	.24	.34	.36	.37	.43	.49	.54	.59	.67	.68	.69	.70
JUN 22	.28	.39	.42	.46	.49	.54	.58	.62	.62	.63	.63	.63
JUN 22	.24	.35	.36	.42	.68	.82	.96	.98	1.04	1.05	1.06	1.06
JUL 11	.35	.69	.73	.75	.77	.79	.83	.86	.90	.92	1.01	1.11
AUG 20	.27	.41	.44	.47	.53	.56	.65	.68	.71	.71	.71	.71
AUG 24	.32	.55	.58	.60	.70	.71	.76	.88	.89	.90	1.00	1.01
AUG 27	.25	.36	.39	.47	.54	.59	.60	.61	.62	.64	.67	.70
SEP 3	.28	.37	.38	.40	.51	.52	.54	.54	.70	.94	.97	.97
SEP 19	.21	.30	.31	.31	.33	.35	.40	.44	.44	.44	.44	.44
DUBUQUE												
APR 2	.17	.30	.37	.44	.51	.65	.73	.84	.95	1.00	1.03	1.07
APR 27	.22	.32	.35	.41	.50	.57	.65	.73	.78	.79	.83	.85
MAY 7	.20	.35	.41	.50	.55	.60	.61	.62	.64	.64	.66	.70
MAY 8	.65	1.12	1.30	1.40	1.65	1.78	1.85	1.85	1.85	1.85	1.85	1.85
MAY 24	.28	.37	.40	.43	.48	.53	.70	.91	1.00	1.18	1.36	1.44
JUN 13	.18	.35	.42	.55	.60	.63	.64	.64	.64	.66	.73	.73
JUN 19	.28	.41	.43	.46	.61	.70	.75	.81	.82	.85	1.00	1.27
JUN 21	.40	.71	.80	.85	.85	.85	.85	.85	.85	.85	.85	.85
JUN 22	.14	.23	.25	.34	.50	.57	.59	.63	.64	.64	.64	.64
JUN 22	.37	.44	.52	.55	.60	.62	.63	.69	.70	.71	.71	.71
JUL 8	.27	.42	.47	.61	.71	.76	.77	.81	.94	1.10	1.18	1.19
JUL 28	.21	.35	.42	.47	.48	.48	.48	.48	.48	.48	.48	.48
AUG 29	.18	.35	.45	.55	.82	1.03	1.17	1.20	1.25	1.31	1.42	1.42
NOV 15	.52	.70	.74	.79	.85	.87	.92	.92	.92	.92	.92	.92
SIOUX CITY												
MAY 6	.34	.46	.46	.46	.48	.48	.58	.60	.60	.60	.60	.60
MAY 22	.22	.29	.28	.41	.42	.45	.46	.46	.70	.75	.75	.75
JUN 8	.33	.39	.46	.47	.48	.48	.49	.49	.49	.49	.49	.49
JUL 5	.27	.40	.50	.50	.50	.52	.61	.76	.97	1.18	1.18	1.18
JUL 9	.44	.84	1.05	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
JUL 11	.15	.25	.33	.39	.59	.60	.61	.63	.75	.82	.83	.89
JUL 30	.18	.34	.42	.48	.58	.67	.74	.95	1.02	1.13	1.20	1.20
AUG 6	.21	.33	.35	.38	.53	.62	.69	.79	1.02	1.07	1.21	1.25
AUG 29	.20	.30	.35	.42	.50	.51	.51	.51	.51	.51	.51	.51
WATERLOO												
APR 26	.27	.53	.70	.81	1.01	1.08	1.24	1.43	1.47	1.58	1.67	1.77
MAY 7	.25	.30	.53	.57	.61	.87	.92	1.03	1.20	1.35	1.63	1.64
JUN 12	.17	.33	.40	.43	.45	.47	.48	.48	.48	.48	.48	.48
JUN 22	.46	*.92	*1.15	1.21	*1.60	1.78	*1.86	1.92	1.98	2.06	2.20	2.24
AUG 20 T	M	M	M	M	M	M	M	M	M	M	M	2.64
AUG 29	.31	.61	.72	.82	.97	1.04	1.06	1.12	1.18	1.24	1.27	1.27
SEP 3	.32	.60	.90	.92	.95	.96	.97	.98	.99	.99	.99	1.02
SEP 8	.25	.44	.54	.68	.99	1.40	1.64	1.71	1.79	2.21	2.33	2.55
KANSAS												
CONCORDIA												
MAY 23	.19	.31	.42	.45	.67	.71	.72	.72	.73	.73	.73	.74
JUN 4	.30	.55	.84	.93	1.17	1.29	1.31	1.36	1.40	1.41	1.42	1.45
JUN 4	.23	.36	.55	.66	.70	.78	.86	.90	.91	.93	.93	.96
JUN 7	.22	.33	.44	.44	.50	.59	.62	.64	.68	.69	.69	.69
JUN 8	.33	.43	.49	.50	.50	.50	.50	.50	.50	.50	.50	.50
JUN 14	.28	.40	.42	.43	.43	.43	.43	.43	.43	.43	.43	.43
JUN 21	.26	.47	.66	.67	.68	.68	.68	.68	.68	.68	.68	.68
JUN 21	.51	.86	1.03	1.17	1.27	1.42	1.42	1.42	1.42	1.42	1.42	1.42

T Clock malfunction
M No record

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
KANSAS												
CONCORDIA												
JUL 27	.17	.34	.49	.63	.97	1.34	1.44	1.47	1.50	1.59	1.62	1.69
AUG 27	.21	.32	.44	.55	.75	.90	.94	.96	.98	1.00	1.00	1.00
SEP 5	.26	.42	.60	.67	.88	1.10	1.18	1.53	1.58	1.59	1.62	1.65
DODGE CITY												
APR 19	.25	.29	.30	.31	.31	.40	.40	.40	.40	.40	.41	.41
JUN 10	.19	.38	.54	.64	.74	.80	.88	.96	1.01	1.08	1.23	1.36
JUL 10	.30	.56	.59	.60	.60	.60	.60	.60	.60	.60	.60	.60
JUL 28	.42	.81	1.09	1.32	2.12	2.54	2.80	2.86	2.89	3.00	3.21	3.26
AUG 19	.24	.41	.49	.55	.74	1.04	1.41	M	M	M	M	2.71
GOODLAND												
JUL 8	.30	.45	.60	.80	1.00	1.30	1.55	1.59	1.63	1.67	1.69	1.70
TOPEKA												
JUN 12	.22	.34	.56	.68	.78	.90	.97	1.04	1.12	1.14	1.19	1.51
JUN 14	.22	.33	.36	.50	.61	.75	.87	.90	.95	.98	1.00	1.00
JUN 18	.18	.34	.46	.56	.70	.74	.76	.78	.80	.80	.80	.80
JUN 22	.24	.34	.44	.55	.69	.90	1.06	1.10	1.14	1.16	1.17	1.18
JUL 11	.24	.38	.38	.38	.38	.39	.39	.40	.40	.42	.44	.44
AUG 20	.16	.27	.37	.43	.58	.72	.90	1.04	1.13	1.28	1.38	1.43
AUG 20	.18	.25	.26	.40	.47	.47	.61	.61	.61	.61	.62	1.01
AUG 31	.40	.71	.82	1.02	1.56	1.86	2.36	2.91	2.93	3.11	3.15	3.15
NOV 15	.28	.56	.70	.78	1.00	1.50	1.92	2.18	2.70	2.85	3.05	3.16
WICHITA												
APR 3	.28	.41	.46	.54	.62	.64	.68	.68	.68	.69	.70	.71
MAY 27	.20	.35	.47	.60	.86	1.20	1.52	1.85	1.89	1.91	2.07	2.25
JUN 4	.25	.46	.57	.58	.58	.60	.90	1.01	1.08	1.08	1.10	1.25
JUN 30	.35	.70	.90	1.08	1.20	1.31	1.33	1.33	1.33	1.33	1.33	1.33
JUL 12	.22	.36	.43	.53	.76	.94	.98	1.00	1.01	1.01	1.01	1.01
AUG 7	.18	.34	.50	.60	.70	.98	1.02	1.04	1.05	1.06	1.09	1.12
AUG 25	.14	.24	.32	.40	.58	.64	.65	.70	.92	1.08	1.08	1.08
AUG 27	.25	.50	.72	.96	1.31	1.77	1.81	1.89	1.92	1.93	1.93	1.93
NOV 15	.25	.39	.46	.56	.64	.68	.90	.95	1.00	1.04	1.15	1.28
KENTUCKY												
COVINGTON												
MAR 4	.20	.32	.44	.50	.60	.79	.90	1.02	1.06	1.08	1.14	1.23
MAR 4	.17	.30	.33	.35	.42	.47	.50	.50	.55	.58	.65	.80
MAR 9	.26	.37	.47	.52	.60	.67	.76	.83	.95	1.10	1.22	1.31
APR 3	.25	.40	.45	.47	.50	.60	.71	.72	.72	.72	.72	.72
AUG 4	.28	.48	.55	.56	.57	.58	.58	.58	.58	.58	.58	.58
AUG 11	*.31	.43	.49	.50	.50	.50	.50	.50	.54	.63	.64	.64
AUG 21	.25	.34	.39	.41	.43	.44	.45	.45	.45	.45	.45	.45
LEXINGTON												
MAR 4	.35	.55	.61	.65	.70	.75	.80	.90	.99	1.17	1.27	1.46
JUN 14	.20	.37	.50	.58	.75	1.00	1.07	1.23	1.43	1.47	1.50	1.50
JUN 18	.21	.37	.51	.62	.82	.90	1.00	1.00	1.00	1.00	1.00	1.01
JUL 7	.45	.80	.93	.97	1.08	1.11	1.14	1.17	1.21	1.23	1.45	1.52
LOUISVILLE												
MAR 4	.26	.33	.44	.53	.58	.62	.66	.80	.95	.99	1.12	1.23
MAR 9	.10	.20	.28	.36	.46	.66	.81	1.06	1.28	1.36	1.56	1.76
MAR 9	.20	.30	.40	.46	.52	.58	.63	.70	.81	.99	1.18	1.30
MAR 25	.30	.42	.46	.54	.68	.76	1.00	1.01	1.02	1.04	1.06	1.06
APR 19	.29	.56	.57	.58	.59	.61	.61	.66	.72	.74	.77	.80
JUN 14	.17	.31	.33	.34	.36	.37	.38	.38	.38	.38	.38	.38
JUN 18	.32	.42	.42	.43	.43	.45	.45	.47	.51	.59	.70	.70
JUN 18	.32	.42	.50	.69	.72	.72	.72	.72	.72	.72	.72	.72
JUL 7	.44	.80	.93	.96	.98	.98	.99	.99	.99	.99	.99	.99
JUL 29	.28	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
AUG 8	.30	.54	.56	.56	.58	.66	.67	.67	.67	.67	.67	.67
AUG 21	.22	.39	.54	.56	.57	.58	.58	.58	.58	.58	.58	.58
AUG 28	.28	.43	.52	.55	.67	.70	.77	.79	.79	.79	.79	.79
SEP 21	.31	.54	.76	.88	.93	.94	.94	.94	.94	.94	.94	.94
LOUISIANA												
ALEXANDRIA												
JAN 8	.26	.52	.55	.69	.90	1.02	1.36	1.57	1.75	1.84	1.88	1.88
JAN 24	.20	.40	.45	.55	.70	.88	.97	1.03	1.08	1.09	1.10	1.14
MAR 2	.29	.54	.58	.70	1.06	1.28	1.37	1.41	1.54	1.63	1.77	1.81
MAR 14	.14	.26	.32	.36	.59	.65	.78	.80	.80	.80	.80	.90
MAY 28	.50	.73	.81	1.03	1.21	1.31	1.33	1.34	1.36	1.38	1.38	1.40
JUN 24	.27	.30	.32	.32	.32	.32	.32	.32	.32	.32	.32	.42
JUL 12	.41	.66	.72	.87	.90	.92	.93	.93	.93	.93	.93	1.20
JUL 24	.45	.54	.55	.59	.95	1.02	1.17	1.59	1.67	1.67	1.67	1.67
JUL 28	.30	.43	.45	.59	.82	.89	.94	.97	.98	.98	.98	.98
AUG 5	.21	.33	.34	.34	.37	.38	.39	.40	.40	.40	.40	.40
AUG 9	.22	.40	.43	.58	.80	.87	.90	.90	.90	.90	.90	.90
AUG 13	.40	.66	.73	.90	1.08	1.23	1.37	1.42	1.56	1.62	1.80	2.03
AUG 16	.50	.77	.78	.79	.80	.80	.80	.80	.80	.80	.80	.80
AUG 22	.28	.40	.41	.45	.63	.69	.71	.89	1.15	1.25	1.32	1.32
SEP 27	.55	.85	1.03	1.20	1.32	1.39	1.40	1.41	1.42	1.42	1.66	1.72
NOV 19	.23	.37	.38	.39	.43	.43	.43	.46	.49	.51	.59	.60
NOV 27	.20	.31	.36	.38	.43	.46	.48	.50	.52	.52	.55	.75
DEC 10	.24	.45	.48	.52	.59	.82	.96	1.25	1.33	1.53	1.80	2.13
BATON ROUGE												
FEB 5	.16	.25	.36	.42	.55	.62	.65	.68	.68	.72	.80	.87
FEB 17	.20	.32	.42	.48	.58	.65	.78	1.01	1.13	1.25	1.40	1.55
MAR 1	.21	.38	.56	.63	.73	.75	.76	.76	.76	.76	.78	.82
MAR 2	.25	.42	.54	.63	.80	1.00	1.16	1.30	1.35	1.50	1.56	1.58
MAR 14	.32	.54	.72	.76	.79	.81	.85	.87	.87	.89	1.24	1.30
MAR 19	.14	.26	.34	.42	.68	.89	.97	1.06	1.13	1.17	1.25	1.35
APR 18	.40	.80	.81	.82	.84	.84	.84	.84	.84	.84	.84	.84
APR 25	.29	.40	.40	.42	.42	.42	.44	.44	.44	.44	.44	.44
APR 26	.54	.86	1.08	1.20	1.38	1.45	1.53	1.59	1.63	1.69	1.71	1.71
MAY 1	.38	.60	.70	.80	.92	.98	1.17	1.21	1.23	1.25	1.30	1.30
MAY 12	.25	.35	.38	.40	.40	.41	.44	.47	.48	.48	.48	.48
JUN 24	.25	.34	.38	.43	.52	.56	.62	.65	.72	.74	.77	.78
JUL 1	.25	.35	.50	.65	.75	.75	.75	.83	.88	.88	.88	.88
JUL 2	.20	.31	.37	.44	.50	.68	.69	.72	.74	.80	.84	.89
JUL 12	.55	.89	1.08	1.25	1.75	2.10	2.18	2.22	2.23	2.24	2.24	2.24
JUL 27	.35	.55	.64	.69	.72	.77	.79	.81	.85	.89	.90	.90
AUG 8	.32	.57	.68	.76	.83	.83	.83	.84	.84	.84	.84	.89
AUG 13	.25	.37	.44	.46	.47	.47	.47	.47	.47	.47	.47	.47
AUG 14	.20	.31	.40	.45	.47	.47	.47	.47	.47	.47	.47	.47
AUG 18	.40	.68	.85	.99	1.04	1.07	1.15	1.20	1.20	1.23	1.23	1.24
AUG 26	.20	.30	.33	.36	.41	.45	.45	.45	.45	.50	.57	.57
AUG 27	.25	.41	.42	.43	.43	.43	.43	.43	.43	.43	.43	.43
SEP 6	.29	.42	.48	.51	.53	.55	.58	.58	.58	.58	.58	.62

M No record

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
LOUISANA												
BATON ROUGE												
SEP 17	.35	.51	.75	.77	.83	.85	.88	.92	.95	1.00	1.00	1.00
SEP 18	.27	.36	.37	.38	.38	.39	.39	.67	.69	.70	.70	.71
OCT 3	.15	.25	.38	.46	.68	.88	1.04	1.28	1.64	1.79	2.06	2.33
OCT 4	.25	.40	.50	.55	.65	.87	1.00	1.22	1.70	2.20	2.45	2.75
OCT 13	.19	.30	.35	.41	.42	.44	.45	.45	.45	.45	.45	.45
NOV 19	.40	.57	.85	.98	1.03	1.04	1.13	1.20	1.24	1.31	1.35	1.39
NOV 24	.22	.30	.38	.47	.60	.70	.73	.85	.90	.98	1.02	1.10
NOV 28	.41	.71	.76	.77	.77	.78	.78	.78	.78	.78	.80	.82
LAKE CHARLES												
JAN 6	.28	.48	.55	.67	.85	.87	.93	.93	1.00	1.01	1.04	1.16
MAR 19	.65	.70	.70	.77	.80	.85	.93	.98	1.00	1.07	1.14	1.24
APR 25	.20	.35	.38	.52	.60	.64	.65	.65	.65	.65	.65	.65
APR 26	.25	.43	.48	.71	.90	.90	.90	.90	.90	.90	.90	.90
JUN 30	.30	.48	.58	.75	1.11	1.36	1.68	1.97	2.28	2.32	2.36	2.36
JUN 30	.35	.57	.67	.83	1.32	1.48	1.59	1.91	2.09	2.20	2.44	2.53
JUL 1	.25	.33	.34	.36	.40	.42	.46	.49	.56	.59	.64	.67
AUG 13	.25	.44	.45	.48	.49	.57	.57	.57	.57	.57	.58	.59
AUG 18	.30	.42	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48
AUG 22	.30	.51	.57	.60	.62	.65	.65	.65	.66	.66	.67	.67
SEP 5	.25	.49	.50	.56	.57	.58	.59	.60	.60	.60	.60	.62
SEP 16	.25	.38	.45	.57	.70	.77	.86	.87	.87	.87	.88	1.12
SEP 17	.58	.85	.95	1.10	1.35	1.39	1.41	1.42	1.42	1.42	1.42	1.42
NOV 19	.30	.38	.39	.39	.41	.46	.46	.55	.66	.89	.89	.89
DEC 10	.35	.70	.80	.90	1.02	1.10	1.15	1.50	2.15	2.20	2.35	2.35
NEW ORLEANS												
JUL 3	.24	.37	.40	.55	.55	.55	.55	.67	.70	.70	.74	.75
JUL 13	*.27*	.45*	.49	.60*	.63	.67*	.69	.71	.73*	.76	.81*	.86
JUL 28	.27	.44	.48	.52	.55	.59	.61	.61	.61	.61	.61	.61
JUL 31	.16	.32	.33	.36	.42	.53	.57	.59	.59	.59	.59	.59
NEW ORLEANS AUDUBON												
JAN 6	.45	.73	.79	.82	1.08	1.28	1.45	1.63	1.92	2.14	2.33	2.55
JAN 8	.17	.32	.40	.50	.55	.78	1.01	1.23	1.41	1.41	1.42	1.43
JAN 23	.22	.33	.37	.40	.73	.81	1.13	1.22	1.31	1.31	1.31	1.32
FEB 24	.21	.24	.30	.36	.52	.70	.77	.87	1.13	1.43	1.50	1.50
MAR 19	.52	.92	.99	1.02	1.25	1.67	2.08	2.43	2.86	3.12	3.27	3.32
APR 6	.25	.32	.36	.44	.60	.65	.82	1.26	1.34	1.42	1.46	1.55
APR 14	.54	.95	1.05	1.25	1.56	1.76	1.95	2.33	2.40	2.40	2.40	2.50
APR 18	.32	.43	.49	.61	.77	.82	.91	1.04	1.06	1.08	1.08	1.08
APR 25	.47	.93	.96	1.08	1.58	1.61	1.71	1.82	1.82	1.82	1.82	1.82
MAY 26	.40	.49	.51	.52	.53	.53	.53	.53	.53	.53	.53	.53
MAY 31	.28	.42	.42	.42	.44	.44	.44	.46	.46	.46	.46	.46
JUN 20	.22*	.31	.36	.39	.45	.56	.86	.93	1.21	1.23	1.23	1.24
AUG 14	.65	.98	1.05	1.25	1.82	2.05	2.08	2.18	2.18	2.18	2.18	2.18
AUG 18	.24	.37	.47	.57	.70	.70	.70	.70	.70	.70	.70	.70
AUG 31	.22	.27	.47	.60	.65	.66	.66	.66	.66	.66	.66	.66
OCT 2	.27	.37	.43	.46	.49	.49	.49	.49	.53	.53	.57	.57
OCT 27	.42	.57	.62	.78	.87	.92	.92	.93	1.08	1.24	1.25	1.28
DEC 11	.45	.65	.88	.98	1.20	1.29	1.45	1.60	1.83	1.97	1.99	2.03
SHREVEPORT												
MAR 9	.28	.30	.31	.32	.33	.34	.37	.49	.50	.61	.68	.72
MAR 19	.25	.49	.52	.55	.65	.70	.78	.83	.89	.89	.94	.94
APR 5	.26	.42	.45	.65	.88	1.01	1.23	1.35	1.53	1.62	1.73	1.87
APR 24	.25	.42	.53	.57	.63	.65	.65	.78	.96	1.02	1.40	1.51
APR 26	.25	.50	.55	.65	.90	1.04	1.19	1.58	1.67	1.73	1.89	1.96
JUN 27	.25	.47	.65	.78	.88	.91	.92	.93	.93	.93	.93	.93
AUG 16	.38	.58	.70	.73	.91	1.09	1.14	1.44	1.50	1.53	1.53	1.54
AUG 18	.17	.34	.36	.40	.54	.66	.95	1.01	1.04	1.06	1.46	1.62
SEP 27	.39	.71	.77	.79	.81	.83	.84	.85	.85	.89	.94	.95
NOV 19	.40	.44	.45	.47	.51	.52	.53	.54	.57	.62	.67	.69
MAINE												
CARIBOU												
MAY 9	.12	.20	.26	.36	.51	.61	.69	.76	.82	.85	.89	.95
PORTLAND												
JUN 24	.39	.53	.59	.61	.75	1.02	1.03	1.04	1.10	1.14	1.16	1.16
JUL 14	.22	.36	.54	.72	.82	.86	.91	.96	1.01	1.01	1.01	1.01
MARYLAND												
BALTIMORE												
JUN 15	.25	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
JUN 27	.26	.28	.35	.38	.60	.60	.60	.60	.60	.60	.60	.60
AUG 7	.35	.43	.50	.66	.79	.80	.80	.80	.80	.80	.80	.80
BALTIMORE U												
JUL 3	.25	.47	.50	.60	.65	.65	.68	.68	.68	.69	.69	.69
DEC 26	.30	.54	.67	.71	.80	.86	.86	.86	.86	.86	.86	.86
FREDERICK						NONE						
WASHINGTON U												
MAY 13	.50	.72	.80	.90	1.00	1.05	1.05	1.10	1.15	1.25	1.25	1.25
MAY 17	.25	.38	.40	.41	.45	.45	.45	.45	.45	.45	.45	.45
MASSACHUSETTS												
BOSTON												
JUN 20	.25	.45	.55	.64	.78	.83	.85	.85	.86	.87	.87	.87
JUL 1	.26	.40	.43	.50	.66	.74	.77	.92	1.05	1.07	1.08	1.08
JUL 8	.15	.30	.32	.38	.42	.42	.42	.42	.42	.42	.42	.42
AUG 5	.20	.37	.39	.42	.44	.44	.44	.44	.44	.44	.44	.44
AUG 26	.40	.60	.64	.66	.68	.70	.70	.70	.70	.70	.70	.70
NANTUCKET												
JUL 29	.21	.32	.42	.54	.79	.91	.96	1.01	1.06	1.11	1.13	1.27
PITTSFIELD												
AUG 8	.31	.37	.39	.42	.45	.47	.47	.47	.47	.47	.47	.47
MICHIGAN												
ALPENA												
MAY 8	.25	.37	.42	.56	.64	.74	.78	.81	.83	.88	.90	.91
JUN 9	.26	.34	.36	.37	.37	.48	.49	.50	.51	.51	.51	.51
JUL 11	.52	.58	.61	.63	.72	.76	.76	.76	.76	.76	.76	.76
AUG 2	.31	.39	.40	.40	.40	.40	.42	.45	.48	.49	.50	.50
AUG 3	.33	.55	.62	.66	.67	.69	.71	.76	.79	.82	.84	.86

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes) 5	10	15	20	30	45	60	80	100	120	150	180
MICHIGAN												
ALPENA												
SEP 3	.27	.38	.45	.47	.48	.48	.48	.48	.48	.50	.68	.77
DETROIT												
JUL 25	.18	.28	.35	.42	.69	.86	1.06	1.16	1.16	1.16	1.16	1.16
AUG 2	.31	.48	.50	.51	.52	.55	.59	.71	.72	.72	.72	.72
AUG 11	.28	.39	.45	.54	.76	.95	1.00	1.02	1.02	1.04	1.06	1.66
AUG 22	.26	.41	.51	.54	.56	.57	.58	.59	.81	.85	.86	1.08
DETROIT M WAYNE CO												
JUN 7	*.45	*.80	.83	.83	.85	1.14	1.15	1.18	1.20	1.21	1.21	1.21
AUG 11	.33	.55	.80	1.00	1.35	1.50	1.50	1.50	1.53	1.54	1.55	*2.30
DETROIT WILLOW RUN												
MAY 8	.26	.35	.37	.45	.51	.58	.63	.64	.64	.64	.76	.80
JUN 7	.30	.47	.60	.80	1.02	1.06	1.06	1.06	1.06	1.06	1.06	1.06
JUL 12	.28	.43	.50	.58	.62	.62	.64	.64	.64	.65	.67	.67
AUG 11	.40	.55	.64	.78	1.00	1.11	1.19	1.25	1.26	1.26	1.27	1.55
AUG 22	.30	.53	.60	.65	.69	.71	.74	.74	.74	.74	.81	.98
FLINT												
MAY 8	.37	.47	.50	.63	.84	1.05	*1.25	1.36	1.45	*1.49	1.50	*1.51
JUN 15	.17	.31	.38	.45	.56	.63	.77	.86	1.02	1.09	1.15	1.30
JUN 19	.38	.45	.47	.50	.53	.55	.55	.55	.55	.55	.55	.55
JUL 2	.26	.37	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
JUL 11	*.62	*.90	*.97	1.03	*1.32	1.41	*1.45	1.54	1.58	*1.59	1.61	*1.62
GRAND RAPIDS												
MAY 8	.19	.30	.36	.39	.41	.54	.73	.75	.76	.77	.85	.88
JUN 15	.42	.63	.68	.70	.84	.93	.97	1.16	1.50	1.66	1.76	1.80
JUN 22	.18	.30	.38	.46	.53	.56	.60	.66	.67	.67	.67	.67
AUG 20	.27	.35	.39	.40	.43	.49	.55	.55	.55	.55	.55	.64
HOUGHTON LAKE												
JUL 20	*.33	*.41	*.44	.48	*.49	.51	*.55	.55	.55	*.55	.55	*.55
AUG 3	*.35	*.50	*.63	.70	*.78	.81	.82	.83	.83	.83	.83	.83
AUG 28	.35	.47	.55	.58	.60	.60	.60	.60	.60	.60	.60	.60
SEP 21	.13	.23	.30	.40	*.60	.85	*1.08	1.20	1.28	*1.28	1.28	*1.28
LANSING						NONE						
MARQUETTE U												
JUL 24	.28	.49	.53	.59	.75	.88	.92	.94	1.02	1.32	1.58	1.75
AUG 2	.29	.55	.79	1.03	1.36	1.45	1.46	1.46	1.46	1.46	1.46	1.46
SEP 3	.27	.41	.46	.50	.53	.53	.53	.53	.54	.54	.54	.54
MUSKEGON												
AUG 11	.28	.32	.39	.43	.44	.59	.66	.67	.67	.67	.67	.67
SEP 10	.25	.37	.46	.49	.50	.66	.74	.76	.77	.78	.79	.79
SEP 20	.28	.47	.48	.48	.48	.48	.49	.49	.58	.58	.59	.59
SAULT STE MARIE												
MAY 24	.27	.46	.48	.56	.66	.72	.75	.75	.75	.79	.79	.79
JUL 2	.29	.38	.40	.47	.58	.62	.62	.62	.62	.62	.62	.62
AUG 1	.21	.33	.40	.50	.54	.59	.81	.86	.90	.92	1.02	1.03
AUG 2	.26	.28	.28	.28	.28	.30	.30	.30	.30	.30	.30	.30
NOV 15	.16	.31	.33	.34	.36	.36	.36	.39	.50	.58	.63	.65
MINNESOTA												
DULUTH												
MAY 4	.20	.36	.40	.52	.53	.70	1.03	1.04	1.04	1.04	1.04	1.04
MAY 6	.24	.39	.48	.51	.62	.73	.75	.95	1.00	1.07	1.07	1.07
MAY 23	.27	.45	.53	.62	.72	.89	.91	.92	.92	1.03	1.10	1.10
JUN 9	.22	.39	.48	.56	.66	.74	.80	.92	.95	.95	1.00	1.01
JUL 24	.28	.52	.67	.70	.70	.70	.70	.70	.70	.70	.70	.70
AUG 10	.24	.41	.52	.64	.77	.87	1.02	1.10	1.11	1.12	1.12	1.13
AUG 20	.22	.42	.54	.60	.65	.77	.83	1.35	1.49	1.54	1.57	1.57
SEP 6	.28	.38	.46	.58	.64	.78	.82	.92	1.26	1.27	1.37	1.38
SEP 7	.40	.58	.64	.86	.88	.90	.91	.92	.96	1.03	1.21	1.32
SEP 26	.24	.40	.50	.55	.57	.59	.60	.60	.63	.65	.69	.71
INTERNATIONAL FALLS												
JUN 8	.45	.67	.74	.89	.90	.90	.91	.91	1.33	1.65	1.65	1.65
JUN 9	.36	.55	.61	.93	1.01	1.06	1.15	1.31	1.41	1.51	1.51	1.52
JUL 17	.22	.38	.40	.42	.45	.45	.45	.45	.45	.45	.45	.45
AUG 2	.28	.56	.67	.87	1.18	1.28	*1.53	1.58	1.60	1.60	1.61	1.69
MINNEAPOLIS												
APR 20	.15	.28	.40	.43	.45	.49	.54	.60	.62	.62	.64	.64
MAY 23	.48	.84	.93	1.02	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
JUL 11	.28	.42	.44	.47	.49	.49	.59	.60	.62	.69	.75	.75
AUG 29	.42	.81	.98	1.17	1.50	1.88	1.96	2.04	2.05	2.05	2.05	2.05
SEP 7	.25	.33	.42	.43	.52	.60	.72	.86	1.00	1.06	1.12	1.23
SEP 9	.26	.39	.41	.43	.44	.44	.44	.46	.47	.47	.51	.54
ROCHESTER												
SEP 3	.20	.30	.40	.56	.70	.80	.80	.82	.84	.84	.84	.84
SEP 6	.23	.30	.32	.34	.35	.36	.40	.42	.42	.43	.44	.44
SEP 7	.56	.95	.99	1.04	1.10	1.18	1.24	1.34	1.98	2.12	2.18	2.20
NOV 3	.25	.28	.39	.40	.41	.41	.53	.53	.53	.53	.53	.53
ST CLOUD												
MAY 5	.23	.33	.35	.36	.38	.40	.40	.40	.40	.40	.40	.40
JUL 10	.30	.37	.44	.56	.69	.69	.70	.70	.77	.77	.78	.81
JUL 18	.13	.26	.30	.38	.54	.56	.56	.56	.56	.56	.56	.56
AUG 27	.31	.46	.55	.65	.88	1.04	1.25	1.37	1.55	1.63	1.66	1.67
AUG 29	.30	.59	.66	.88	1.20	1.73	1.80	1.95	1.98	2.00	2.02	2.02
ST PAUL						NONE						
MISSISSIPPI												
JACKSON												
JAN 8	.26	.33	.39	.42	.52	.54	.61	.70	.73	.86	1.10	1.19
JAN 24	.33	.40	.42	.44	.46	.47	.52	.53	.60	.64	.75	.77
MAR 3	*.77	*1.54	*2.00	2.15	*2.20	2.20	2.22	2.22	2.22	2.22	2.22	2.22
MAR 14	.25	.38	.39	.48	.52	.80	.85	.95	1.15	1.36	1.44	1.50
APR 6	.48	.90	1.02	1.12	1.27	1.35	1.38	1.45	1.49	1.55	1.60	1.67
APR 13	.34	.65	.80	.95	1.38	1.50	1.55	1.70	1.73	1.74	1.83	1.90
APR 24	.15	.27	.31	.42	.54	.66	.70	.72	.74	.79	.84	.89
APR 25	.23	.40	.46	.50	.59	.61	.72	.81	.82	.90	1.05	1.09
APR 26	.21	.31	.33	.38	.49	.62	.78	.84	.93	.97	1.01	1.12
MAY 31	.28	.50	.54	.56	.57	.58	.63	.64	.64	.64	.64	.64
MISSISSIPPI												
JACKSON												
JUN 12	.27	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
JUN 24	.24	.35	.38	.41	.42	.43	.43	.44	.44	.44	.44	.44
JUN 30	.20	.32	.37	.45	.62	.63	.63	.63	.63	.63	.63	.63
JUL 1	.33	.41	.42	.42	.43	.51	.56	.56	.56	.56	.56	.59
JUL 9	.30	.43	.52	.65	.78	.81	.85	.97	1.14	1.17	1.32	1.43
JUL 12	.20	.30	.39	.41	.41	.41	.41	.41	.41	.41	.41	.41
JUL 15	.20	.30	.32	.36	.43	.44	.46	.46	.46	.46	.46	.46
AUG 2	.25	.45	.48	.52	.70	.73	.75	.88	1.00	1.01	1.03	1.03
AUG 7	.35	.60	.75	1.00	1.18	1.20	1.33	1.35	1.45	1.47	1.47	1.47
AUG 17	.23	.41	.50	.61	.85	.93	1.08	1.18	1.23	1.25	1.31	1.36
AUG 23	.30	.39	.40	.40	.40	.41	.41	.41	.41	.41	.41	.41
SEP 18	.24	.43	.55	.65	.77	.90	1.12	1.39	1.50	1.51	1.53	1.53
SEP 28	.20	.35	.46	.56	.82	.87	.87	.88	.88	.88	.88	.91
OCT 4	.16	.31	.37	.41	.60	.85	1.09	1.39	1.59	1.78	2.31	2.70
NOV 19	.25	.40	.45	.48	.49	.52	.53	.56	.56	.58	.64	.74
NOV 28	.35	.65	.71	.83	1.15	1.32	1.52	1.96	2.35	2.47	2.70	2.84
DEC 11	.34	.58	.70	.88	1.05	1.25	1.45	1.47	1.55	1.65	1.78	1.87
DEC 30	.30	.53	.63	.65	.70	.75	.76	1.23	1.26	1.27	1.32	1.36
MERIDIAN												
MAR 2	.39	.58	.63	.69	.80	.92	1.08	1.30	1.49	1.70	1.91	2.06
MAR 14	.28	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
APR 5	.22	.31	.38	.52	.73	.97	1.22	1.35	1.57	1.75	2.18	2.33
APR 6	.27	.47	.48	.51	.53	.56	.71	.82	1.04	1.16	1.30	1.43
APR 7	.18	.32	.35	.41	.53	.64	.73	.84	.85	.86	.89	.89
APR 13	.29	.44	.56	.78	1.10	1.43	1.53	1.56	1.58	1.63	1.68	1.70
APR 24	.26	.40	.46	.50	.54	.56	.60	.63	.63	.63	.68	.70
APR 25	.28	.53	.67	.78	1.08	1.63	M	M	M	M	M	M
APR 26	.28	.46	.51	.54	.65	.70	.94	1.01	1.04	1.04	1.04	1.04
JUN 22	.22	.32	.38	.52	.72	.82	.95	1.04	1.06	1.06	1.06	1.06
JUN 23	.28	.54	.66	.73	1.12	1.45	1.45	1.45	1.48	1.48	1.55	1.55
JUN 28	.28	.33	.35	.35	.35	.35	.36	.36	.36	.36	.36	.36
JUN 29	.18	.30	.33	.35	.37	.38	.44	.57	.66	.68	.70	.72
JUN 30	.28	.50	.57	.62	.70	.72	.72	.72	.72	.72	.72	.72
JUL 21	.18	.32	.34	.34	.45	.56	.60	.60	.60	.60	.60	.60
JUL 24	.33	.56	.63	.69	.71	.72	.72	.72	.72	.95	.95	.95
JUL 31	.27	.52	.74	.83	.84	1.07	1.07	1.10	1.10	1.10	1.10	1.10
OCT 4	.17	.32	.34	.36	.37	.42	.60	.72	.83	.90	1.16	1.43
NOV 24	.12	.23	.30	.40	.52	.66	.80	.91	1.12	1.21	1.45	1.57
NOV 28	.38	.54	.58	.66	.78	.83	.88	.94	1.08	1.18	1.23	1.25
DEC 3	.28	.53	.66	.73	.92	1.01	1.04	1.07	1.14	1.19	1.39	1.54
DEC 11	.27	.43	.57	.72	.83	1.01	1.24	1.57	1.77	1.82	1.94	2.07
DEC 31	.29	.48	.57	.67	1.05	1.22	1.56	1.71	1.93	1.97	2.08	2.22
VICKSBURG U												
JUL 9	.39	.75	1.01	1.20	1.61	1.91	2.01	2.19	2.33	2.61	2.66	2.68
JUL 12	.45	.74	.92	1.10	1.33	1.34	1.34	1.34	1.34	1.34	1.34	1.34
JUL 29	.14	.27	.39	.44	.51	.56	.57	.57	.57	.57	.57	.57
AUG 22	.29	.45	.52	.57	.64	.74	.96	1.16	1.20	1.32	1.35	1.37
SEP 5	.26	.41	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
SEP 28	.19	.27	.35	.44	.53	.62	.88	1.13	1.19	1.19	1.19	1.28
NOV 19	.18	.35	.42	.45	.47	.47	.48	.51	.54	.56	.60	.66
DEC 10	.36	.45	.48	.53	.67	.71	.76	.88	.97	1.02	1.12	1.26
DEC 30	.29	.36	.38	.41	.61	.77	.84	1.07	1.37	1.39	1.40	1.46
MISSOURI												
COLUMBIA												
APR 3	.40	.48	.58	.62	.70	.77	.80	.80	.80	.80	.80	.80
MAY 26	.28	.37	.40	.43	.45	.49	.58	.60	.60	.60	.60	.60
MAY 26	.28	.44	.58	.59	.86	1.00	1.02	1.04	1.04	1.05	1.07	1.11
JUL 11	.22	.34	.45	.50	.77	1.03	1.12	1.20	1.27	1.30	1.31	1.32
JUL 23	.20	.35	.39	.41	.44	.45	.45	.45	.45	.45	.45	.45
NOV 27	.36	.40	.58	.68	.69	.70	.72	.73	.74	.75	.75	.75
KANSAS CITY												
APR 20	.21	.40	.58	.59	.60	.60	.60	.60	.60	.60	.60	.60
MAY 24	.25	.40	.56	.61	.81	1.06	1.26	1.54	1.66	1.68	1.68	1.68
MAY 26	.14	.27	.39	.47	.62	.85	.95	.96	.96	.96	.98	1.00
MAY 27	.23	.40	.43	.44	.46	.47	.56	.77	.78	.79	.81	.81
JUN 11	.22	.41	.48	.52	.57	.59	.61	.61	.61	.61	.61	.61
JUN 14	.21	.37	.48	.56	.67	.87	.99	1.05	1.12	1.15	1.16	1.16
JUN 18	.28	.46	.53	.60	.62	.64	.83	.85	.85	.85	.85	.85
JUL 4	.30	.46	.56	.58	.60	.61	.62	.62	.62	.63	.63	.63
AUG 20 E	.35	.48	.55	.62	.70	.99	1.08	1.20	1.24	1.29	1.58	1.61
SEP 26	.17	.33	.46	.56	.60	.76	.98	.98	.98	.98	.98	.98
NOV 15	.22	.37	.46	.48	.52	.62	.62	.62	.62	.62	.72	.72
NOV 15	.14	.25	.33	.42	.51	.62	.84	1.07	1.32	1.43	1.47	1.48
ST JOSEPH												
APR 20	.35	.49	.49	.50	.51	.52	.55	.60	.60	.64	.64	.64
JUN 14	.36	.70	.72	.73	.76	.80	.89	.95	1.00	1.04	1.08	1.09
JUN 21	.30	.60	.80	.95	1.05	1.25	1.65	1.69	1.70	1.71	1.73	1.73
JUN 21	.50	.85	1.18	1.33	1.55	2.05	2.43	2.90	3.23	3.38	3.69	3.80
AUG 20	.65	1.05	1.35	1.53	1.59	1.63	1.65	1.66	1.75	1.76	1.84	1.84
AUG 29	.38	.45	.54	.68	.80	.80	.85	.86	.86	.86	.86	.88
SEP 3	.25	.40	.55	.68	.83	1.03	1.11	1.15	1.15	1.15	1.15	1.15
SEP 5	.20	.35	.35	.36	.36	.38	.45	.53	.58	.63	.66	.66
ST LOUIS												
APR 24	.25	.42	.47	.51	.58	.59	.59	.60	.66	.66	.68	.68
MAY 26	.28	.41	.50	.55	.56	.57	.62	.63	.64	.64	.65	.65
JUN 14	.22	.35	.54	.55	.56	.56	.56	.56	.60	.60	.60	.60
JUL 11	.35	.56	.76	.96	1.25	1.39	1.56	1.86	2.00	2.32	2.50	2.54
JUL 21	.32	.37	.38	.38	.38	.39	.41	.41	.41	.41	.41	.41
AUG 21	.27	.33	.35	.40	.51	.62	.71	.82	.94	.97	1.37	1.50
SEP 26	.22	.28	.32	.36	.48	.65	.75	.76	.76	.76	.77	.77
NOV 27	.21	.35	.40	.49	.60	.82	.92	1.32	1.40	1.46	1.52	1.66
SPRINGFIELD												
MAY 24	.10	.20	.30	.35	.55	.60	.85	1.02	1.05	1.07	1.07	1.07
JUN 11	.28	.46	.62	.69	.77	.85	.87	.87	.87	.87	.87	.87
JUN 12	.16	.25	.35	.43	.46	.70	.82	.91	1.01	1.08	1.17	1.27
AUG 21	.26	.37	.41	.42	.43	.63	.69	.69	.70	.70	.70	.70
AUG 28	.14	.22	.26	.38	.48	.68	.76	.94	.96	.97	.99	1.04
MONTANA												
BILLINGS						NONE						
GLASGOW						NONE						
GREAT FALLS						NONE						

E Estimated
M No record

EXCESSIVE SHORT DURATION RAINFALL

YEAR 1964

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MONTANA												
HAVRE												
JUL 15	.27	.28	.28	.28	.29	.31	.32	.33	.33	.33	.33	.33
HELENA						NONE						
KALISPELL						NONE						
MILES CITY						NONE						
MISSOULA						NONE						
NEBRASKA												
GRAND ISLAND												
JUN 11	.20	.35	.45	.48	.55	.63	.64	.65	.65	.65	.65	.65
JUN 14	.29	.36	.38	.39	.40	.41	.42	.43	.43	.43	.43	.43
JUL 7	.33	.59	.74	.95	1.12	1.20	1.22	1.24	1.25	1.25	1.25	1.25
AUG 10	.30	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
AUG 19	.43	.58	.63	.73	.77	1.01	1.08	1.12	1.17	1.20	1.21	1.24
LINCOLN U						NONE						
NORFOLK												
MAY 5	.45	.70	.86	.96	1.05	1.15	1.25	1.33	1.35	1.35	1.35	1.35
JUN 14	.26	.29	.33	.34	.37	.38	.39	.39	.39	.39	.39	.39
JUN 14	.17	.31	.44	.53	.75	.93	1.04	1.09	1.17	1.21	1.23	1.25
JUN 16	.45	.80	*1.13	1.43	*1.98	2.18	*2.31	2.31	2.31	2.31	2.31	2.31
JUN 21	.35	.45	.50	.58	.78	.79	.79	.79	.79	.81	.81	.81
JUN 22	.32	.61	.75	.83	1.03	1.26	1.56	1.60	1.71	1.75	1.75	1.75
JUL 2	.25	.28	.30	.30	.30	.36	.38	.40	.40	.40	.40	.40
AUG 20	.25	.37	.43	.59	.64	.69	.69	.88	.93	.95	.96	.99
AUG 29	.47	.63	.71	.73	.74	.74	.74	.74	.74	.74	.74	.74
NORTH PLATTE												
JUN 12	.37	.58	.69	.75	.81	.82	.83	.84	.84	.84	.84	.84
JUN 19	.40	.64	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70
JUN 22	.51	.80	.93	1.00	1.16	1.20	1.30	1.35	1.39	1.40	1.45	1.45
JUL 7	.37	.62	.62	.62	.62	.62	.62	.62	.62	.62	.63	.63
JUL 10	.20	.34	.45	.49	.53	.53	.53	.53	.53	.53	.53	.53
JUL 10	*.85	*1.25	*1.65	2.05	*2.45	2.55	2.59	2.60	2.62	2.62	2.62	2.62
AUG 16	.28	.42	.68	.73	.76	.77	.79	.81	.82	.82	.82	.82
AUG 19	.27	.50	.53	.61	.74	.90	.90	.97	1.00	1.00	1.01	1.01
OMAHA												
APR 20	.20	.38	.41	.47	.49	.56	.56	.57	.57	.57	.57	.57
APR 20	.25	.34	.39	.42	.42	.44	.45	.50	.53	.55	.55	.55
MAY 7	.35	.59	.83	.92	1.08	1.16	1.55	1.60	1.62	1.62	1.62	1.62
MAY 7	.25	.45	.47	.50	.55	.55	.55	.61	.61	.61	.61	.61
MAY 23	.25	.30	.40	.44	.49	.56	.67	.67	.67	.67	.67	.67
JUN 8	.20	.24	.27	.34	.54	.61	.87	1.05	1.12	1.24	1.32	1.40
JUN 14 T	.23	.33	.38	.46	M	M	M	M	M	M	M	.71
JUN 20	.28	.35	.43	.43	.44	.44	.44	.44	.44	.44	.44	.44
JUN 22	.29	.35	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
JUL 2	.18	.24	.29	.41	.56	.60	.74	.88	.93	.93	.93	.93
JUL 4	.16	.26	.29	.31	.53	.58	.60	.61	.62	.66	.66	.66
JUL 7	.38	.61	.71	.82	1.07	1.10	1.10	1.11	1.11	1.12	1.12	1.12
JUL 11	.20	.32	.46	.52	.61	.65	.73	.76	.78	.96	.98	.98
AUG 20	.27	.40	.46	.48	.50	.54	.56	.57	.57	.57	.58	.59
AUG 27	.28	.53	.55	.77	1.01	1.07	1.13	1.27	1.37	1.42	1.49	1.49
NOV 15	.36	.69	.82	.91	1.22	1.44	1.52	1.54	1.58	1.60	1.61	1.62
NOV 28	*.28	*.47	*.67	.79	*.91	.96	*.97	.97	.97	*1.08	1.17	*1.29
SCOTTSBLUFF						NONE						
VALENTINE												
JUL 29	.64	.76	.80	.83	1.30	1.56	1.59	1.71	1.88	1.95	1.96	1.96
NEVADA												
ELKO						NONE						
ELY						NONE						
LAS VEGAS						NONE						
RENO						NONE						
TONOPAH						NONE						
WINNEMUCCA						NONE						
NEW HAMPSHIRE												
CONCORD												
JUL 2	.25	.42	.55	.61	.70	.75	.86	.96	1.07	1.13	1.21	1.23
JUL 19	.30	.48	.62	.62	.63	.63	.63	.63	.77	.77	.77	.77
NEW JERSEY												
ATLANTIC CITY												
APR 29	.20	.32	.49	.54	.74	.96	1.02	1.12	1.20	1.23	1.30	1.37
AUG 16	.24	.38	.38	.42	.51	.71	.78	.85	.97	.99	.99	.99
SEP 30	.17	.30	.33	.50	.60	.92	1.12	1.27	1.63	1.79	1.96	2.00
NEWARK												
JUL 29	.37	.58	.66	.68	.71	.76	.77	.77	.78	.78	.79	.80
TRENTON U												
JUN 15	.26	.29	.33	.36	.43	.43	.43	.43	.55	.63	.79	.82
JUL 8	.18	.32	.44	.54	.76	1.13	1.26	1.40	1.53	1.82	2.15	2.59
JUL 13	.44	.76	.80	1.00	1.10	1.35	1.45	1.47	1.47	1.47	1.49	1.49
SEP 11	.19	.30	.41	.51	.63	.86	1.18	1.39	1.54	1.69	1.83	2.02
OCT 2	.24	.35	.38	.40	.43	.51	.59	.70	1.06	1.11	1.12	1.15
NEW MEXICO												
ALBUQUERQUE												
JUL 27	.21	.35	.48	.58	.70	.82	.88	.88	.88	.88	.88	.88
CLAYTON												
AUG 8	.25	.40	.50	.60	.85	.97	1.10	1.16	1.20	1.25	1.31	1.34

T Clock malfunction
M No record

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
NEW MEXICO												
RATON												
JUL 18	.30	.58	.62	.67	.68	.68	.68	.68	.68	.68	.68	.68
AUG 7	.19	.28	.37	.47	.57	.59	.61	.61	.61	.61	.61	.61
AUG 14	.20	.38	.40	.41	.42	.43	.43	.45	.47	.49	.52	.52
ROSWELL												
JUN 13	.27	.47	.54	.67	.85	1.07	1.10	1.10	1.10	1.10	1.10	1.10
SILVER CITY												
JUL 26	.20	.32	.36	.41	.42	.43	.43	.45	.45	.45	.45	.46
JUL 31	.24	.32	.42	.49	.59	.65	.66	.69	.69	.70	.71	.72
AUG 8	.20	.35	.36	.47	.61	.66	.67	.68	.68	.68	.68	.68
AUG 11	.28	.34	.52	.63	.75	.78	.79	.79	.80	.83	.89	.91
NEW YORK												
ALBANY												
MAY 19	.17	.29	.31	.43	.45	.50	.57	.58	.58	.58	.58	.58
AUG 12	.20	.31	.38	.44	.53	.62	.68	.71	.73	.73	.74	.74
AUG 31	.25	.29	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
BINGHAMTON												
MAY 13	.62	.73	.78	.80	.81	.82	.84	1.04	1.14	1.18	1.22	1.24
JUL 1	.49	.84	1.06	1.26	1.46	1.51	1.53	1.56	1.56	1.56	1.58	1.60
JUL 2	.21	.35	.50	.52	.53	.54	.56	.56	.56	.56	.56	.56
JUL 20	.22	.34	.42	.46	.56	.60	.61	.62	.62	.62	.62	.62
JUL 22	.18	.25	.34	.40	.46	.47	.48	.48	.48	.48	.48	.48
JUL 29	.33	.37	.39	.39	.40	.40	.40	.40	.40	.40	.40	.40
BUFFALO												
AUG 17	.18	.24	.30	.41	.43	.44	.44	.44	.59	.82	.85	.86
NEW YORK CENT PK												
JUN 19	.23	.39	.45	.54	.71	.75	.76	.76	.76	.76	.76	.76
NEW YORK LA GUARDIA												
JUN 19	.23	.40	.54	.73	.85	.87	.87	.90	.90	.90	.90	.90
JUL 29	.33	.53	.66	.79	.86	1.06	1.20	1.23	1.23	1.23	1.31	1.32
ROCHESTER												
MAY 13	.29	.42	.54	.62	.64	.65	.65	.65	.72	.76	.79	*.79
SYRACUSE												
MAY 19	.26	.40	.48	.54	.56	.57	.57	.57	.57	.57	.57	.57
JUN 26	.25	.28	.30	.38	.38	.38	.38	.38	.50	.52	.52	.52
JUL 3	.38	.45	.48	.50	.52	.57	.58	.58	.60	.60	.60	.60
JUL 12	.26	.29	.32	.36	.40	.44	.48	.48	.48	.48	.48	.48
AUG 30	.30	.42	.70	.71	.74	.76	.76	.77	.77	.77	.77	.77
NORTH CAROLINA												
ASHEVILLE												
SEP 29	*.16	*.30	.33	.40	.57	.62	.69	.76	.84	.92	1.02	1.10
OCT 4	*.14	*.27	*.33	.36	*.59	.75	*.90	1.05	1.17	*1.31	1.49	*1.67
ASHEVILLE U						NONE						
CAPE HATTERAS R												
FEB 6	.15	.29	.37	.40	.48	.61	.84	.90	.95	1.10	1.16	1.22
MAY 20	.15	.20	.35	.38	.43	.50	.54	.54	.55	.55	.55	.55
JUN 1	.25	.38	.39	.40	.51	.54	.54	.54	.54	.54	.54	.54
JUL 31	.20	.32	.42	.46	.48	.50	.51	.53	.54	.54	.54	.54
AUG 12	.30	.46	.58	.61	.64	.64	.64	.64	.64	.64	.64	.64
AUG 28	.18	.35	.40	.45	.60	.70	.73	.74	.75	.75	.75	.81
AUG 28	.37	.60	.87	1.00	1.40	1.53	1.61	1.65	1.70	1.79	1.81	1.81
AUG 30	.40	.70	.85	1.00	1.02	1.10	1.17	2.07	2.17	2.23	2.30	2.50
AUG 31	.25	.50	.67	.75	.88	.93	.97	1.03	1.31	1.38	1.42	1.44
SEP 12	.19	.36	.43	.55	.76	.85	.94	1.00	1.06	1.08	1.08	1.08
OCT 5	.20	.33	.50	.54	.74	1.02	1.38	1.71	1.94	2.18	2.29	2.38
CHARLOTTE												
JUN 1	.18	.34	.43	.45	.52	.57	.60	.62	.64	.65	.66	.68
SEP 3	.36	.68	.76	.82	.94	.98	1.01	1.04	1.05	1.05	1.06	1.06
GREENSBORO												
JUL 10	.22	.33	.42	.52	.58	.58	.63	.70	.74	.74	.75	.90
JUL 21	.20	.30	.35	.42	.54	.67	.71	.72	.74	.75	.76	.77
JUL 29	.18	.34	.45	.50	.52	.52	.54	.88	.93	.94	.95	.96
AUG 3	.31	.51	.66	.70	.70	.73	.74	.74	.74	.75	.76	.76
AUG 12	.21	.43	.46	.49	.49	.49	.49	.49	.49	.49	.49	.49
AUG 19	.21	.30	.36	.55	.72	.82	.90	.91	.91	.91	.91	.91
AUG 30	.51	.86	1.27	1.66	1.95	1.96	1.96	1.99	1.99	2.00	2.00	2.00
OCT 4	.19	.27	.42	.52	.64	.87	1.02	1.23	1.37	1.53	1.69	1.91
RALEIGH												
JUN 1	.30	.45	.48	.51	.56	.60	.64	.70	.71	.71	.71	.71
JUN 21	.48	.90	1.15	1.20	1.26	1.35	1.45	1.49	1.49	1.49	1.49	1.49
JUL 13	.30	.53	.53	.53	.54	.54	.54	.54	.54	.54	.54	.54
JUL 20	.28	.47	.49	.52	.55	.55	.55	.55	.55	.55	.55	.55
AUG 3	.27	.38	.40	.45	.53	.57	.57	.62	.97	1.04	1.05	[illegible]
AUG 31	.25	.50	.55	.75	.86	1.00	1.12	1.25	1.51	1.64	1.74	1.85
SEP 28	.20	.35	.38	.43	.43	.43	.43	.43	.43	.43	.43	.43
SEP 30	.25	.48	.64	.74	1.05	1.29	1.36	1.39	1.40	1.40	1.45	1.68
WILMINGTON												
MAY 28	.45	.67	.72	.77	.84	.86	.88	.88	.92	.94	.96	1.14
JUN 1	.38	.53	.61	.76	1.04	1.11	1.14	1.15	1.17	1.22	1.22	[illegible]
JUN 3	.22	.37	.43	.45	.45	.45	.45	.45	.45	.45	.45	.45
JUL 4	.18	.35	.40	.47	.50	.50	.50	.50	.50	.50	.50	.50
JUL 9	.13	.25	.35	.45	.57	.60	.62	.62	.64	.64	.65	.68
JUL 13	.25	.48	.53	.61	.68	.68	.68	.68	.68	.68	.68	.68
JUL 22	.25	.50	.61	.78	1.10	1.22	1.28	1.32	1.41	1.43	1.49	1.49
AUG 25	.21	.40	.42	.46	.63	.71	.72	.72	.72	.72	.72	.72
AUG 28	.16	.30	.33	.35	.40	.42	.45	.48	.52	.54	.57	.57
SEP 12	.34	.39	.42	.45	.63	.76	.94	1.07	1.34	1.39	1.44	1.44
SEP 13	.28	.36	.40	.43	.48	.58	.75	.85	.89	.92	1.14	[illegible]
OCT 1	.35	.60	.70	.90	1.08	1.14	1.15	1.15	1.74	1.85	1.85	1.87
OCT 4	.41	.68	.89	.99	1.36	1.65	1.96	2.18	2.33	2.47	3.02	[illegible]
DEC 27	.21	.38	.45	.55	.75	.82	.87	.93	.97	1.02	1.13	1.22
OCT 29	.18	.31	.42	.51	.64	.77	.89	.92	.98	.98	.98	.98
WINSTON SALEM												
JUN 13	.26	.36	.39	.39	.39	.39	.39	.39	.39	.39	.39	.39
JUN 15	.25	.37	.41	.41	.41	.42	.42	.43	.43	.43	.43	.43
JUL 10	.29	.54	.75	.88	*1.25	1.57	*1.91	2.04	2.05	*2.08	2.08	*2.13
JUL 12	.36	*.66	.77	.93	1.07	1.16	1.35	1.61	1.64	1.67	1.70	1.75

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
NORTH CAROLINA												
WINSTON SALEM												
JUL 13	.28	.37	.40	.41	.42	.44	.45	.46	.51	.52	.52	.52
AUG 3	.21	.29	.35	.36	.38	.40	.43	.45	.45	.45	.45	.45
AUG 10	.27	.30	.31	.31	.32	.34	.34	.34	.35	.37	.37	.37
AUG 30	.32	.41	.52	.54	.67	.68	.68	.68	.68	.68	.75	.86
DEC 26	.20	.29	.36	.46	.63	.85	.89	.94	.96	1.01	1.06	1.14
NORTH DAKOTA												
BISMARCK												
APR 26	.18	.33	.36	.40	.51	.62	.70	.72	.72	.72	.79	.84
JUN 11	.19	.30	.36	.40	.43	.45	.48	.51	.54	.55	.57	.62
JUN 18	.33	.44	.47	.55	.64	.71	.75	.82	.87	.92	.93	.93
JUL 5	.20	.27	.39	.52	.76	.85	.90	.92	.96	.96	.96	.96
JUL 18	.34	.60	.72	.74	.76	.78	.78	.78	.78	.78	.78	.78
DEVILS LAKE						NONE						
FARGO												
JUN 8	.19	.37	.39	.45	.48	.48	.48	.48	.48	.48	.49	.49
JUN 18	.44	.86	1.00	1.16	1.48	1.56	1.61	1.66	1.71	1.73	1.75	1.76
JUN 18	.34	.52	.54	.55	.62	.65	.65	.65	.65	.65	.65	.65
WILLISTON												
JUN 7	.14	.26	.32	.40	.58	.72	.82	.92	1.22	1.38	1.49	1.58
JUN 30	.28	.52	.56	.64	.70	.78	.78	.78	.78	.78	.78	.78
JUL 5	.46	.72	.76	.94	1.18	1.32	1.36	1.38	1.41	1.46	1.48	1.50
OHIO												
AKRON												
JUL 28	.28	.49	.60	.66	.67	.72	.79	.80	.81	.82	.82	.82
AUG 2	.39	.49	.51	.51	.56	.79	.86	.91	.92	.92	.92	1.20
AUG 3	.23	.42	.69	.70	.75	.76	.82	.83	.83	.83	1.06	1.17
CINCINNATI OBS												
MAR 4	.22	.31	.39	.47	.60	.78	.86	.97	1.05	1.06	1.12	1.22
APR 19	.24	.37	.50	.56	.60	.61	.62	.64	.67	.78	.87	.92
JUN 12	.35	.65	.80	.88	.93	.93	.93	.93	.93	1.03	1.03	1.03
JUN 18	.30	.45	.53	.58	.67	.80	.95	1.00	1.12	1.18	1.28	1.43
JUN 30	.45	.85	1.05	1.20	1.38	1.48	1.63	1.68	1.73	1.80	1.81	1.82
SEP 18	.28	.56	.63	.65	.67	.70	.71	.90	.98	1.00	1.02	1.02
CINCINNATI U												
MAR 4	.17	.32	.44	.54	.73	.90	1.04	1.19	1.26	1.27	1.29	1.39
APR 21	.26	.41	.43	.44	.44	.45	.45	.45	.53	.68	.81	.91
JUN 12	.20	.40	.43	.50	.53	.57	.68	.72	.74	.76	.76	.76
JUN 30	.25	.45	.55	.58	.72	.78	.80	1.00	1.10	1.14	1.15	1.15
JUL 21	* .40	.60	.70	.75	.75	.75	.75	.75	.75	.75	.75	.75
CLEVELAND												
MAY 24	.18	.31	.40	.46	.60	.72	.82	.97	1.09	1.09	1.09	1.09
JUN 7	.36	.48	.52	.60	.63	.63	.63	.63	.63	.63	.63	.63
JUL 28	.38	.54	.74	.98	1.20	1.30	1.36	1.40	1.44	1.48	1.50	1.51
AUG 13	.20	.30	.36	.40	.43	.51	.54	.65	.68	.70	.70	.70
OCT 2	.34	.58	.82	.90	.90	.90	.90	.90	.90	.90	.90	.90
COLUMBUS												
JUN 14	.13	.23	.31	.37	.43	.63	.78	1.03	1.23	1.29	1.29	1.29
JUN 14	.29	.45	.69	.74	.79	.79	.79	.79	.79	.79	.79	.79
JUN 23	.26	.44	.60	.76	.92	1.03	1.05	1.05	1.05	1.05	1.05	1.05
AUG 2	.35	.65	1.00	1.28	1.55	1.95	2.17	2.18	2.18	2.18	2.18	2.18
DAYTON												
MAY 12	.18	.29	.35	.40	.42	.44	.53	.61	.64	.67	.68	.68
JUN 12	.36	.60	.68	.78	.92	.97	.97	1.06	1.12	1.16	1.21	1.21
MANSFIELD												
APR 21	.32	.52	.58	.59	.60	.60	.60	.60	.60	.60	.60	.75
JUN 15	.34	.55	.58	.62	.62	.65	.65	.67	.70	.71	.74	.77
SANDUSKY U						NONE						
TOLEDO												
JUL 16	.25	.33	.35	.41	.43	.43	.43	.43	.43	.48	.50	.50
YOUNGSTOWN												
MAY 13	.25	.39	.50	.57	.68	.76	.77	.78	.79	.81	.82	.83
JUN 15	.20	.33	.34	.34	.34	.35	.49	.50	.53	.58	.74	.77
JUN 19	.20	.30	.35	.51	.60	.65	.65	.68	.70	.93	1.14	1.14
JUL 28	.27	.53	.79	.90	1.02	1.17	1.27	1.41	1.46	1.55	1.80	1.84
AUG 11	.21	.37	.46	.50	.51	.52	.54	.56	.63	.66	.70	.70
OCT 29	.38	.48	.57	.59	.66	.83	.88	.94	.96	.97	.99	.99
OKLAHOMA												
OKLAHOMA CITY												
APR 17	.19	.33	.40	.50	.60	.60	.61	.61	.61	.62	.62	.62
MAY 6	.23	.34	.34	.34	.35	.36	.37	.37	.37	.37	.37	.37
MAY 10	.55	.95	1.25	1.40	1.45	1.48	1.51	1.51	1.51	1.56	1.76	1.87
JUN 4	.25	.35	.37	.45	.47	.47	.47	.47	.47	.47	.47	.47
JUL 31	.25	.35	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37
AUG 7	.15	.25	.40	.43	.55	.62	.62	.84	1.07	1.11	1.12	1.12
SEP 26	.17	.34	.36	.42	.52	.52	.52	.52	.52	.52	.52	.52
NOV 3	.15	.30	.33	.36	.40	.55	.69	.74	.85	.88	.96	.99
TULSA												
APR 4	.30	.60	.70	.78	.85	.97	1.20	1.61	2.14	2.31	2.38	2.48
MAY 10	.28	.53	.56	.67	.73	.89	.94	.99	1.00	1.00	1.15	1.21
JUN 14	.20	.37	.52	.58	.61	.63	.65	.65	.65	.65	.65	.65
JUN 15	.22	.31	.36	.42	.56	.67	.75	.79	.79	.79	.79	.79
JUN 17	.25	.42	.54	.60	.68	.73	.77	.80	.81	.82	.90	.97
JUL 26	.17	.30	.37	.48	.61	.80	.91	.98	1.02	1.02	1.02	1.02
AUG 28	.29	.57	.72	.88	1.27	1.47	1.82	1.88	1.90	1.92	1.92	1.92
AUG 29	.37	.73	.81	.90	.92	.94	.94	.94	.94	.94	.94	.95
SEP 5	.36	.61	.73	.75	.77	.78	.78	.78	.78	.78	.78	.78
SEP 22	.28	.52	.65	.75	.89	.95	.99	1.01	1.05	1.09	1.10	1.13
SEP 26	.22	.34	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37
NOV 15	.24	.43	.58	.63	.76	.86	.90	.98	1.30	1.68	1.73	1.87
OREGON												
ASTORIA						NONE						
OREGON												
BURNS U						NONE						
MEDFORD												
JUL 1	.20	.39	.48	.53	.58	.60	.60	.60	.60	.60	.60	.60
PENDLETON						NONE						
PORTLAND U						NONE						
ROSEBURG						NONE						
SEXTON SUMMIT						NONE						
PACIFIC AREA												
CANTON ISLAND												
JAN 5	.23	.42	.45	.57	.90	1.08	1.18	1.29	1.32	*1.42	1.50	*1.54
JAN 13	.38	*.73	*.80	.97	*1.25	1.85	*2.40	2.47	2.65	*2.71	2.82	*3.00
JAN 17	.27	.50	.55	.64	.66	.66	.66	.73	.75	.75	1.00	1.35
ENIWETOK						NONE						
JOHNSTON ISLAND												
MAR 11	.19	.33	.40	.43	.52	.66	.76	.91	1.19	1.46	1.60	1.67
MAY 25	* .35	.45	.58	.67	.94	1.06	1.13	1.16	1.19	1.19	1.19	1.19
MAY 30	.28	.35	.50	.58	.72	.91	.95	1.03	1.07	1.12	1.21	1.31
SEP 4	.25	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28
KOROR												
JAN 12	.18	.32	.35	.35	.35	.37	.63	.64	.65	.71	.71	.77
FEB 8	.21	.28	.33	.43	.49	.69	.91	1.14	1.31	1.45	1.66	1.79
FEB 12	.35	.59	.67	.74	.87	1.00	1.17	1.55	1.73	1.85	2.23	2.33
FEB 12	.14	.23	.35	.43	.57	.65	.68	.70	.70	.70	.71	.72
FEB 12	.18	.34	.45	.55	.61	.88	1.02	1.07	1.07	1.07	1.07	1.07
FEB 22	.21	.33	.39	.40	.40	.41	.41	.41	.41	.41	.41	.41
FEB 27	.21	.32	.40	.49	.66	.93	1.25	1.45	1.68	1.85	2.14	2.35
MAR 12	.18	.26	.31	.41	.55	.64	.65	.65	.65	.67	.71	.74
APR 1	.25	.34	.44	.45	.49	.51	.51	.51	.51	.52	.54	.55
APR 3	.20	.29	.35	.36	.36	.36	.36	.39	.53	.54	.54	.55
APR 13	.22	.37	.47	.53	.60	.64	.66	.67	.67	.68	.70	.71
APR 13	.25	.37	.45	.47	.49	.51	.52	.52	.52	.53	.53	.54
MAY 6	.22	.44	.62	.74	.97	1.11	1.15	1.20	1.22	1.22	1.24	1.24
MAY 10	.22	.42	.59	.71	1.04	1.26	1.38	1.45	1.45	1.46	1.47	1.47
MAY 11	.27	.38	.47	.54	.71	.98	1.33	1.59	1.82	1.93	2.45	2.79
MAY 15	.26	.46	.54	.59	.62	.62	.62	.62	.62	.62	.62	.62
MAY 21	.35	.42	.42	.42	.42	.42	.42	.42	.64	.80	.80	.80
MAY 21	.32	.53	.72	.81	1.05	1.13	1.13	1.13	1.13	1.14	1.30	1.59
MAY 27	.13	.23	.31	.38	.53	.64	.69	.76	.76	.76	.85	1.05
MAY 27	.28	.43	.57	.61	.67	.67	.88	1.08	1.08	1.08	1.09	1.15
MAY 30	.23	.38	.48	.55	.68	.77	.78	.78	.78	.78	.78	.78
JUN 18	.25	.34	.42	.51	.77	1.05	1.45	1.53	1.53	1.53	1.53	1.53
JUN 19	.16	.32	.42	.45	.46	.53	.54	.54	.55	.56	.57	.57
JUN 30	.18	.30	.41	.51	.61	.77	.88	.90	.90	.90	.90	.90
JUL 26	.28	.45	.50	.52	.57	.75	.75	.75	.75	.75	.75	.75
SEP 21	.23	.34	.43	.49	.55	.55	.63	.64	.64	.64	.64	.64
SEP 23	.25	.37	.46	.59	.84	1.09	1.23	1.30	1.36	1.38	1.41	1.41
NOV 3	.24	.47	.63	.77	.98	1.28	1.37	1.46	1.66	1.85	1.96	2.02
NOV 10	.27	.36	.42	.45	.45	.45	.45	.45	.45	.45	.45	.45
NOV 11	.19	.33	.36	.40	.40	.40	.40	.40	.40	.42	.46	.47
NOV 16	.28	.53	.70	.83	1.07	1.29	1.40	1.49	1.60	1.71	1.91	1.96
NOV 16	.31	.50	.62	.67	.68	.69	.69	.69	.69	.69	.69	.72
NOV 30	.22	.29	.37	.46	.60	.64	.67	.67	.67	.67	.67	.67
DEC 5	.22	.37	.55	.63	.68	.68	.68	.69	.70	.74	.80	.86
DEC 11	.17	.29	.41	.45	.63	.70	.95	1.10	1.17	1.28	1.55	2.03
DEC 14	.23	.35	.55	.66	.74	.77	.78	.78	.78	.80	1.17	1.38
MAJURO												
FEB 20	.27	.39	.42	.44	.45	.45	.45	.45	.45	.45	.50	.70
FEB 21	.34	.56	.84	1.04	*1.53	2.12	*2.68	3.16	3.46	3.51	3.54	3.65
MAR 5	.17	.29	.40	.46	.49	.53	.57	.65	.68	.74	.83	.92
MAR 17	.17	.25	.37	.49	.69	.89	.95	1.06	1.16	1.23	1.40	1.48
MAR 25	.17	.25	.31	.38	.56	.71	.82	1.01	1.06	1.12	1.18	1.20
APR 3	.25	.33	.34	.41	.47	.50	.50	.50	.50	.51	.51	.51
APR 18	.22	.34	.39	.43	.43	.44	.57	.60	.65	.68	.86	1.13
APR 18	.21	.41	.50	.54	.63	.76	.96	1.09	1.49	1.75	1.77	1.79
APR 27	.22	.27	.39	.52	.53	.55	.56	.58	.58	.58	.58	.58
MAY 4	.21	.32	.35	.37	.44	.45	.47	.48	.48	.48	.48	.49
MAY 6	.30	.55	.82	1.04	1.34	1.75	2.37	2.77	2.87	2.92	3.05	3.14
MAY 11	.27	.43	.57	.64	.73	.80	.95	1.05	1.06	1.15	1.61	1.86
MAY 17	.26	.42	.43	.48	.50	.72	.76	1.00	1.25	1.25	1.36	1.61
MAY 23	.23	.36	.54	.68	.96	1.19	1.49	1.61	1.94	2.33	2.65	2.86
JUN 8	.16	.23	.30	.40	.46	.46	.46	.46	.46	.46	.46	.46
JUN 12	.34	.52	.61	.70	.81	.89	.96	1.03	1.16	1.43	1.69	1.73
JUN 20	.24	.46	.60	.65	.73	.81	.83	.84	.89	.90	.92	1.24
JUN 22	.12	.20	.27	.35	.50	.63	.73	.78	.82	.84	.84	.86
SEP 11	.22	.39	.50	.63	.63	.63	.63	.63	.63	.63	.63	.80
SEP 11	.26	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
SEP 12	.22	.33	.42	.54	.55	.55	.55	.55	.55	.55	.55	.55
SEP 13	.19	.29	.40	.50	.59	.63	.77	.78	.78	.79	.84	.86
SEP 16	.27	.33	.41	.42	.42	.43	.43	.43	.43	.43	.43	.43
SEP 16	.22	.31	.34	.34	.35	.35	.35	.35	.36	.36	.36	.36
SEP 17	.33	.52	.56	.56	.57	.57	.58	.59	.60	.64	.99	1.11
SEP 20	.28	.41	.53	.63	.83	1.03	1.18	1.31	1.40	1.53	1.61	1.70
SEP 28	.28	.46	.55	.66	.83	.95	1.11	1.23	1.40	1.46	1.59	1.79
OCT 5	.30	.44	.48	.54	.57	.73	1.05	1.21	1.24	1.25	1.25	1.26
OCT 7	.25	.36	.38	.44	.50	.66	.67	.67	.88	1.00	1.20	1.22
OCT 10	.31	.50	.69	.81	1.20	1.62	2.09	2.63	2.87	2.94	2.95	2.95
OCT 11	.48	.75	.98	1.19	1.64	1.78	1.78	1.79	1.80	1.83	1.88	1.92
OCT 14	.30	.53	.70	.94	1.24	1.44	1.47	1.47	1.47	1.48	1.48	1.48
OCT 14	.20	.34	.46	.60	.70	.75	.76	.76	.76	.77	.77	.77
OCT 16	.33	.50	.51	.51	.51	.51	.51	.51	.51	.51	.51	.51
OCT 22	.26	.29	.30	.30	.30	.30	.31	.31	.31	.31	.33	.33
OCT 23	.34	.68	.83	.92	1.07	1.46	1.75	2.16	2.34	2.67	2.84	2.88
NOV 1	.17	.29	.41	.43	.44	.45	.50	.76	.86	.94	1.00	1.02
NOV 2	.33	.50	.80	.93	.94	.95	.95	.95	1.09	1.18	1.19	1.20
NOV 4	.21	.33	.44	.55	.79	1.10	1.35	1.58	1.68	1.74	1.82	1.85
NOV 7	.27	.36	.43	.49	.53	.60	.78	.93	.94	.95	1.15	1.49
NOV 15	.26	.35	.41	.50	.61	.62	.62	.62	.62	.78	.78	.78
NOV 17	.28	.46	.63	.81	1.19	1.59	1.93	2.03	2.11	2.23	2.35	2.39
NOV 30	.44	.72	*1.02	1.14	1.22	1.25	1.25	1.25	1.25	1.26	1.26	1.26
DEC 1	.41	.66	.90	.91	.91	.91	.92	.94	.94	.94	.96	.96
DEC 6	.40	.41	.41	.41	.41	.50	.51	.51	.52	.54	.56	.57
DEC 9	.25	.29	.29	.31	.31	.31	.31	.31	.31	.31	.31	.31
DEC 26	.28	.41	.43	.43	.48	.77	.77	.77	.77	.77	.77	.77
MARCUS ISLAND												
JAN 5	.14	.27	.39	.47	.57	.64	.66	.67	.67	.67	.67	.67

EXCESSIVE SHORT DURATION RAINFALL

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
PACIFIC AREA												
MARCUS ISLAND												
JAN 16	.18	.33	.46	.51	.53	.53	.56	.56	.56	.56	.56	.56
MAR 6	.45	.69	.76	.81	.81	.81	.81	.81	.81	.89	.92	.93
MAY 21	.18	.27	.32	.34	.51	.64	.88	1.12	1.38	1.53	1.87	2.07
JUN 2	.31	.43	.46	.47	.55	.63	.68	.68	.68	.68	.68	.68
JUN 30	.26	.35	.36	.39	.41	.45	.63	.66	.67	.68	.68	.81
JUL 5	.26	.41	.47	.55	.62	.64	.64	.64	.64	.64	.64	.64
JUL 22	.26	.38	.48	.55	.60	.65	.67	.69	.70	.87	.92	1.02
NOV 18	.31	.58	.83	.88	.92	.99	1.03	1.03	1.04	1.08	1.46	1.55
NOV 18	.26	.40	.51	.63	.66	.67	.67	.67	.67	.68	.68	.68
NOV 20	.21	.32	.38	.46	.62	.87	.88	.88	.89	.89	.89	.95
NOV 23	.20	.30	.35	.36	.41	.45	.51	.58	.80	.93	.99	1.01
DEC 10	.24	.33	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
PONAPE												
FEB 4	.12	.21	.27	.32	.44	.70	.83	.93	1.04	1.16	1.18	1.37
FEB 6	.29	.56	.82	1.05	1.32	1.58	2.02	2.30	2.50	2.99	3.74	*4.71
FEB 21	.37	.57	.62	.68	.86	1.08	1.13	1.46	1.61	1.75	1.78	1.85
FEB 21	.30	.42	.53	.57	.65	.69	.72	.72	.72	.72	.77	.77
FEB 22	.26	.50	.69	.85	1.07	1.24	1.24	1.33	1.39	1.39	1.74	1.75
FEB 22	.38	.60	.67	.75	.86	.88	.93	1.01	1.20	1.30	1.39	1.46
FEB 22	.30	.51	.69	.83	.94	1.16	1.39	1.68	1.78	1.82	2.26	2.30
MAR 8	.15	.29	.38	.46	.49	.51	.56	.58	.60	.65	.80	.80
MAR 16	.18	.25	.32	.37	.43	.54	.71	1.01	1.20	1.28	1.39	1.56
MAR 19	.23	.42	.59	.76	.93	1.11	1.24	1.27	1.36	1.38	1.48	1.53
MAR 19	.23	.33	.41	.56	.64	.75	.82	.83	1.11	1.27	1.29	1.62
MAR 19	.34	.40	.40	.40	.40	.40	.44	.74	.80	.80	1.19	1.20
MAR 21	.30	.46	.51	.57	.68	.75	1.00	1.09	1.16	1.19	1.21	1.23
APR 2	.28	.42	.51	.53	.53	.53	.56	.57	.57	.60	.60	.62
APR 5	.20	.27	.33	.37	.57	.59	.61	.63	.93	1.00	1.09	1.10
APR 9	.38	.69	.95	1.04	1.16	1.27	1.38	1.47	1.55	1.58	1.64	1.67
APR 20	.15	.29	.39	.47	.50	.53	.56	.59	.59	.59	.59	.59
APR 22	.22	.33	.44	.52	.61	.62	.63	.65	.66	.66	.66	.66
APR 24	.30	.54	.59	.70	.82	.84	.84	.84	.90	1.01	1.10	1.11
MAY 1	.21	.35	.42	.49	.57	.59	.60	.60	.60	.60	.60	.64
MAY 7	.40	.45	.68	.87	.93	.94	.95	.99	1.00	1.00	1.00	1.00
MAY 10	.24	.36	.43	.44	.44	.44	.44	.44	.44	.49	.65	.78
MAY 12	.26	.35	.41	.42	.58	.67	.73	.81	.82	.83	.85	.88
MAY 13	.31	.46	.55	.65	.86	.97	1.09	1.13	1.14	1.15	1.18	1.19
MAY 15	.16	.24	.31	.35	.41	.68	.75	.83	.92	1.00	1.18	1.25
JUN 7	.24	.35	.43	.44	.45	.46	.46	.66	.67	.67	.70	.72
JUN 10	.38	.43	.45	.51	.57	.57	.57	.91	.99	1.06	1.11	1.11
JUN 18	.20	.31	.39	.49	.54	.62	.62	.62	.62	.62	.62	.62
JUN 19	.32	.50	.56	.66	.72	.72	.72	.78	1.07	1.22	1.35	1.35
JUN 21	.19	.29	.35	.36	.36	.36	.36	.36	.36	.36	.36	.36
JUN 21	.29	.32	.42	.51	.53	.54	.70	.81	.84	.84	.85	.85
JUN 27	.27	.32	.38	.39	.41	.41	.41	.41	.41	.41	.41	.41
JUL 6	.15	.23	.32	.39	.52	.62	.71	.75	.79	.81	.81	.81
JUL 11	.21	.34	.41	.41	.41	.43	.44	.46	.52	.59	.62	.63
JUL 20	.38	.59	.74	.91	1.18	1.33	1.40	1.42	1.42	1.54	1.64	1.64
JUL 20	.17	.30	.34	.36	.38	.38	.38	.38	.38	.38	.59	.60
JUL 24	.27	.41	.50	.51	.52	.55	.60	.63	.65	.65	.66	.67
JUL 27	.33	.53	.78	.93	1.19	1.50	1.64	1.80	1.82	1.85	1.90	1.95
JUL 29	.23	.42	.55	.62	.67	.69	.70	.70	.70	.70	.70	.70
JUL 29	.23	.37	.43	.48	.54	.55	.56	.56	.56	.56	.97	1.11
SEP 3	.22	.34	.45	.53	.64	.71	.73	.73	.73	.73	.73	.73
SEP 7	.27	.36	.38	.45	.48	.49	.56	.56	.56	.56	.56	.56
SEP 8	.46	.64	.67	.71	.75	.76	.77	.79	.79	.79	.79	.79
SEP 8	.33	.52	.62	.63	.66	.68	.68	.70	.71	.71	.73	.74
SEP 10	.22	.31	.33	.34	.34	.34	.34	.34	.34	.34	.34	.34
SEP 23	.14	.25	.34	.43	.46	.46	.47	.47	.47	.47	.47	.47
SEP 25	.35	.57	.76	.82	.84	.96	.97	1.02	1.02	1.02	1.15	1.20
SEP 26	.28	.45	.59	.66	.75	.75	.75	.79	.85	.86	.94	.96
SEP 29	.33	.52	.62	.65	.72	1.09	1.38	1.38	1.38	1.40	1.41	1.42
NOV 7	.37	.57	.74	.88	1.14	1.31	1.45	1.70	2.18	2.57	2.99	3.17
NOV 13	.18	.30	.35	.37	.37	.37	.37	.37	.37	.37	.37	.37
DEC 1	.31	.44	.48	.50	.50	.50	.65	.75	.79	.80	.87	.89
DEC 7	.29	.38	.45	.57	.62	.79	.91	.98	1.01	1.06	1.12	1.12
DEC 8	.38	.49	.52	.53	.53	.53	.54	.54	.68	.87	.90	.91
DEC 8	.24	.35	.36	.37	.38	.40	.42	.44	.44	.44	.68	.76
DEC 8	.31	.48	.52	.53	.60	.62	.64	.66	.67	.92	.95	.98
DEC 24 T	M	M	M	M	M	.67	.68	.68	.68	.68	.68	.68
DEC 29	.22	.37	.38	.38	.39	.39	.43	.44	.45	.45	.45	.45
TRUK												
FEB 4	.34	.60	.82	.95	1.11	1.27	1.41	1.90	2.03	2.26	2.41	2.49
MAR 10	.21	.40	.49	.57	.71	.82	.88	.94	.95	.96	1.01	1.03
APR 5	.20	.36	.42	.46	.62	.71	.84	.93	.93	.93	1.05	1.11
APR 23	.28	.40	.50	.55	.73	1.10	1.42	1.74	1.90	2.02	2.21	2.57
MAY 9	.24	.37	.44	.44	.44	.44	.45	.45	.45	.47	.47	.52
MAY 13	.30	.54	.75	.95	1.20	1.32	1.61	1.97	2.05	2.08	2.08	2.08
MAY 13	.15	.25	.35	.41	.45	.45	.45	.45	.45	.45	.45	.45
MAY 14	.33	.58	.77	.83	.91	1.14	1.37	1.66	1.91	2.15	2.37	2.50
MAY 21	.41	.75	.98	1.09	1.19	1.59	1.86	1.91	2.12	2.16	2.17	2.37
MAY 24	.31	.52	.70	.81	.81	.83	.84	.85	.85	.92	1.10	1.23
JUN 4	.38	.59	.70	.80	1.02	1.16	1.28	1.34	1.38	1.43	1.52	1.60
JUN 10	.32	.41	.49	.53	.61	.79	.83	.89	.93	.95	.99	1.00
JUN 10	.42	.52	.54	.57	.73	.78	.96	1.34	1.36	1.58	1.67	1.67
JUL 1	.32	.50	.63	.68	.72	.72	.73	.73	.73	.73	.73	.73
JUL 4	.31	.45	.54	.63	.72	.84	.87	.89	.89	.89	.89	1.26
JUL 4	.29	.29	.29	.29	.30	.30	.31	.34	.35	.35	.49	.61
JUL 7	.54	.90	1.17	1.29	1.51	1.68	1.87	2.15	2.38	2.63	2.94	3.03
JUL 10	.21	.33	.45	.49	.52	.52	.52	.52	.52	.57	.58	.58
JUL 29	.23	.38	.46	.57	.70	1.06	1.33	1.54	1.81	2.08	2.45	2.63
SEP 2	.33	.43	.49	.52	.54	.54	.72	.98	1.06	1.06	1.06	1.06
SEP 4	.36	.59	.80	.87	1.02	1.07	1.09	1.12	1.16	1.27	1.41	1.52
SEP 5	.21	.41	.58	.65	.73	.78	.82	.88	.92	.96	.99	1.02
SEP 7	.27	.39	.47	.54	.61	.64	.66	.68	.70	.73	.77	.82
SEP 8	.45	.78	1.08	1.27	1.85	2.16	2.17	2.17	2.17	2.17	2.17	2.17
SEP 10	.24	.42	.55	.57	.57	.58	.58	.58	.58	.58	.68	.68
SEP 15	.16	.31	.46	.58	.86	1.20	1.28	1.31	1.31	1.31	1.31	1.33
SEP 15	.28	.30	.32	.34	.38	.40	.40	.40	.40	.40	.40	.40
SEP 17	.23	.31	.42	.49	.62	.68	.73	.75	.75	.75	.75	.75
SEP 19	.19	.30	.38	.49	.52	.61	.69	.72	.72	1.02	1.02	1.12
SEP 24	.30	.51	.64	.73	.78	.81	.83	.83	.83	.83	.83	.83
SEP 29	.21	.34	.44	.45	.46	.47	.49	.49	.49	.49	.49	.49
NOV 7	.37	.61	.67	.73	.80	.83	.86	.92	.95	.99	1.19	1.60
NOV 7	.23	.38	.43	.44	.46	.46	.46	.49	.49	.53	.71	~
NOV 19	.15	.27	.34	.40	.46	.48	.51	.54	.58	.59	.59	.59
NOV 25	.31	.44	.47	.47	.48	.48	.48	.48	.48	.48	.48	.48
DEC 9	.28	.32	.33	.34	.34	.39	.62	.64	.67	.68	.70	.70
DEC 10	.33	.54	.75	.59	1.19	1.36	1.68	2.33	2.63	2.70	2.96	3.51
DEC 13	.25	.43	.55	.60	.61	.66	.68	.72	.72	.72	1.06	1.16
DEC 29	.46	.74	1.01	1.26	1.51	1.83	2.00	2.09	2.12	2.14	2.15	2.15

T Clock malfunction
M No record

Station and date	5	10	15	20	30	45	60	80	100	120	150	180
	Maximum precipitation in inches (5 to 180 minutes)											
PACIFIC AREA												
WAKE												
APR 9	.30	.42	.55	.60	.62	.62	.76	.77	.77	.77	.77	.77
JUN 3	.30	.56	.77	.86	1.20	1.80	2.20	2.26	2.30	2.32	2.39	2.40
JUN 27	.30	.45	.67	.75	.77	.77	.80	1.02	1.03	1.05	1.10	1.10
JUL 23	.20	.29	.45	.54	.60	.81	.86	.87	.88	.88	.88	.88
SEP 12	.19	.34	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44
SEP 21	.20	.31	.36	.41	.51	.62	.63	.64	.67	.84	.88	.93
NOV 30	.35	.60	.78	.93	1.25	1.43	1.71	1.78	1.78	1.78	1.78	1.78
YAP R												
FEB 18	.17	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.32
APR 14	.19	.27	.38	.45	.61	.82	.83	.83	.86	.88	.88	.88
APR 19	.33	.61	.80	1.04	1.50	1.81	2.04	2.13	2.16	2.30	2.48	2.61
MAY 19	.24	.34	.41	.51	.59	.63	.63	.65	.66	.66	.66	.66
MAY 23	.22	.34	.42	.50	.73	.95	1.09	1.25	1.41	1.71	1.87	2.05
MAY 23	.18	.32	.44	.45	.46	.48	.60	.73	1.02	1.13	1.50	1.69
JUN 8	.28	.53	.77	.97	1.07	1.10	1.10	1.10	1.10	1.10	1.10	1.10
NOV 2	.22	.34	.44	.48	.49	.49	.49	.49	.49	.49	.49	.49
NOV 6	.33	.65	.84	1.03	1.19	1.23	1.23	1.25	1.25	1.25	1.25	1.25
NOV 12	.21	.36	.50	.53	.59	.61	.61	.61	.61	.61	.62	.63
NOV 18	.19	.31	.38	.45	.58	.60	.60	.60	.60	.60	.60	.60
DEC 5	.30	.49	.56	.58	.59	.67	.72	.72	.72	.72	.72	.91
DEC 6	.28	.53	.68	.75	.76	.76	.76	.76	.90	.98	1.06	1.35
DEC 6	.33	.64	.72	.76	.84	.95	.97	.97	.99	1.15	1.27	1.58
PENNSYLVANIA												
ALLENTOWN												
JUN 15	.55	.69	.78	.80	.80	.80	.80	.80	.80	1.27	1.35	1.41
AUG 12	.16	.28	.40	.45	.52	.54	.54	.54	.55	.55	.56	.56
OCT 2	.17	.27	.34	.42	.48	.51	.55	.60	.67	.71	.74	.74
NOV 25	.16	.30	.32	.36	.42	.52	.60	.69	.72	.77	.80	.89
ERIE												
JUN 23	.26	.40	.50	.54	.56	.56	.56	.56	.56	.56	.56	.56
AUG 3 E	.38	.49	.52	.56	.66	1.14	1.14	M	M	M	M	1.64
AUG 3	.20	.30	.31	.35	.37	.38	.55	.75	.80	.84	1.02	1.02
HARRISBURG												
MAR 10	.22	.30	.31	.32	.33	.36	.38	.43	.45	.45	.45	.45
JUN 8	.13	.18	.30	.35	.53	.83	1.02	1.17	1.23	1.24	1.24	1.24
JUN 24	.12	.21	.29	.39	.51	.56	.56	.56	.56	.56	.56	.56
AUG 31	.33	.57	.70	.87	1.00	1.24	1.49	1.69	1.72	1.73	1.73	1.73
PHILADELPHIA						NONE						
PITTSBURGH												
APR 21	.38	.56	.66	.77	.78	.78	.82	.82	.82	.82	.82	.86
APR 28	.22	.37	.45	.58	.72	.73	.76	.76	.76	.76	.76	.76
APR 29	.20	.36	.43	.53	.67	.67	.67	.67	.67	.69	.73	.76
JUN 20	.22	.32	.32	.34	.45	.45	.57	.60	.60	.60	.60	.60
JUL 12	.17	.33	.35	.40	.41	.41	.41	.41	.64	.65	.70	.73
JUL 28	.45	.68	.72	.75	.77	.78	.79	.86	.90	.91	.92	.92
AUG 11	.18	.32	.38	.44	.70	.72	.74	.77	.83	.89	1.01	1.03
OCT 2	.32	.33	.33	.34	.35	.37	.37	.38	.42	.43	.43	.43
OCT 29	.24	.31	.32	.33	.36	.37	.38	.41	.42	.43	.46	.46
PITTSBURGH U												
MAY 12	.16	.24	.35	.44	.55	.65	.69	.69	.69	.69	.69	.69
JUN 14	.26	.31	.37	.41	.49	.72	.78	.80	.80	.80	.80	.80
JUN 23	.34	.51	.61	.64	.65	.67	.69	.69	.69	.69	.69	.69
JUL 12	.35	.50	.52	.64	.66	.72	.80	.82	.90	1.07	1.08	1.12
JUL 28	.27	.45	.57	.64	.66	.67	.67	1.01	1.01	1.02	1.02	1.02
READING U												
JUN 24	.43	.70	.75	.75	.75	.75	.75	.75	.76	.76	.76	.76
JUL 8	.13	.26	.32	.40	.47	.58	.72	.84	.98	1.06	1.14	1.14
WILKES BARRE												
JUN 7	.50	.51	.55	.65	.80	.81	.82	.82	.82	.82	.82	.89
JUN 15	*1.21	*1.35	1.42	1.51	1.57	1.64	1.72	1.81	1.89	1.89	1.89	1.89
AUG 12	.25	.45	.55	.62	.88	1.09	1.21	1.25	1.26	1.27	1.28	1.57
AUG 18	.26	.36	.38	.39	.39	.39	.39	.39	.39	.41	.41	.41
RHODE ISLAND												
BLOCK ISLAND												
MAY 19	.13	.23	.26	.30	.51	.55	.56	.61	.62	.65	.69	.79
PROVIDENCE												
JUN 8	.30	.50	.72	.88	1.25	1.37	1.42	1.45	1.46	1.46	1.46	1.47
JUL 1	.38	.62	.65	.65	.66	.68	.68	.68	.68	.68	.68	.68
SOUTH CAROLINA												
CHARLESTON						NONE						
CHARLESTON U												
MAR 2	.45	.75	.82	.85	.96	1.01	1.03	1.15	1.20	1.22	1.23	1.29
MAY 29	.36	.49	.55	.59	.79	.94	.96	1.00	1.03	1.04	1.05	1.07
MAY 29	.18	.33	.47	.64	.88	1.01	1.15	1.39	1.46	1.48	1.49	1.54
JUN 7	.39	.65	.90	1.10	1.49	1.90	2.19	2.57	2.84	2.91	2.99	3.14
JUN 25	.37	.44	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
JUL 13	.26	.38	.56	.66	.75	.79	.80	.80	.80	.80	.80	.87
JUL 22	.35	.65	.95	1.25	1.67	1.96	2.07	2.17	2.45	2.54	2.59	3.11
JUL 24	.35	.65	.80	.81	.82	1.11	1.22	1.23	1.24	1.24	1.35	1.36
JUL 26	.39	.61	.73	.79	1.09	1.15	1.29	1.45	1.48	1.48	1.95	2.22
JUL 27	.20	.36	.53	.61	.74	.83	.91	.98	.98	.98	1.11	1.18
JUL 30	.28	.46	.60	.78	.96	1.04	1.09	1.10	1.10	1.11	1.13	1.14
JUL 31	.18	.34	.47	.60	.63	.63	.63	.63	.63	.63	.78	.79
AUG 17	.39	.59	.73	.93	1.18	1.37	1.50	1.58	1.59	1.61	1.61	1.61
AUG 29	.32	.46	.62	.70	.86	[illegible]	1.51	1.93	2.04	2.10	2.22	2.26
SEP 29	.25	.50	.68	.80	.82	.94	1.00	1.01	1.01	1.01	1.01	1.01
OCT 15	.21	.32	.40	.44	.53	.58	.64	.71	.75	.81	.83	.87
DEC 4	.22	.39	.55	.58	.61	.69	.74	.79	.83	.88	.94	.95
COLUMBIA												
MAR 4	.60	.65	.66	.67	.70	.84	.95	1.11	[illegible]	1.41	1.71	1.93
JUL 2	.27	.49	.69	.79	.82	.84	.84	.84	.85	.87	.88	.92
JUL 19	.38	.50	.61	.71	.83	.91	.99	1.11	1.14	1.20	1.22	1.22
JUL 20	.19	.33	.42	.48	.55	.56	.56	.60	.65	.70	.80	.82
JUL 21	.19	.38	.45	.60	.76	.97	1.04	1.13	1.14	1.14	1.14	1.17
JUL 22	.15	.27	.39	.44	.57	.69	.76	.83	.85	.87	.89	.90
AUG 9	.32	.48	.59	.80	.99	1.22	1.44	1.86	2.38	2.48	2.49	2.49
AUG 10	.36	.58	.71	.85	.93	.95	.99	1.00	1.27	1.30	1.31	1.32
AUG 29	.25	.36	.40	.45	.50	.52	.55	.59	.75	1.05	1.40	1.52

E Estimated
M No record

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
SOUTH CAROLINA												
COLUMBIA												
SEP 12	.12	.22	.31	.39	.61	.77	.95	1.13	1.35	1.44	1.60	1.78
SEP 30	.35	.47	.52	.63	.91	1.23	1.32	1.60	1.98	2.08	2.10	2.11
OCT 4	.18	.35	.43	.48	.51	.55	.58	.60	.65	.79	.87	.90
NOV 20	.30	.43	.46	.54	.64	.67	.69	.70	.73	.76	.78	.79
DEC 26	.25	.40	.43	.46	.50	.55	.60	.61	.62	.64	.72	.78
DEC 26	.25	.40	.48	.52	.65	.78	.79	.79	.79	.80	.83	.84
DEC 26	.28	.45	.47	.55	.59	.64	.86	.94	.98	1.05	1.13	1.20
FLORENCE												
JUN 22	.50	.62	.71	.76	.91	.92	.93	.94	.99	1.03	1.04	1.05
JUL 3	.25	.40	.47	.58	.65	.79	.90	.94	.98	.99	1.00	1.01
JUL 12	.26	.39	.40	.40	.41	.41	.41	.41	.41	.41	.41	.41
JUL 15	.17	.25	.33	.38	.53	.57	.60	.60	.60	.60	.60	.60
JUL 20	.31	.58	.70	1.00	1.20	1.30	1.37	1.41	1.43	1.47	1.49	1.54
JUL 24	.63	1.00	1.04	1.31	1.46	1.47	1.48	1.50	1.53	1.55	1.56	1.56
JUL 27	.31	.43	.45	.47	.54	.57	.62	.66	.67	.67	.67	.67
AUG 9	.30	.47	.54	.70	.93	1.13	1.38	1.46	1.49	1.51	1.53	1.53
AUG 30	.25	.30	.30	.30	.43	.54	.58	.60	.60	.60	.60	.60
SEP 12	.19	.23	.29	.40	.55	.60	.62	.63	.63	.63	.63	.64
SEP 30	.54	.92	1.03	1.30	*1.85	2.10	*2.44	2.62	2.90	3.26	3.63	*4.00
OCT 4	.55	.60	.61	.62	.64	.65	.65	.68	.70	.72	.72	.72
DEC 5	.20	.36	.37	.37	.38	.39	.39	.39	.39	.39	.39	.39
GNVLE SPARTANBURG												
APR 24	M	M	M	M	1.30	1.51	1.52	1.57	1.58	1.58	1.58	1.58
APR 28	.28	.40	.43	.52	.65	.71	.72	.80	.84	.85	.87	.95
JUN 1	*.43	*.83	.93	.95	1.04	1.17	1.25	1.44	1.65	*2.21	2.45	*2.58
JUN 6	.25	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
JUN 13	.20	.37	.40	.42	.42	.43	.44	.44	.44	.44	.44	.44
JUN 22	.27	.44	.57	.71	.87	.99	1.01	1.02	1.02	1.02	1.02	1.02
JUN 22	.42	.75	*.95	1.12	*1.28	1.41	*1.42	1.42	1.43	1.44	1.45	1.47
JUL 9	.30	.41	.45	.56	.60	.60	.60	.60	.60	.60	.60	.60
JUL 15	.36	.53	.55	.55	.55	.56	.56	.56	.56	.56	.56	.56
JUL 18	.27	.40	.64	.73	.92	1.16	*1.50	1.77	1.84	1.87	1.89	1.95
OCT 16	.11	.21	.30	.37	.58	.82	1.11	1.38	1.53	1.69	1.99	2.24
SOUTH DAKOTA												
ABERDEEN												
JUL 5 S	*.34	*.38	*.40	.43	*.44	.46	*.69	.82	.82	*.82	.82	*.82
JUL 5	*.48	*.64	*.64	.64	.64	.64	.64	.64	.64	.64	.64	.64
JUL 6	.24	.38	*.43	.53	*.70	.78	*.79	1.12	1.38	*1.39	1.40	*1.40
JUL 8	.30	*.40	.41	.43	.46	.46	.46	.46	.46	.46	.46	.46
JUL 31	.32	*.44	*.45	.48	.52	.61	*.84	1.00	1.14	1.32	1.72	*1.76
HURON												
APR 21	.15	.27	.33	.40	.47	.54	.63	.73	.76	.84	.92	.98
RAPID CITY												
JUN 5	.26	.36	.39	.42	.42	.42	.42	.42	.42	.42	.42	.42
AUG 31	.20	.35	.35	.35	.35	.35	.35	.35	.35	.35	.69	.69
SIOUX FALLS												
JUL 1	.22	.36	.42	.44	.48	.50	.54	.55	.56	.56	.56	.56
JUL 10	.40	.52	.64	.80	1.14	1.18	1.19	1.19	1.19	1.19	1.20	1.20
AUG 6	.40	.53	.58	.63	.72	.78	.78	1.01	1.30	1.38	1.40	1.40
AUG 29	.30	.46	.65	.75	.78	.78	.78	.78	.78	.78	.78	.78
TENNESSEE												
BRISTOL												
MAY 23	.25	.38	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
JUL 2	.36	.50	.54	.63	.76	.87	1.00	1.15	1.15	1.15	1.15	1.15
AUG 3	.14	.27	.35	.41	.45	.46	.46	.47	.49	.51	.52	.53
AUG 11	.20	.35	.45	.52	.56	.56	.56	.56	.56	.56	.56	.56
CHATTANOOGA												
MAR 14	.13	.26	.38	.50	.66	.74	.79	.84	.89	.95	1.00	1.00
APR 7	.27	.41	.55	.63	.68	.81	.98	1.04	1.13	1.36	1.40	1.44
APR 7	.15	.25	.30	.36	.58	.72	.81	.93	.99	1.04	1.07	1.07
APR 28	.26	.37	.55	.58	.60	.60	.62	.80	.97	.99	1.01	1.03
MAY 24	.29	.39	.44	.46	.49	.50	.50	.50	.50	.50	.50	.50
JUN 12	.23	.42	.59	.69	1.04	1.12	1.14	1.23	1.29	1.31	1.31	1.31
AUG 16	.12	.22	.32	.41	.57	.68	.75	.85	.95	1.04	1.17	1.31
KNOXVILLE												
APR 7	.27	.39	.48	.55	.67	.80	.87	.94	1.05	1.09	1.29	1.32
APR 25	.32	.45	.45	.61	.67	.68	.70	.70	.70	.70	.70	.70
MAY 11	.45	.50	.55	.60	.66	.96	.97	.98	.98	.98	.98	1.03
JUL 12	.27	.33	.52	.56	.58	.83	.88	.88	.88	.88	.88	.88
JUL 22	.33	.51	.55	.56	.56	.56	.56	.56	.56	.56	.56	.56
AUG 3	.25	.31	.36	.41	.59	.67	.70	1.02	1.05	1.05	1.08	1.09
MEMPHIS												
JAN 8	.18	.33	.44	.54	.62	.70	.79	.85	.90	1.03	1.20	1.25
MAR 4	.60	.65	.66	.67	.70	.84	.95	1.11	1.21	1.41	1.74	1.93
APR 4	.40	.69	.74	.80	1.01	1.11	1.15	1.21	1.30	1.36	1.48	1.57
APR 23	.39	.65	.76	.91	1.15	1.38	1.45	1.55	1.59	1.60	1.62	1.63
MAY 2	.40	.55	.65	.70	.75	.90	.98	1.00	1.01	1.02	1.03	1.04
MAY 10	.18	.29	.37	.42	.50	.58	.62	.68	.78	.83	.86	.87
MAY 24	.19	.33	.37	.43	.44	.45	.45	.45	.46	.46	.46	.46
JUL 2	.37	.57	.70	.78	.96	.99	.99	1.04	1.04	1.04	1.04	1.04
JUL 11	.30	.55	.75	.94	1.14	1.19	1.21	1.26	1.32	1.35	1.38	1.38
JUL 11	.24	.33	.33	.38	.54	.75	.97	1.08	1.14	1.15	1.30	1.52
JUL 20	.19	.37	.53	.62	.66	.66	.66	.66	.66	.66	.66	.66
JUL 21	.21	.36	.46	.49	.52	.53	.53	.53	.53	.53	.54	.55
AUG 22	.29	.41	.42	.42	.43	.44	.45	.67	.69	.71	.72	.72
AUG 25	.43	.71	.87	1.03	1.24	1.40	1.44	1.48	1.48	1.50	1.50	1.50
OCT 28	.43	.62	.85	.90	1.00	1.08	1.27	1.31	1.32	1.39	1.52	1.61
NASHVILLE												
JUN 13	.25	.35	.40	.47	.48	.50	.50	.50	.50	.50	.50	.50
JUL 29	.25	.40	.50	.55	.55	.57	.60	.60	.61	.62	.62	.63
AUG 8	.20	.40	.60	.65	.88	.92	.98	1.00	1.00	1.00	1.00	1.00
OCT 2	.30	.42	.45	.46	.46	.47	.47	.47	.47	.47	.47	.47
TEXAS												
ABILENE												
FEB 3	.23	.33	.38	.39	.45	.77	.79	.79	.79	.82	.82	.82
APR 23	.24	.38	.41	.44	.50	.54	.56	.61	.61	.61	.61	.61
APR 26	.27	.42	.50	.61	.80	.87	.88	.91	.91	.92	.92	.92
MAY 8	.22	.30	.31	.32	.38	.40	.41	.42	.42	.42	.42	.42
TEXAS												
ABILENE												
JUN 12	.22	.40	.48	.58	.76	.83	.87	1.10	1.14	1.16	1.18	1.19
JUL 29	.52	.92	1.38	1.78	1.95	2.20	2.23	2.23	2.29	2.29	2.29	2.29
AUG 16	.50	.87	1.32	1.72	2.29	2.45	2.52	2.54	2.54	2.54	2.54	2.54
AUG 20	.14	.24	.34	.40	.54	.78	.80	.80	.80	.80	.80	.80
SEP 21	.20	.38	.50	.56	.58	.60	.61	.63	.69	.71	.71	.71
NOV 18	.29	.46	.49	.53	.56	.64	.67	.73	.79	.81	.86	.92
AMARILLO												
AUG 7	.24	.36	.40	.50	.58	.59	.59	.59	.59	.59	.59	.59
AUG 16	.52	.76	.92	1.06	1.14	1.15	1.17	1.20	1.35	1.52	1.76	2.19
AUG 25	.24	.42	.46	.56	.59	.62	.62	.62	.63	.63	.64	.69
SEP 15	.30	.43	.50	.53	.55	.56	.58	.60	.64	.65	.65	.65
SEP 23	.25	.39	.47	.60	.78	.84	.86	.90	.94	.98	.99	.99
AUSTIN												
MAR 19	.43	.60	.67	.72	.83	.96	1.08	1.10	1.17	1.21	1.39	1.49
APR 26	.27	.38	.43	.46	.50	.54	.63	.88	.91	.91	.91	.91
MAY 1	.34	.49	.51	.51	.52	.52	.52	.52	.52	.52	.52	.52
MAY 24	.26	.35	.41	.45	.46	.46	.46	.46	.46	.46	.46	.46
MAY 30	.21	.40	.45	.45	.45	.47	.48	.48	.48	.49	.49	.49
JUN 15	.33	.56	.67	.71	.86	1.06	1.25	1.55	1.77	1.97	1.98	1.98
JUN 16	.27	.46	.59	.69	.93	1.23	1.61	2.27	2.62	2.89	3.11	3.20
AUG 16	.18	.25	.37	.45	.48	.54	.58	.62	.63	.74	.80	.88
SEP 6	.18	.36	.39	.47	.48	.48	.48	.48	.48	.48	.48	.48
SEP 16	.61	.98	1.18	1.20	1.22	1.26	1.42	1.62	1.76	1.78	1.81	1.81
SEP 27	.19	.27	.34	.41	.58	.91	1.02	1.31	1.46	1.62	1.80	2.04
OCT 26	.29	.42	.56	.78	1.10	1.23	1.30	1.39	1.57	1.66	1.80	1.99
NOV 4	.21	.33	.46	.55	.66	.79	.94	1.09	1.15	1.20	1.32	1.35
BROWNSVILLE												
FEB 21	.20	.30	.33	.35	.38	.41	.43	.46	.49	.50	.52	.55
APR 14	.23	.42	.55	.62	.75	.83	.94	.97	1.00	1.02	1.04	1.05
MAY 20	.25	.34	.34	.34	.37	.40	.40	.40	.40	.40	.40	.40
SEP 4	.16	.26	.35	.48	.58	.60	.60	.60	.60	.60	.60	.60
SEP 8	.20	.31	.39	.42	.43	.43	.43	.43	.43	.43	.43	.43
SEP 13	.27	.45	.62	.65	.65	.65	.65	.65	.65	.65	.65	.65
SEP 25	.25	.36	.46	.51	.57	.65	.74	.81	.87	1.19	1.22	1.25
CORPUS CHRISTI												
MAY 21	.41	.66	.82	.86	.88	.88	.91	.91	.99	1.13	1.16	1.19
MAY 31	.23	.34	.38	.43	.56	.59	.77	.91	1.13	1.18	1.18	1.18
SEP 12	.32	.42	.43	.44	.45	.45	.47	.47	.48	.49	.49	.49
SEP 16	.32	.47	.50	.51	.52	.52	.52	.52	.52	.52	.52	.52
SEP 25	.16	.27	.35	.44	.49	.52	.53	.55	.58	.58	.58	.63
DALLAS												
MAR 9	.33	.54	.63	.77	1.07	1.09	1.13	1.20	1.49	1.53	1.65	1.76
APR 26	.35	.43	.45	.46	.47	.50	.81	.95	1.14	1.16	1.18	1.18
MAY 1	.32	.37	.38	.40	.45	.50	.51	.51	.51	.51	.51	.51
MAY 8	.36	.47	.48	.48	.49	.50	.51	.52	.52	.52	.52	.52
SEP 16	.30	.46	.49	.56	.66	.75	.80	.85	.90	.95	1.00	1.00
SEP 21	.27	.45	.49	.60	.92	1.05	1.56	1.76	2.23	2.40	2.68	2.77
SEP 21	.48	.76	.84	.99	1.27	1.41	1.48	1.49	1.50	1.50	1.50	1.50
SEP 22	.23	.40	.45	.53	.84	1.04	1.30	1.41	1.59	1.90	2.03	2.09
OCT 26	.22	.39	.41	.44	.51	.54	.58	.58	.59	.59	.59	.65
NOV 3	.16	.30	.38	.50	.72	.83	.93	1.06	1.15	1.22	1.32	1.39
DEL RIO												
MAY 9 S	.30	.50	.56	.79	1.01	1.41	1.50	1.51	1.51	1.57	1.69	1.75
OCT 25	.43	.45	.47	.49	.52	.55	.59	.63	.65	.67	.68	.70
EL PASO												
SEP 11	.26	.50	.60	.70	.97	1.19	1.26	1.40	1.50	1.58	1.64	1.72
FORT WORTH												
APR 26	.20	.37	.38	.39	.41	.45	.46	.47	.47	.48	.48	.48
MAY 1	.33	.42	.42	.42	.43	.48	.48	.48	.48	.48	.48	.48
MAY 29	.45	.56	.59	.65	.73	.74	.76	.76	.76	.76	.76	.87
SEP 16	.33	.57	.60	.66	.72	.77	.92	1.07	1.10	1.13	1.50	1.19
SEP 20	.52	.75	.85	.91	1.08	1.13	1.23	1.31	1.35	1.36	1.38	1.38
SEP 21	.25	.45	.65	.67	.82	.85	.95	1.30	1.40	1.57	2.04	2.38
SEP 21	.30	.36	.42	.52	.73	.81	.90	.90	.95	.95	1.27	1.38
NOV 3	.32	.45	.51	.67	.98	1.26	1.55	1.63	1.71	1.92	2.05	2.15
GALVESTON U												
JAN 24	.18	.26	.36	.49	.58	.59	.59	.59	.59	.59	.59	.59
JAN 30	.30	.38	.42	.43	.44	.47	.50	.54	.58	.65	.70	.73
JUL 28	.28	.49	.65	.69	.75	1.18	1.43	1.52	1.54	1.56	1.64	1.70
AUG 5	.20	.38	.53	.63	.71	.75	.76	.77	.80	.82	.85	.86
AUG 22	.23	.42	.55	.69	.90	1.28	1.68	1.72	1.73	1.74	1.76	1.80
AUG 23	.32	.56	.72	.84	1.09	1.52	1.55	1.57	1.58	1.64	1.83	1.84
SEP 17	.14	.25	.34	.41	.56	.67	.75	.84	.90	.94	1.04	1.17
DEC 10	.10	.18	.26	.33	.49	.66	.74	.79	.91	1.02	1.10	1.23
HOUSTON U												
JAN 30	.25	.36	.41	.45	.51	.59	.67	.76	.86	.92	.95	.95
MAR 19	.38	.63	.68	.72	.78	.86	.88	1.22	1.36	1.39	1.47	1.51
APR 25	.13	.26	.36	.46	.52	.55	.57	.62	.64	.65	.65	.65
MAY 1	.20	.33	.44	.48	.49	.50	.50	.50	.50	.50	.50	.50
MAY 31	.20	.32	.42	.47	.50	.54	.54	.54	.54	.55	.55	.55
AUG 5	.35	.65	.85	1.00	1.01	1.02	1.03	1.03	1.03	1.03	1.03	1.03
AUG 16	.21	.35	.45	.50	.53	.53	.53	.53	.53	.53	.53	.53
AUG 22	.22	.35	.45	.58	.68	.78	.79	.80	.80	.80	.80	.84
SEP 2	.23	.35	.37	.39	.42	.44	.44	.44	.44	.44	.44	.44
SEP 26	.25	.39	.39	.39	.39	.39	.40	.44	.50	.83	.90	.90
OCT 25	.18	.29	.34	.45	.57	.64	.64	.65	.67	.67	.69	.70
LAREDO												
JUN 26	.39	.75	.85	.95	1.20	1.27	1.32	1.32	1.33	1.33	1.33	1.43
AUG 23	.28	.43	.48	.55	.90	1.10	1.55	1.76	1.82	1.84	1.88	1.90
SEP 15	.15	.23	.38	.41	.49	.50	.52	.52	.52	.52	.52	.52
LUBBOCK												
JUN 10 T	M	M	M	M	M	M	M	M	M	M	M	1.26
JUN 13	.12	.21	.31	.35	.52	.58	.60	.60	.60	.60	.60	.60
JUN 21	.18	.32	.41	.44	.52	.62	.72	.80	1.16	1.34	1.44	1.50
JUL 28	.24	.34	.44	.57	.66	.70	.72	.74	.78	.79	.80	.82
AUG 8	.22	.38	.56	.68	.86	1.04	1.06	1.06	1.06	1.06	1.06	1.06
SEP 15	.28	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.31
MIDLAND												
MAY 28	.57	*1.01	1.21	1.62	*1.96	2.06	2.08	2.08	2.08	2.08	2.08	2.08
AUG 30	.26	.34	.37	.44	.46	.46	.46	.46	.46	.46	.46	.46

S Record began June 29, 1964
M No record

S Record began April 8, 1964
T Clock malfunction
M No record

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
TEXAS												
PORT ARTHUR												
JAN 24	.27	.40	.44	.48	.50	.54	.54	.54	.54	.55	.55	.56
MAR 19	.60	.68	.70	.77	.82	.83	.89	.93	.98	1.07	1.24	1.50
APR 26	.43	.67	.78	.84	.90	.94	.94	.94	.94	.94	.94	.94
MAY 12	.22	.34	.44	.60	.74	.75	.76	.76	.76	.76	.86	.86
MAY 24	.48	.90	1.21	1.50	1.95	M	2.22	2.24	2.24	2.24	2.25	2.25
MAY 30	.30	.53	.62	.70	.80	.89	1.06	1.08	1.08	1.08	1.08	1.08
MAY 31	.38	.57	.74	.98	1.26	1.43	1.49	1.51	1.55	1.61	1.61	1.61
JUL 1	.23	.37	.45	.52	.82	1.11	1.44	1.68	1.96	2.07	2.33	2.48
AUG 5	.35	.66	.90	.99	1.03	1.05	1.06	1.06	1.06	1.06	1.08	1.09
AUG 13 T	M	M	M	M	M	1.51	1.51	1.51	1.51	1.51	1.52	1.52
AUG 22	.25	.32	.38	.39	.44	.44	.45	.45	.45	.45	.45	.45
SEP 16	.33	.46	.56	.59	.65	.67	.67	.69	.69	.70	.76	.76
SEP 17	.27	.48	.59	.75	1.00	1.09	1.21	1.29	1.34	1.44	1.44	1.57
SEP 19	.28	.32	.33	.34	.34	.34	.34	.34	.34	.34	.55	.55
NOV 19	.22	.30	.42	.47	.49	.64	.86	.98	1.03	1.11	1.28	1.30
NOV 28	.23	.38	.56	.67	.86	1.28	1.60	1.80	1.84	1.84	1.85	1.85
DEC 10	.22	.33	.45	.49	.50	.53	.56	.58	.88	1.03	1.17	1.22
SAN ANGELO												
NOV 18	.27	.31	.35	.38	.40	.47	.59	.60	.60	.61	.61	.61
SAN ANTONIO												
JAN 30	.25	.45	.62	.74	.95	1.19	1.38	1.65	1.91	2.04	2.21	2.26
FEB 4	.20	.33	.37	.42	.48	.49	.49	.49	.49	.49	.49	.49
MAR 18	.38	.62	.70	.74	.86	.99	1.08	1.16	1.20	1.30	1.40	1.52
APR 17	.24	.32	.38	.40	.42	.44	.48	.54	.56	.57	.57	.57
MAY 30	.20	.35	.43	.44	.44	.44	.44	.44	.44	.44	.44	.44
JUN 15	.29	.53	.69	.79	.83	.85	.86	.88	.89	.90	.91	.91
JUN 16	.38	.76	1.05	1.15	1.38	1.53	1.61	1.93	2.11	2.16	2.23	2.27
JUN 17	.23	.30	.36	.42	.49	.57	.63	.63	.63	.63	.63	.63
AUG 22	.51	.97	1.43	1.80	*2.54	2.96	3.26	3.44	3.58	3.58	3.62	3.68
SEP 8	.30	.51	.71	.87	.91	1.06	1.07	1.07	1.07	1.07	1.07	1.07
SEP 23	.21	.33	.44	.49	.57	.61	.62	.62	.63	.63	.64	.64
OCT 26	.21	.38	.46	.50	.55	.65	.69	.74	.80	.85	.88	.88
NOV 4	.34	.55	.70	.80	1.14	1.28	1.33	1.34	1.35	1.68	1.82	2.05
NOV 15	.29	.52	.55	.56	.67	1.08	1.17	1.18	1.20	1.20	1.20	1.20
VICTORIA												
JAN 30	.21	.31	.40	.48	.70	.70	.70	.70	.70	.70	.70	.73
FEB 3	.25	.43	.46	.47	.48	.50	.58	.59	.60	.61	.61	.62
MAR 19	.40	.70	.75	.88	.95	.97	1.05	1.13	1.20	1.24	1.26	1.27
MAY 23	.43	.85	.96	1.04	1.07	1.12	1.13	1.13	1.15	1.16	1.16	1.46
JUN 14	.25	.37	.44	.49	.53	.54	.54	.54	.54	.54	.54	.54
JUN 15	.20	.28	.35	.41	.46	.47	.58	.63	.81	.86	1.31	1.38
JUL 28	.25	.38	.40	.48	.62	.66	.68	.68	.68	.68	.68	.68
AUG 8	.40	.70	.73	.99	1.26	1.53	1.91	2.15	2.90	3.36	3.85	4.25
SEP 6	.27	.53	.70	.85	.85	.85	.85	.85	.85	.85	.85	.85
SEP 8	.28	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
SEP 24	.39	.72	.86	1.04	1.17	1.18	1.18	1.18	1.18	1.21	1.21	1.23
WACO												
APR 5	.21	.36	.42	.58	.63	.76	.77	.79	.79	.79	.79	.79
APR 24	.25	.45	.50	.58	.69	.75	.75	.75	.75	.75	.75	.75
MAY 1	.40	.54	.54	.54	.54	.54	.55	.56	.56	.56	.56	.56
MAY 8	.25	.30	.33	.35	.40	.40	.40	.40	.40	.40	.40	.40
SEP 16	.12	.24	.30	.40	.53	.57	.85	1.08	1.18	1.20	1.20	1.20
SEP 24	.25	.48	.68	.93	1.26	1.62	1.75	1.80	1.83	1.87	1.99	2.05
NOV 4	.30	.59	.74	.78	.87	.96	1.02	1.06	1.08	1.11	1.15	1.19
NOV 19	.28	.55	.63	.67	.92	1.15	1.35	1.37	1.39	1.39	1.39	1.39
WICHITA FALLS												
APR 24	.32	.63	.81	.92	1.16	1.24	1.28	1.34	1.37	1.50	1.64	1.88
MAY 12	.28	.54	.66	.71	.73	.73	.73	.73	.73	.73	.73	.73
MAY 15	.25	.38	.41	.42	.42	.42	.42	.42	.42	.65	.78	.82
MAY 29	.25	.39	.53	.66	.82	1.20	1.58	2.06	2.26	2.34	2.36	2.36
MAY 30	.31	.55	.75	.91	1.16	1.34	1.48	1.51	1.54	1.55	1.55	1.56
AUG 18	.28	.47	.62	.70	1.00	1.25	1.35	1.40	1.47	1.48	1.54	1.60
SEP 16	.26	.36	.58	.70	1.04	1.32	1.50	1.62	1.62	1.62	1.62	1.66
UTAH												
MILFORD						NONE						
SALT LAKE CITY						NONE						
VERMONT												
BURLINGTON												
JUN 24	.38	.59	.61	.61	.62	.62	.62	.62	.62	.62	.62	.62
JUN 27	.28	.39	.44	.46	.46	.48	.48	.50	.50	.50	.50	.50
JUL 3	.26	.36	.45	.51	.73	.85	.85	.86	.89	.90	.90	.90
AUG 23	.25	.33	.34	.34	.34	.34	.34	.34	.34	.34	.35	.36
VIRGINIA												
LYNCHBURG												
JUL 10	* .72	.86	1.09	1.12	1.18	1.22	1.26	1.26	1.27	1.27	1.27	1.27
JUL 12	.21	.40	.60	.67	1.05	1.30	1.64	1.68	1.75	1.85	1.90	2.05
JUL 29	.36	.45	.64	.83	1.02	1.08	1.09	1.09	1.09	1.09	1.10	1.11
NOV 25	.27	.53	.66	.68	.79	.90	1.00	1.04	1.06	1.11	1.13	1.16
NORFOLK												
JUN 13	.36	.63	.98	1.16	1.44	1.53	1.63	1.66	1.69	1.70	1.70	1.70
JUL 4	.30	.59	.80	1.06	1.35	1.50	1.55	1.57	1.58	1.59	1.60	1.61
JUL 9	.34	.56	.76	.89	1.14	1.28	1.48	1.55	1.63	1.65	1.67	1.68
JUL 14	.32	.41	.47	.51	.51	.51	.51	.51	.52	.52	.52	.52
JUL 21	.39	.65	.73	.76	.87	.91	.91	.91	.91	.91	.91	.91
AUG 26	.26	.31	.40	.45	.56	.66	.73	.74	.80	.81	.81	.84
AUG 31	.29	.39	.42	.44	.46	.51	.54	.56	.60	.62	.62	.63
AUG 31	.44	.76	1.02	1.17	1.39	1.58	1.84	2.20	2.53	2.84	3.39	3.96
SEP 11	.32	.49	.54	.55	.56	.57	.57	.57	.57	.57	.57	.57
SEP 28	.36	.69	.89	1.21	1.49	1.74	1.82	1.95	1.95	1.95	1.95	1.98
RICHMOND												
JUN 14	.17	.30	.40	.45	.48	.48	.48	.48	.48	.48	.48	.48
JUN 19	.20	.39	.55	.65	.74	.80	.82	.82	.82	.82	.82	.82
JUL 4	.27	.42	.49	.53	.55	.55	.55	.55	.55	.66	.67	.68
JUL 8	.27	.38	.39	.40	.40	.40	.40	.67	.71	.71	.71	.71
JUL 12	.22	.37	.43	.46	.54	.61	.66	.70	.73	.77	.77	.77
JUL 29	.30	.46	.57	.61	.75	.77	.78	.79	.80	.80	.80	.80
AUG 3	.42	.80	1.04	1.14	1.27	1.33	1.35	1.40	1.44	1.46	1.50	1.62

T Clock malfunction
M No record

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
VIRGINIA												
RICHMOND												
AUG 10	.18	.29	.40	.50	.57	.64	.70	.71	.78	.84	.85	.87
AUG 12	.38	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
AUG 26	.56	.91	1.24	1.32	1.39	1.40	1.41	1.41	1.41	1.41	1.44	1.46
AUG 30	.32	.59	.90	1.12	1.38	1.88	1.98	2.07	2.13	2.14	2.16	2.17
AUG 31	.29	.41	.49	.51	.61	.89	1.11	1.26	1.29	1.31	1.45	1.46
SEP 28	.24	.40	.50	.60	.69	.76	.78	.79	.79	.79	.79	.79
OCT 4	.10	.15	.22	.30	.44	.64	.82	.93	.97	1.07	1.18	1.31
ROANOKE												
APR 29	.16	.30	.43	.58	.81	.83	.86	.88	.94	.94	.94	.94
JUN 23	.28	.43	.60	.70	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.02
JUL 9	.12	.19	.30	.40	.47	.47	.47	.47	.47	.47	.47	.47
JUL 17	.20	.31	.35	.47	.54	.55	.55	.55	.55	.55	.55	.55
WASHINGTON												
OLYMPIA						NONE						
SEATTLE						NONE						
SPOKANE						NONE						
TATOOSH ISLAND R												
SEP 30	.25	.36	.40	.44	.51	.57	.58	.59	.61	.64	.71	.74
WALLA WALLA U						NONE						
YAKIMA						NONE						
WEST INDIES												
SAN JUAN U												
APR 20	M	M	M	M	M	M	M	M	M	M	1.54	1.54
MAY 31	.16	.25	.31	.33	.47	.65	.76	.81	.88	.88	.89	.90
JUN 3	.32	.58	.71	.78	1.02	1.40	1.85	2.10	2.21	2.22	2.27	2.69
JUL 3	.27	.52	.72	.74	.77	.80	.81	.81	.82	.82	.82	.82
JUL 12	.20	.35	.40	.41	.44	.46	.47	.48	.49	.50	.54	.59
SAN JUAN												
APR 1	.26	.45	.56	.56	.57	.57	.60	.60	.60	.60	.60	.60
APR 20	.42	.70	.82	.94	1.12	1.20	1.37	1.43	1.49	1.60	1.66	1.83
MAY 20	.27	.39	.42	.49	.54	.73	.78	.80	.81	.84	.84	.84
MAY 28	.19	.30	.45	.50	.56	.62	.63	.63	.63	.63	.63	.63
JUN 16	.28	.38	.44	.53	.75	.84	1.01	1.07	1.22	1.29	1.30	1.30
JUN 18	.23	.32	.36	.43	.48	.60	.85	.94	.94	.94	1.09	1.09
JUL 1	.18	.30	.40	.45	.58	.66	.74	.95	1.08	1.08	1.08	1.08
AUG 21	.28	.31	.31	.31	.31	.32	.32	.32	.32	.32	.33	.49
AUG 31	.20	.35	.39	.58	.65	.66	.66	.66	.68	.68	.68	.77
AUG 31	.20	.32	.42	.50	.51	.52	.52	.52	.52	.52	.54	.54
SEP 22	.34	.49	.53	.53	.53	.53	.53	.53	.53	.53	.59	.59
SEP 25	.46	.68	.74	.87	.97	1.06	1.20	1.35	1.35	1.35	1.55	1.93
OCT 10	.28	.49	.59	.73	.84	.88	.88	.89	.89	.89	.89	.89
NOV 22	.26	.43	.50	.53	.57	.60	.60	.65	.68	.72	.74	.78
WEST VIRGINIA												
BECKLEY												
APR 19	.26	.27	.29	.29	.39	.43	.44	.44	.44	.44	.44	.44
AUG 12	.20	.30	.35	.38	.43	.48	.52	.57	.64	.66	.66	.66
SEP 28	* .40	.51	.52	.52	.52	.54	.54	.54	.54	.54	.90	.94
SEP 29	.25	.45	.55	.57	.72	.76	.93	1.05	1.20	*1.58	1.78	*2.1[illegible]
CHARLESTON												
APR 19	.25	.40	.42	.47	.49	.52	.59	.61	.61	.62	.62	.63
JUN 15	.33	.33	.33	.33	.33	.33	.33	.33	.33	.35	.37	.37
JUN 22	.30	.51	.55	.59	.71	.73	.73	.73	.74	.76	.84	.95
JUL 9	.23	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
AUG 2	.30	.48	.49	.50	.52	.52	.52	.52	.52	.52	.52	.52
AUG 11	.35	.55	.60	.85	.90	1.02	1.05	1.10	1.17	1.19	1.19	1.19
ELKINS												
JUN 15	.21	.30	.32	.34	.34	.34	.34	.35	.35	.35	.35	.42
JUN 20	.29	.52	.55	.70	.78	.80	.81	.81	.81	.81	.81	.81
JUL 11	.29	.57	.66	.71	.73	.74	.74	.74	.74	.75	.75	.75
JUL 17	.30	.48	.50	.54	.60	.60	.60	.60	.60	.60	.60	.60
JUL 21	.25	.48	.50	.52	.56	.58	.60	.65	.65	.70	.75	.84
AUG 3	.27	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
HUNTINGTON												
JUL 2	.25	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
AUG 3	.20	.30	.35	.37	.66	.70	1.00	1.00	1.00	1.00	1.00	1.00
AUG 22	.42	.67	.81	.99	1.35	1.37	1.38	1.40	1.40	1.40	1.59	1.60
AUG 22	.55	.65	.70	.74	.80	.80	.80	.80	.80	.80	.80	.80
PARKERSBURG U												
JUN 14	.16	.28	.37	.40	.46	.60	.60	.61	.61	.61	.61	.61
JUN 14	.30	.40	.47	.57	.76	.78	.78	.78	.78	.78	.78	.78
JUN 15	.27	.32	.34	.34	.35	.37	.37	.37	.37	.39	.39	.39
JUN 21	.30	.31	.31	.31	.32	.34	.34	.34	.39	.58	.58	.58
JUL 9	.25	.35	.37	.38	.38	.38	.38	.38	.38	.38	.39	.40
JUL 24	.18	.33	.37	.38	.42	.46	.49	.51	.52	.52	.52	.52
JUL 28	.15	.29	.38	.40	.42	.43	.43	.43	.43	.65	.66	.66
JUL 29	.30	.53	.73	.88	.96	1.02	1.03	1.03	1.03	1.03	1.03	1.03
AUG 22	.32	.47	.55	.63	.73	.76	.79	.92	.92	.97	1.11	1.11
WISCONSIN												
GREEN BAY												
MAY 26	.26	.38	.38	.38	.40	.48	.50	.52	.52	.52	.52	.52
JUL 19	.43	.81	.92	1.15	1.20	1.21	1.23	1.23	1.23	1.23	1.23	1.24
JUL 27	.30	.48	.51	.55	.59	.65	.70	.70	.70	.70	.70	.70
AUG 31	.21	.39	.42	.47	.49	.49	.50	.50	.50	.50	.50	.50
SEP 3	.60	*1.15	1.26	1.44	*2.16	2.70	*2.87	2.93	2.97	*2.99	2.99	*2.99
LA CROSSE												
MAY 15	.23	.40	.41	.46	.48	.56	.76	.85	.87	.88	.90	.93
MAY 24	.33	.41	.46	.48	.52	.53	.53	.53	.53	.55	.55	.55
JUN 22	.51	.69	.90	.97	1.18	1.27	1.39	1.49	1.71	1.82	1.94	2.02
JUL 8	.24	.36	.37	.37	.37	.37	.39	.39	.39	.39	.39	.39
JUL 18	.30	.41	.49	.60	.62	.62	.62	.62	.62	.62	.62	.62
JUL 27	.30	.37	.44	.51	.71	.91	1.02	1.11	1.28	1.37	1.51	1.53
SEP 3	.33	.48	.52	.73	.78	.80	.81	.83	.87	.89	.89	.89
SEP 10	.44	.56	.64	.75	.96	1.04	1.12	1.18	1.38	1.39	1.40	1.47

M No record

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
WISCONSIN												
MADISON												
JUN 17	.23	.27	.32	.42	.46	.53	.56	.58	.59	.61	.66	.66
JUN 22	.19	.37	.53	.56	.59	.59	.61	.63	.69	.76	.77	.77
JUL 21	.20	.30	.34	.39	.40	.41	.41	.41	.41	.41	.41	.41
JUL 27	.42	.76	1.09	1.26	1.44	1.45	1.45	1.45	1.45	1.45	1.50	1.54
SEP 2	.25	.49	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
MILWAUKEE												
MAY 7	.31	.42	.45	.49	.61	.71	.75	.75	.75	.75	.75	.75
JUN 22	.22	.43	.61	.70	.75	.80	.85	.88	.88	.88	.88	.88
JUL 1	.52	1.00	1.22	1.37	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41
JUL 1	.22	.35	.45	.55	.60	.63	.65	.67	.69	.69	.69	.69
JUL 17	.20	.36	.43	.45	.47	.49	.49	.50	.53	.53	.57	.58
JUL 17	.30	.41	.48	.53	.56	.63	.71	.75	.78	.83	.85	.89
JUL 18	.25	.34	.47	.52	.72	.90	1.07	1.30	1.49	1.77	1.82	1.92
WYOMING												
CASPER						NONE						
CHEYENNE												
JUL 25	.21	.31	.37	.47	.57	.60	.60	.60	.60	.60	.60	.60
LANDER						NONE						
SHERIDAN						NONE						

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

* Maximum of record for this duration and station. Period of record is that compiled in Weather Bureau Technical Paper No. 2, revised, plus 1962 and 1963 data. New records are denoted only for 5, 10, 15, 30, 60, 120, and 180 minutes. The continuity of record at stations that have changed location is described on page 2 of the above reference.

SUNSHINE, AMOUNT AND PERCENT

YEAR 1964

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
ALABAMA																										
Birmingham	167	53	171	53	225	62	258	66	354	82	290	67	223	51	273	66	294	79	248	71	200	64	124	40	2827	63
Montgomery	143	45	171	53	212	57	184	47	290	68	288	67	192	44	258	63	242	65	257	73	188	59	127	41	2552	57
ALASKA																										
Anchorage	70	35	83	32	185	56	223	50	327	60	236	41	275	48	154	31	165	43	111	36	103	47	102	58	2033	45
Juneau	53	24	33	12	121	33	174	40	233	45	168	31	139	26	97	20	169	44	52	16	51	22	60	30	1349	30
Nome	34	20	102	41	210	57	183	40	226	39	353	56	290	47	152	30	30	8	84	28	36	19	58	45	1758	38
ARIZONA																										
Phoenix	296	93	299	94	323	87	366	94	406	94	415	96	357	82	349	84	320	86	323	92	254	81	244	79	3952	89
Prescott	277	88	294	93	299	80	324	83	395	91	408	94	329	75	324	78	310	83	315	90	253	81	204	67	3732	84
Tucson	294	92	283	88	313	84	343	88	396	92	392	92	306	70	317	77	260	70	316	90	266	84	254	81	3738	84
Yuma	295	92	303	94	355	95	376	96	408	95	420	98	386	89	361	87	354	95	310	88	270	86	231	74	4067	91
ARKANSAS																										
Ft. Smith	242	77	205	65	220	59	204	52	231	53	315	72	351	79	236	57	202	54	273	78	187	60	168	55	2833	64
Little Rock	208	66	198	62	235	63	218	56	303	70	333	77	304	69	198	47	230	62	280	80	165	53	98	32	2770	62
CALIFORNIA																										
Eureka (U)	135	45	270	87	225	61	257	64	230	51	258	57	255	56	268	63	266	71	185	54	139	47	95	32	2583	58
Fresno	168	54	284	90	289	78	341	86	373	85	390	89	434	97	397	95	369	99	325	93	210	69	113	38	3693	83
Los Angeles (U)	268	85	305	96	297	80	289	74	321	74	284	66	†417	95	318	77	278	75	238	68	206	66	134	44	3355	75
Red Bluff	129	43	293	94	273	74	367	92	380	85	340	76	431	94	403	95	364	97	291	84	169	57	132	46	3572	80
Sacramento	136	45	296	95	287	77	372	94	385	87	356	80	445	99	408	97	369	99	312	90	174	58	129	42	3668	82
San Diego	255	80	284	89	266	72	244	63	276	64	207	48	335	77	232	56	271	73	224	63	241	77	183	59	3017	68
San Francisco (U)	207	67	297	95	311	84	318	80	327	74	304	69	316	70	307	73	290	78	276	79	187	62	125	42	3265	73
COLORADO																										
Denver	235	78	190	61	264	71	287	72	290	65	332	74	362	80	347	82	302	81	312	90	195	65	214	73	3330	75
Grand Junction	210	69	258	83	222	60	228	57	325	73	325	73	360	80	326	77	317	85	315	91	161	53	143	49	3192	71
Pueblo	279	91	207	66	279	91	322	81	319	72	346	78	348	77	326	77	278	75	307	89	216	71	220	75	3449	77
CONNECTICUT																										
Hartford	174	59	197	64	232	63	239	60	341	75	300	66	263	57	289	67	243	65	219	64	181	61	113	40	2791	62
New Haven	194	65	204	66	221	60	197	49	353	79	314	69	274	60	285	67	256	69	238	69	191	65	137	48	2864	64
DISTRICT OF COLUMBIA																										
Washington Nat'l Airport	201	66	189	61	217	59	186	47	308	70	311	70	255	56	210	50	237	64	229	66	190	55	118	40	2650	59
FLORIDA																										
Apalachicola (U)	176	54	---	--	198	53	231	60	316	75	311	74	180	42	198	49	---	--	221	62	171	53	139	44	----	--
Jacksonville	203	63	216	67	238	64	264	68	314	74	305	72	231	54	219	53	209	56	168	48	162	51	169	53	2698	61
Key West	206	61	221	67	281	75	316	83	314	76	312	76	322	77	316	79	266	72	196	55	197	60	177	54	3124	70
Lakeland (U)	125	38	172	55	201	54	294	76	279	66	272	65	221	52	219	54	174	47	195	55	203	63	193	60	2548	57
Miami Beach 1/	142	43	205	62	240	65	262	68	277	64	246	60	306	73	#259	76	249	67	198	55	225	69	---	--	----	--
Pensacola	82	25	146	45	179	48	181	47	339	80	295	70	209	49	271	66	257	69	254	72	217	68	175	55	2606	59
Tampa	137	42	179	55	271	73	283	74	344	82	338	81	298	70	231	57	185	50	191	54	151	47	228	71	2836	64
GEORGIA																										
Atlanta	165	52	179	56	228	61	230	59	325	75	309	72	238	54	249	60	241	65	252	72	217	69	165	53	2798	63
Macon	132	42	170	53	247	66	222	57	310	72	311	73	180	41	253	61	233	63	231	65	204	65	139	45	2632	59
Savannah	145	45	193	60	236	64	254	65	320	75	345	81	256	59	290	70	271	73	240	68	217	69	175	56	2941	66
HAWAII																										
Hilo	151	44	162	49	102	27	116	31	87	21	169	42	124	30	159	40	103	28	63	17	123	36	118	35	1477	33
Honolulu	248	73	268	81	307	82	190	50	254	62	199	49	236	57	313	79	230	62	168	47	128	39	248	74	2788	63
Kahului	255	75	260	78	266	71	291	77	305	75	307	76	333	79	312	79	275	75	237	65	196	59	216	64	3253	73
Lihue	180	53	226	68	136	37	---	--	203	50	228	56	218	53	243	61	186	51	---	--	---	--	158	47	----	--
IDAHO																										
Boise	143	49	262	86	222	60	294	73	342	75	266	58	412	88	374	87	334	89	264	77	155	53	101	36	3170	71
Pocatello	98	33	146	48	191	52	237	59	243	54	277	60	424	91	395	92	337	90	285	83	104	31	73	26	2810	63
ILLINOIS																										
Cairo (U)	217	70	198	63	203	55	193	49	267	61	276	63	331	74	310	74	264	71	292	84	178	58	97	32	2826	63
Chicago (Midway)	157	53	176	57	221	60	201	50	349	77	294	65	282	61	283	66	214	57	234	68	177	60	102	36	2690	60
Moline	193	65	177	57	186	50	182	45	298	66	283	62	312	68	302	71	227	61	251	73	175	59	93	33	2679	60
Peoria	179	60	182	59	204	55	211	53	318	71	310	69	323	71	307	72	260	70	273	79	170	57	77	27	2812	63
Springfield	191	63	191	62	197	53	213	54	325	73	334	74	343	75	340	80	285	76	295	85	186	62	104	36	3004	67
INDIANA																										
Evansville	178	58	161	52	219	59	206	52	304	69	301	68	316	70	348	82	256	69	304	88	223	73	87	29	2903	65
Ft. Wayne	181	61	200	65	180	49	186	47	334	74	341	75	359	78	309	72	259	69	228	66	179	60	72	25	2827	63
Indianapolis	182	60	203	65	186	50	221	56	305	69	322	72	298	65	313	74	277	74	258	75	178	59	83	28	2824	63
IOWA																										
Burlington	200	67	191	62	205	55	181	45	292	65	298	66	355	77	325	76	276	74	288	83	195	66	118	41	2925	65
Des Moines	182	61	198	64	234	63	168	42	275	61	265	58	329	72	290	68	217	58	235	68	132	45	129	45	2653	59
Sioux City	225	76	202	66	250	68	179	44	296	65	280	61	378	82	258	60	231	62	283	83	188	64	139	49	2909	65
KANSAS																										
Concordia	228	76	214	69	266	72	240	60	349	78	342	76	364	80	287	68	243	65	298	86	188	63	174	60	3193	72
Dodge City	253	82	205	65	287	77	302	77	331	75	374	85	365	81	322	76	262	70	286	82	180	59	158	53	3325	75
Topeka	210	69	204	65	263	71	186	47	271	61	250	56	301	67	252	60	244	65	254	73	163	54	155	53	2753	62
Wichita	240	78	203	65	235	63	214	54	295	67	305	69	353	79	261	62	248	66	254	73	154	51	172	58	2934	66
KENTUCKY																										
Louisville	188	62	170	54	182	49	187	47	311	70	349	79	277	61	318	75	258	69	256	74	201	66	96	32	2794	63
LOUISIANA																										
New Orleans (Audubon Pk.) 3/	126	39	184	57	228	61	201	52	284	67	215	51	181	43	236	58	255	69	224	63	133	41	137	43	2404	54
Shreveport	202	63	200	62	226	61	199	51	238	56	284	66	337	77	258	62	237	64	300	85	189	60	156	50	2854	63
MAINE																										
Portland	194	67	202	66	196	53	216	53	304	67	274	59	288	62	264	61	239	64	204	60	176	60	111	40	2666	60
MARYLAND																										
Baltimore	206	68	191	61	209	56	166	42	294	66	268	60	281	66	245	58	240	64	229	66	218	73	131	45	2677	60
MASSACHUSETTS																										
Blue Hill Obs. (R)	173	60	180	61	196	55	200	52	318	73	293	67	217	49	244	59	213	59	201	61	171	60	113	41	2519	58
Boston	185	63	202	68	229	62	212	53	343	76	326	71	224	48	259	60	239	64	223	65	179	61	124	44	2744	61
Nantucket	167	56	165	53	225	61	226	57	362	80	298	66	223	49	242	56	201	54	167	49	157	53	80	28	2512	56
MICHIGAN																										
Alpena	147	51	207	68	234	63	240	59	353	77	394	84	345	73	257	59	239	64	225	66	109	38	81	30	2830	63
Detroit City AP	116	39	174	57	165	45	189	47	325	72	305	67	306	66	245	57	220	59	210	61	148	50	93	33	2497	56
Grand Rapids	123	42	154	50	137	37	235	58	324	71	322	70	311	67	272	63	199	53	195	57	114	39	69	24	2453	55
Lansing	109	37	160	52	212	57	261	65	373	82	342	75	283	61	246	57	180	48	181	53	113	39	87	31	2548	57
Marquette (U)	135	48	156	52	208	56	226	55	309	66	338	71	345	72	247	56	172	46	191	57	93	33	80	30	2500	56

See reference notes at end of table.

SUNSHINE, AMOUNT AND PERCENT

YEAR 1964

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
MICHIGAN (Cont'd.)																										
Sault Ste. Marie	89	32	175	58	202	55	198	49	312	67	330	70	325	68	178	41	154	41	186	55	80	28	85	32	2313	52
MINNESOTA																										
Duluth	131	47	187	62	239	65	217	53	307	66	295	62	389	81	232	53	176	47	198	59	128	45	118	44	2616	58
Minneapolis-St. Paul	172	60	220	73	232	63	252	62	345	75	325	70	345	73	278	64	204	54	191	56	150	52	133	49	2846	64
MISSISSIPPI																										
Vicksburg (U)	141	44	170	53	235	63	225	58	306	71	329	77	288	66	263	64	246	66	253	72	145	46	149	48	2750	62
MISSOURI																										
Columbia	197	65	178	55	195	52	212	53	266	60	270	61	332	73	317	75	252	68	279	81	183	60	164	56	2844	64
Kansas City	215	71	203	65	243	66	227	57	302	68	311	70	344	76	299	71	264	71	246	71	172	57	172	58	2997	67
St. Louis	210	69	171	55	211	57	193	49	299	68	324	73	316	70	317	75	226	61	282	81	201	66	119	40	2870	64
Springfield	232	75	211	67	238	64	249	63	256	58	274	62	321	72	254	60	223	60	248	71	168	55	156	52	2829	63
MONTANA																										
Billings	183	65	173	57	243	66	252	62	239	52	246	52	398	84	296	68	247	66	249	73	92	32	145	54	2761	62
Great Falls	126	45	150	50	236	64	240	59	301	64	331	69	423	88	310	70	217	58	273	81	112	40	106	40	2824	63
Havre	136	50	148	50	197	53	213	52	262	56	278	57	421	87	298	67	203	54	240	71	100	36	95	37	2589	58
Helena	130	46	154	51	251	68	246	60	272	58	270	57	400	84	309	70	253	67	255	75	107	38	121	45	2768	62
Missoula	76	27	156	52	177	48	163	40	213	46	234	49	384	80	234	53	235	62	199	59	71	25	72	27	2215	49
NEBRASKA																										
Lincoln (U)	214	72	196	63	224	60	191	48	300	67	305	67	358	78	265	62	191	51	254	74	147	49	133	46	2778	62
North Platte	263	88	192	62	233	63	203	51	272	61	324	72	417	91	318	74	273	73	274	79	178	60	122	43	3068	69
Omaha	218	73	203	66	228	62	179	45	315	70	296	63	342	74	267	63	221	59	255	74	151	51	168	59	2843	64
Valentine	218	74	203	66	273	74	168	42	295	65	292	64	377	81	283	66	248	66	287	84	293	56	282	51	3219	66
NEVADA																										
Ely	197	65	266	85	273	74	264	66	368	83	351	79	395	87	355	84	347	93	300	87	213	71	139	47	3467	78
Las Vegas	279	90	294	93	313	84	310	79	372	85	403	92	387	87	370	88	361	97	324	93	235	76	229	76	3877	87
Reno	203	67	306	98	344	93	377	95	417	94	427	96	452	99	420	99	372	100	332	96	270	90	234	80	4152	93
Winnemucca	77	26	218	70	203	55	274	69	276	61	218	48	405	88	374	88	346	93	263	76	139	47	121	42	2913	65
NEW HAMPSHIRE																										
Concord	158	54	191	62	205	55	216	54	334	73	332	72	230	49	249	58	226	60	218	64	157	54	112	40	2627	59
Mt. Washington Obs. (R)	66	22	128	43	104	28	174	43	205	44	179	38	123	26	118	27	151	40	144	41	107	36	69	24	1568	35
NEW JERSEY																										
Atlantic City Exp. Center	211	70	171	55	205	55	164	41	345	78	326	73	303	67	250	59	222	59	223	65	201	67	112	39	2733	61
Trenton (U)	203	68	191	61	217	58	179	45	372	83	288	64	247	54	269	63	256	69	227	66	198	66	134	46	2781	62
NEW MEXICO																										
Albuquerque	263	84	237	75	263	71	306	78	351	81	400	92	350	79	327	78	253	68	324	92	244	79	193	63	3510	79
Roswell	271	85	261	82	268	72	283	72	323	75	382	89	345	79	314	76	226	61	289	82	208	66	189	61	3357	75
NEW YORK																										
Albany	160	55	208	68	179	48	171	43	292	64	268	58	229	49	211	49	222	59	179	52	113	38	82	29	2313	52
Binghamton	117	40	158	51	145	39	170	42	297	66	295	65	316	68	232	54	257	69	193	56	136	46	63	22	2379	53
Buffalo	134	46	152	49	152	41	192	48	315	69	326	71	328	71	214	50	256	68	207	61	124	42	59	21	2457	55
New York Central Park Obs.	202	67	175	57	210	57	192	48	331	74	283	63	221	48	278	65	243	65	229	66	183	61	113	39	2660	60
Rochester	126	43	175	57	176	48	208	52	338	74	357	78	345	74	273	63	244	65	186	54	136	47	72	26	2635	59
Syracuse	162	56	154	50	178	48	197	49	319	70	309	67	295	63	236	55	198	53	184	54	109	37	56	20	2398	54
NORTH CAROLINA																										
Asheville (U) 2/	203	65	151	48	223	60	193	49	289	66	307	70	236	53	224	54	227	61	248	71	239	77	150	49	----	--
Cape Hatteras (R)	207	66	192	61	209	56	199	51	292	67	304	70	315	71	307	74	273	74	185	53	202	65	147	48	2832	64
Charlotte	173	55	193	61	234	63	228	58	311	72	309	71	253	57	265	63	277	74	231	66	231	75	156	51	2860	64
Greensboro	179	58	188	60	224	60	168	43	273	62	280	64	196	44	208	50	251	67	223	64	223	72	120	40	2532	57
Raleigh	172	55	194	64	248	67	204	52	290	67	293	67	226	51	199	48	259	70	225	64	239	78	138	46	2687	60
Wilmington	188	60	207	65	222	60	225	57	295	68	262	61	217	49	223	54	270	73	204	58	242	78	190	62	2745	62
NORTH DAKOTA																										
Bismarck	185	66	176	59	266	72	243	60	330	71	284	60	377	79	326	74	259	69	248	73	121	43	91	34	2906	65
Fargo	176	63	199	66	256	69	240	59	343	74	265	56	388	81	294	67	236	63	207	61	115	41	117	44	2835	63
Williston	162	59	170	57	240	65	244	59	304	65	273	57	394	81	290	65	202	53	225	67	139	50	127	49	2768	62
OHIO																										
Cincinnati Obs.	175	58	142	45	158	43	148	37	267	60	291	65	229	51	313	74	238	64	248	72	221	73	95	32	2524	57
Cleveland	148	50	152	49	154	42	227	57	335	75	335	74	315	68	276	65	231	62	221	64	136	46	90	31	2620	59
Columbus	165	55	176	57	195	53	191	48	259	58	250	56	330	72	292	69	226	61	231	67	183	61	67	24	2565	57
Dayton	207	69	179	58	182	49	198	50	306	69	295	66	338	74	359	84	278	74	250	72	193	64	83	28	2868	64
Toledo	168	56	203	66	209	56	199	50	328	73	344	76	321	70	280	65	242	65	249	72	171	58	105	37	2818	63
OKLAHOMA																										
Oklahoma City	251	80	216	68	247	67	275	70	236	54	280	64	350	79	308	74	226	61	269	77	151	49	217	71	3025	68
Tulsa	239	77	216	68	227	61	220	56	242	55	291	66	340	76	253	60	214	57	232	66	153	50	186	62	2810	63
OREGON																										
Portland	50	18	145	48	139	38	173	43	239	52	216	46	303	64	263	60	203	54	167	49	58	20	66	24	2022	45
Roseburg	71	24	144	47	159	43	221	55	254	56	245	53	310	67	297	69	282	75	188	55	54	18	33	12	2257	50
PACIFIC AREA																										
Guam (R)	245	69	213	63	267	71	243	65	209	53	252	82	199	50	141	36	85	29	184	50	225	65	204	58	2465	56
Johnston Island	231	66	206	61	277	74	166	44	190	47	249	63	296	73	201	51	136	34	101	28	161	47	209	61	2421	55
Koror (R)	233	64	298	57	307	82	212	58	230	59	220	59	287	74	188	49	229	63	188	51	161	45	190	53	2643	60
Majuro	260	71	201	58	206	55	173	47	181	47	185	49	206	53	183	48	183	39	164	44	164	46	216	59	2320	52
Marcus Island	253	75	215	65	268	72	288	75	263	64	313	77	342	82	291	72	321	87	244	68	203	62	103	31	3104	70
Ponape (R)	217	60	168	49	199	53	139	38	135	35	172	46	203	52	195	51	165	45	158	42	190	54	170	47	2111	48
Truk	276	76	143	42	224	60	208	56	*164	42	227	60	230	59	216	56	184	50	173	47	207	59	168	46	2421	55
Yap (R)	321	86	295	86	239	64	215	58	139	37	115	30	177	45	‡118	31	186	51	49	30	207	59	105	34	2166	49
PENNSYLVANIA																										
Harrisburg	198	66	183	59	195	53	168	42	329	74	286	64	272	60	258	61	264	71	227	66	213	71	113	39	2704	61
Philadelphia	199	66	184	59	200	54	173	44	324	73	309	69	271	59	253	60	230	62	217	63	192	64	119	41	2671	60
Pittsburgh (U)	155	52	144	47	168	45	193	48	290	65	274	61	253	55	254	60	219	58	180	52	134	45	55	19	2319	52
Pittsburgh	147	49	146	47	166	45	194	49	313	70	313	70	344	75	322	76	226	60	234	68	199	67	87	30	2691	60
Reading (U)	183	61	157	51	169	46	176	44	322	72	290	64	276	60	248	58	249	67	216	63	189	63	110	38	2585	58
Scranton	153	51	171	55	183	49	160	40	300	67	265	58	245	53	223	52	248	66	197	57	175	59	82	29	2402	54
PUERTO RICO																										
San Juan (Isla Verde)	247	71	260	78	274	73	242	64	345	86	287	72	276	68	269	68	197	54	204	56	200	59	172	50	2972	67
RHODE ISLAND																										
Providence	177	60	177	57	213	57	217	54	336	75	283	62	240	52	225	53	188	50	176	51	183	62	115	40	2530	57
SOUTH CAROLINA																										
Charleston	132	41	188	59	278	75	237	61	290	67	257	60	143	33	198	48	233	63	217	62	185	59	155	50	2513	56
Columbia	164	52	202	63	257	69	208	53	289	67	282	65	170	39	248	60	291	78	237	68	220	70	129	42	2695	60
Greenville Spartanburg	196	63	205	65	240	65	201	51	264	61	291	67	238	54	222	53	252	68	248	71	237	76	127	42	2721	61

See reference notes at end of table.

SUNSHINE, AMOUNT AND PERCENT

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
SOUTH DAKOTA																										
Huron	176	61	164	54	233	63	200	50	320	70	339	73	375	80	309	71	254	68	281	83	197	68	127	46	2971	66
Rapid City	183	63	195	64	257	70	234	58	256	56	267	58	342	73	341	79	300	80	286	84	176	61	139	50	2976	66
TENNESSEE																										
Chattanooga	170	54	146	46	201	54	200	51	286	66	327	75	237	54	292	70	276	74	238	68	212	68	130	43	2715	61
Knoxville	183	59	141	45	202	54	190	48	277	64	326	75	300	68	291	70	253	68	236	68	172	56	101	33	2672	60
Memphis	227	73	247	78	235	63	225	57	347	80	372	86	326	74	275	66	267	72	263	75	178	57	106	35	3066	69
Nashville	212	68	157	50	191	51	192	49	272	62	324	74	282	63	290	69	246	66	240	69	185	60	106	35	2694	60
TEXAS																										
Abilene	248	78	237	74	300	81	315	81	334	78	361	85	377	87	319	77	199	54	288	82	216	68	221	71	3413	77
Amarillo	270	86	222	70	291	78	319	81	292	67	352	81	342	77	329	79	234	63	297	85	182	59	219	72	3349	75
Austin	226	70	205	64	238	64	149	38	160	38	303	72	336	78	326	80	206	56	292	82	183	57	170	53	2792	63
Brownsville	167	50	163	50	181	49	179	47	213	51	283	69	345	82	353	87	245	66	265	74	179	55	160	49	2733	61
Corpus Christi	189	58	156	48	185	50	134	35	172	41	248	60	322	76	309	76	188	51	260	73	177	55	129	40	2468	55
Dallas	245	77	219	68	261	70	215	55	210	49	314	73	379	87	281	68	167	45	282	80	187	59	190	61	2948	66
El Paso	296	92	294	91	334	90	345	89	389	91	412	97	342	79	349	85	299	81	326	92	301	95	220	70	3906	88
Galveston (U)	115	35	173	53	221	59	159	41	320	76	310	74	303	71	331	81	258	70	289	82	226	70	149	47	2856	64
Houston	165	51	187	58	215	58	192	50	262	62	345	82	360	84	313	77	225	61	296	84	214	67	154	48	2929	66
Port Arthur	148	46	169	52	210	56	149	38	267	63	308	73	230	53	244	60	230	62	283	80	185	58	128	40	2550	57
San Antonio	232	71	195	58	247	66	253	66	232	55	332	79	359	84	341	83	281	76	309	87	195	61	197	62	3173	71
UTAH																										
Salt Lake City	128	43	211	68	242	65	227	57	283	63	253	56	417	91	391	92	354	95	300	87	169	57	106	37	3083	69
VERMONT																										
Burlington	138	48	179	59	213	57	234	58	328	72	359	77	266	57	242	56	229	61	207	61	134	46	93	34	2621	60
VIRGINIA																										
Lynchburg	178	58	168	53	208	56	188	48	324	74	314	71	252	56	238	57	252	68	228	66	216	71	135	45	2700	61
Norfolk	202	65	203	64	217	58	---	--	307	70	302	69	223	50	232	55	228	61	203	58	202	66	94	31	----	--
Richmond	208	68	202	64	241	65	195	49	294	67	323	73	229	51	219	52	246	66	236	68	222	73	138	46	2753	62
WASHINGTON																										
Seattle (U)	65	23	129	49	125	34	189	46	293	63	207	43	295	61	275	63	230	61	191	57	57	20	36	14	2092	47
Spokane	89	32	204	68	193	52	241	59	275	59	252	53	361	75	284	64	244	65	210	62	34	12	26	10	2413	54
Tatoosh Is. (R)	22	8	127	43	127	34	217	53	236	50	210	44	176	36	248	56	246	65	194	58	91	55	53	20	1944	43
WEST VIRGINIA																										
Parkersburg (U)	183	60	133	43	156	42	197	50	293	66	258	58	270	60	274	65	239	64	211	61	175	58	66	22	2455	55
WISCONSIN																										
Green Bay	142	49	151	50	216	59	214	53	309	67	286	61	265	56	236	54	166	44	177	52	145	50	89	32	2394	54
Madison	158	54	179	59	197	53	172	43	327	72	272	59	288	62	309	72	213	57	220	64	164	56	97	35	3596	58
Milwaukee	154	53	175	57	225	61	228	57	351	77	330	72	333	72	322	75	209	56	225	66	166	57	98	35	2813	63
WYOMING																										
Cheyenne	223	75	241	78	238	64	237	59	223	50	245	54	324	71	289	68	278	74	262	76	141	48	155	54	2855	64
Lander	192	66	218	71	288	78	239	59	286	63	290	63	422	91	372	87	317	85	283	83	189	65	170	60	3265	73
Sheridan	188	65	170	56	252	68	257	63	261	57	279	60	412	87	324	75	255	68	243	71	133	46	135	50	2908	65

Data from airport unless otherwise specified.
"U" indicates Urban, "R" indicates Rural, sites.
1/ Data taken from instruments at 3240 N.W. 27th Avenue from December 1 thru 12; then from 1365 Memorial Drive.
* Estimated
† Data from this location discontinued June 30. -- Continued from 434 S. San Pedro St. from July 29.
# 27th - 31st missing due to Hurricane Cleo.
‡ Instrument malfunction from 16th - 31st.
2/ Station moved to airport September 1, 1964.
3/ From Loyola Ave. location.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

YEAR 1964

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 100am E S T	Relative humidity: 700am E S T	Relative humidity: 100p.m. E S T	Relative humidity: 700p.m. E S T	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-03	Number of days: Sunrise to sunset: Partly cloudy, 0 4-0 7	Number of days: Sunrise to sunset: Cloudy, 0 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90 °F and above	Number of days: Max temp: 32 °F and below	Number of days: Min temp: 32 °F and below	Number of days: Min temp: 0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In.	In		In	In		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
ALABAMA																																				
BIRMINGHAM	73.2	51.7	62.5	99	JUN 22	13	JAN 15	2764	57.79	3.68	APR 5-6	.4	T	DEC 18 +	82	85	59	64	7.1	15	43	S	MAR 4	63	6.1	106	97	163	120	0	59	7	46	1	52	0
HUNTSVILLE	71.4	50.4	60.9	97	JUN 22	13	DEC 18+	3209	64.20	5.10	MAR 14-15	2.7	1.0	FEB 28	77	81	56	59	7.1	14	40*	18	MAR 4		5.7	113	106	147	109	2	52	13	46	3	60	0
MOBILE	76.7	56.9	66.8	98	SEP 2	20	JAN 14	1774	63.85	7.31	APR 26-27	T	T	JAN 13 +	85	87	60	70	10.1	36	46*	36	OCT 4		6.2	94	106	166	128	0	76	56	72	0	21	0
MONTGOMERY	75.0	54.1	64.6	99	JUN 21	15	JAN 15	2325	64.41	4.54	APR 8	T	T	FEB 19 +	84	89	59	65	7.3	36	43	S	MAR 4	57	6.2	92	110	164	107	0	73	29	61	1	41	0
ALASKA																																				
ANCHORAGE	40.8	26.3	33.6	75	MAY 31	-30	DEC 14	11430	15.89	1.66	NOV 18-19	100.4	16.4	NOV 18-19	79	75	65	72	7.4	18	41*	5	DEC 22	45	7.1	70	75	218	125	24	1	19	B 9	131	210	52
ANNETTE	45.5	38.4	42.0	80	JUN 8	1	DEC 15	7590	120.89	3.86	OCT 17-18	81.7	12.8	DEC 31	85	79	74	82	9.5	18	43*	15	OCT 18		8.5	22	57	287	252	20	1	11	17	28	95	0
BARROW	9.9	- .7	4.6	67	JUL 23	-54	FEB 19	22051	3.07	.35	JUN 30	35.7	3.9	OCT 18-19	77	78	74	75	11.8	9	40*	11	NOV 17			V69	V53	V178	81	12	0	62	0	259	336	192
BARTER ISLAND	11.8	1.1	6.5	64	JUL 6	-48	FEB 19	21384	5.12	.72	AUG 24-25	32.5	2.7	AUG 26	78	77	76	78	11.9	8	48*	27	MAR 14			X65	X56	X190	88	9	0	59	0	249	320	192
BETHEL	33.2	17.8	25.5	77	JUL 8	-39	MAR 14	14364	10.25	.74	OCT 26-27	60.3	5.3	OCT 26-27	85	83	74	79	12.1	3	55*	18	NOV 14		7.6	56	58	252	140	20	2	77	13	161	234	101
COLD BAY	42.1	32.7	37.4	69	OCT 26	6	FEB 18	9996	26.51	1.78	SEP 24	52.7	8.6	NOV 30	86	85	79	83	16.0	15	59*	11	NOV 16		8.7	16	57	293	203	16	0	25	0	55	166	0
FAIRBANKS	32.6	12.9	22.8	82	JUL 16	-56	DEC 14	15446	10.06	.64	JUN 24	68.5	7.7	NOV 19-20	81	76	64	71	5.0	36	24*	26	SEP 3+		7.1	62	92	212	113	21	8	16	53	166	238	134
JUNEAU	46.4	34.0	40.2	79	MAY 29	-15	DEC 30+	8996	58.28	2.33	DEC 4-5	135.1	14.9	DEC 16-17	88	83	76	84	10.1	12	45*	13	DEC 7	30	8.6	35	33	298	242	33	0	12	12	49	132	9
KING SALMON	39.9	23.2	31.6	76	JUN 24+	-28	DEC 31	12177	18.86	.81	SEP 24-25	52.4	5.2	DEC 14-15	81	77	67	77	11.2	36	54*	9	NOV 16		7.2	70	64	232	168	18	2	35	17	111	220	61
KOTZEBUE	23.3	9.7	16.5	73	JUL 22	-52	FEB 19+	17662	6.63	.54	SEP 4-5	70.8	5.6	NOV 6-7	79	79	76	76	12.1	11	52*	11	DEC 29		6.3	107	68	191	98	22	1	30	4	206	261	154
MC GRATH	32.6	13.3	23.0	82	JUL 28	-55	DEC 11	15362	14.50	1.21	JUN 19-20	122.6	13.2	APR 23-24	77	74	59	67	5.1	33	35*	19	AUG 30		7.3	67	65	234	136	40	9	22	40	162	244	126
NOME	30.2	15.3	22.8	81	AUG 13	-38	MAR 13	15367	14.41	1.28	SEP 1	53.7	4.7	APR 4	80	78	73	77	12.5	9	52*	9	DEC 29	38	6.7	90	80	196	119	19	0	20	4	193	242	114
ST. PAUL ISLAND	37.7	29.4	33.6	56	JUN 15	-10	FEB 20	11395	36.61	1.49	NOV 15-16	159.0	13.8	JAN 30	92	90	87	90	17.6	32	82*	35	NOV 16		9.0	17	34	315	224	45	0	96	0	84	202	7
SHEMYA	40.0	34.7	37.4	59	AUG 11	16	JAN 14	10007	32.11	1.74	NOV 6-7	77.3	3.6	DEC 17-18	84	85	84	85	20.9	24	90*		DEC 10		8.9	9	59	298	214	29	0	60	0	50	145	0
YAKUTAT	44.5	31.9	38.2	77	MAY 30+	-24	DEC 30	9729	168.34	4.99	FEB 19-20	304.3	15.6	FEB 13-14	90	83	76	86	6.9	9	45*	13	OCT 21		8.3	44	41	281	243	82	3	16	6	56	174	14
ARIZONA																																				
FLAGSTAFF	59.4	28.7	44.1	90	JUL 7	-15	JAN 24	7658	19.04	2.55	JUL 15	101.9	12.2	MAR 23-24	70	39	38	62	7.7	18	32*	2	NOV 3		4.3	179	90	97	77	23	49	20	1	25	215	14
PHOENIX	82.4	53.2	67.8	112	JUL 3	20	JAN 11	2054	6.00	1.50	SEP 14	.0	.0		54	34	24	42	6.8	12	61Y	NNW	SEP 14	89	3.2	224	82	60	31	0	23	3	154	0	35	0
PRESCOTT	68.6	39.4	54.0	99	JUL 7	5	JAN 14	4827	11.37	1.42	JUL 24-25	24.7	8.0	NOV 15	60	34	30	50	8.9	19	56	SW	NOV 13	84	3.8	194	90	82	53	10	42	5	34	2	144	0
TUCSON	79.5	52.5	66.0	106	JUL 5+	18	JAN 12	2166	17.99	3.05	SEP 9-10	5.8	5.7	MAR 2-3	51	30	23	43	9.0	12	54	S	JUL 24	84	3.5	206	89	71	52	2	42	2	124	0	34	0
WINSLOW	70.2	37.6	53.9	102	JUL 6+	- 1	JAN 14	5155	7.68	2.08	AUG 12	12.0	3.0	MAR 24	58	34	26	47	8.7	22	46*	22	NOV 13		3.9	179	114	73	55	3	43	3	74	5	156	1
YUMA	85.6	58.2	71.9	114	JUL 12	30	DEC 15+	1272	1.98	.78	APR 28	.0	.0		49	30	21	39	8.0	18	50	W	FEB 20	91	2.8	242	66	58	13	0	10	1	167	0	5	0
ARKANSAS																																				
FORT SMITH	75.0	47.8	61.4	110	AUG 4	3	JAN 14	3299	39.66	5.12	APR 3	.8	.6	JAN 12	76	84	51	51	7.5	7	42	N	AUG 28	64	5.1	141	95	130	75	0	42	26	94	3	86	0
LITTLE ROCK	74.4	50.1	62.3	108	AUG 4	9	JAN 14	3042	46.24	3.61	SEP 16-17	.2	.2	DEC 19	79	84	55	59	7.7	25	47	N	JUL 9	62	5.2	140	91	135	85	0	46	15	87	3	71	0
TEXARKANA	75.7	53.8	64.8	105	AUG 5	11	JAN 14	2430	45.52	5.54	SEP 16-17	.4	.3	JAN 16	79	85	59	60	6.8	18									92	0	57	15	87	1	47	0
CALIFORNIA																																				
BAKERSFIELD	77.1	51.6	64.4	111	JUN 25	26	DEC 13	2360	4.02	.39	OCT 29	.0	.0		62	47	35	52	6.7	34	31*	32	JUN 8+		3.2	214	83	69	45	0	0	21	103	0	17	0
BISHOP	73.9	37.1	55.5	105	JUL 24	0	JAN 23	4392	2.70	.49	APR 18-19	12.3	5.0	JAN 21-22		26	18								3.3	220	81	65	20	4	9	0	97	0	155	1
BLUE CANYON	56.8	40.4	48.6	85	SEP 24	12	DEC 31	6142	88.85	9.33	DEC 22	263.4	19.5	JAN 20-21		49									4.1	193	66	107	96	43	1	77	0	23	116	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature, Averages, Daily maximum	Temperature, Averages, Daily minimum	Temperature, Averages, Annual	Temperature, Extremes, Highest	Temperature, Extremes, Date	Temperature, Extremes, Lowest	Temperature, Extremes, Date	Heating degree days	Precipitation, Total	Precipitation, Greatest in 24 hours	Precipitation, Date (s)	Precipitation, Snow, Sleet, Total	Precipitation, Snow, Sleet, Greatest in 24 hours	Precipitation, Snow, Sleet, Date (s)	Relative humidity, 100am EST	Relative humidity, 700am EST	Relative humidity, 100pm EST	Relative humidity, 700pm EST	Wind, Average speed	Wind, Prevailing direction	Wind, Fastest mile, Speed	Wind, Fastest mile, Direction	Wind, Fastest mile, Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days, Sunrise to sunset, Clear, 0-3	Number of days, Sunrise to sunset, Partly cloudy, 0.4-0.7	Number of days, Sunrise to sunset, Cloudy, 0.8-1.0	Number of days, Precipitation .01 inch or more	Number of days, Snow, Sleet 1.0 inch or more	Number of days, Thunderstorms	Number of days, Heavy fog	Number of days, Max temp, 90 °F and above	Number of days, Max temp, 32 °F and below	Number of days, Min temp, 32 °F and below	Number of days, Min temp, 0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p h		M p h			%	Tenths											
CALIFORNIA																																				
BURBANK	74.7	50.0	62.4	100	OCT 6+	34	DEC 29+	1993	8.41	1.51	JAN 21-22	T	T	NOV 17	72	50	42	66	7.3	18	36*	2	MAR 16		3.3	216	83	67	34	0	1	18	50	0	0	0
EUREKA U	56.3	45.9	51.1	83	SEP 24	30	NOV 15	4986	47.04	2.67	NOV 8-9	.3	.3	DEC 31					7.3	N#	42	SW	DEC 22	58	6.5	93	83	190	118	0	13	47	0	0	5	0
FRESNO	75.9	47.2	61.6	110	JUN 25	25	JAN 13	2824	8.44	1.13	OCT 28-29	.0	.0		77	51	38	63	6.8	31	41	NW	MAR 2	63	3.5	219	61	86	47	0	5	40	105	0	39	0
LONG BEACH	71.3	51.2	61.3	97	APR 14	33	MAR 8	1875	4.96	.69	NOV 16-17	.0	.0		79	59	52	74	6.5	28	37*	17	JAN 21		4.1	172	126	68	29	0	1	26	10	0	0	0
LOS ANGELES	68.5	53.2	60.9	94	OCT 20	38	NOV 19+	1857	6.51	.86	DEC 19-20	.0	.0		76	58	62	74	9.4	27	55Y	NE	MAR 16		4.2	171	119	76	32	0	2	25	3	0	0	0
LOS ANGELES U	72.9	54.3	63.6	96	OCT 20	39	NOV 19+	1395	7.98	1.12	MAR 22-23	.0	.0						6.1		47	NW	MAR 16	75	3.5	201	109	56	28	0			0	13	0	0
MT SHASTA R	61.2	35.7	48.5	97	JUL 11	9	DEC 31	6140	32.47	4.80	DEC 21-22	125.2	17.8	DEC 18-19		59									4.2	187	65	114	93	27	8	7	17	4	149	0
OAKLAND	62.9	50.9	56.9	89	SEP 22	36	JAN 13	2998	16.83	2.20	JAN 20-21	.0	.0		79	73	66	77	9.4	30	46*	16	JAN 20		4.5	168	105	93	77	0	2	5	0	0	0	0
RED BLUFF	75.0	49.7	62.4	111	JUL 24	27	DEC 13	2673	17.08	1.85	JAN 20	.0	.0		62	47	33	53	8.9	17	56	SE	JAN 20	80	4.1	189	76	101	62	0	7	14	95	0	17	0
SACRAMENTO	74.1	47.1	60.6	106	JUL 24+	28	JAN 13	2732	16.70	2.67	JAN 20-21	T	T	JAN 21	81	63	44	71	8.4	22	37	SW	APR 22	82	3.7	214	64	88	65	0	1	30	81	0	19	0
SACRAMENTO U	72.9	49.0	61.0	103	JUL 11+	30	JAN 5	2513	15.07	2.30	JAN 20-21	.0	.0																63	0	0	0	57	0	3	0
SANDBERG R	63.0	44.9	54.0	96	JUL 13	21	DEC 31+	4918	8.27	1.68	NOV 17	35.9	14.0	NOV 17		40			13.3		54*	34	APR 11		3.6	209	65	92	41	12	3	74	20	8	96	0
SAN DIEGO	69.7	54.5	62.1	97	OCT 19	38	DEC 14+	1546	5.27	1.01	JAN 21-22	.0	.0		76	59	61	75	7.0	30	34	NW	MAR 2	68	4.6	160	119	87	39	0	3	16	3	0	0	0
SAN FRANCISCO	64.8	48.0	56.4	92	SEP 24	33	JAN 13+	3197	17.54	2.69	JAN 20-21	.0	.0		83	68	61	78	11.5	27	59	SSE	JAN 20		4.3	180	85	101	68	0	1	9	5	0	0	0
SAN FRANCISCO U	62.2	50.7	56.5	92	SEP 24	40	DEC 31	3188	17.73	1.91	JAN 20-21	.0	.0			F76	K63		8.7	W#	36	SW	APR 22	73					69	0	3	0	2	0	0	0
SANTA CATALINA	68.1	54.4	61.3	98	AUG 8	39	NOV 17	2336	5.55	.68	NOV 17	T	T	NOV 14 +											3.8	193	86	87	39	0	5	137	20	0	0	0
SANTA MARIA	67.3	42.6	55.0	99	OCT 19	25	MAR 8	3640	9.93	1.40	OCT 28-29	.0	.0			61	62								3.7	201	105	60	54	0	3	79	6	0	51	0
STOCKTON	74.2	47.0	60.6	108	JUN 23	24	JAN 13	2840	14.10	1.59	OCT 28-29	.0	.0		76	58	43	65	8.5	27	40*	16	JAN 20		3.9	204	62	100	61	0	2	34	79	0	37	0
COLORADO																																				
ALAMOSA	56.7	20.6	38.7	91	JUL 4	-33	JAN 14+	9638	7.07	.93	DEC 3-4	62.4	14.7	DEC 3	75	44	40								4.1	172	133	61	76	[illegible]	47	32	3	60	235	77
COLORADO SPRINGS	62.4	35.2	48.8	99	JUL 4	- 5	FEB 26	6459	8.59	1.49	MAY 29-30	33.1	13.3	MAR 7	55	32	35	51	10.9	36	43*	34	DEC 24		5.0	134	118	114	65	7	53	17	31	35	155	6
DENVER	64.2	35.1	49.7	98	JUL 27+	- 8	DEC 17	6208	10.14	1.71	MAY 29-30	57.2	10.3	APR 2-3	62	35	35	54	8.6	18	43	SW	DEC 15+	75	5.1	126	135	105	78	15	31	8	50	26	164	7
GRAND JUNCTION	65.0	38.8	51.9	102	JUL 20+	- 3	JAN 14	5853	6.88	.69	AUG 12-13	29.1	6.1	NOV 15-16	54	36	32	46	7.5	13	49	W	AUG 26	71	4.9	145	102	119	71	11	25	7	61	16	147	1
PUEBLO	68.6	35.7	52.2	102	JUL 20+	-10	MAR 9	5642	8.29	1.63	MAY 29-30	24.3	9.0	MAR 6	60	34	30	50	11.0	30	73	NE	JUL 26	77	4.5	160	113	93	56	7	31	6	77	11	163	7
CONNECTICUT																																				
BRIDGEPORT	59.5	42.8	51.2	93	JUN 30	7	JAN 15	5587	23.03	1.74	APR 14-15	25.5	10.0	JAN 13-14	79	79	61	70	13.5	23	67*	34	JAN 21		5.6	125	100	141	106	6	14	35	3	14	102	0
HARTFORD	61.2	38.9	50.1	101	JUL 1	- 6	JAN 15	6087	34.55	2.10	JAN 20-21	52.2	10.2	FEB 19-20	77	78	51	62	8.3	18	50	NW	JAN 21	62	6.3	92	115	159	122	10	22	31	21	32	140	7
NEW HAVEN	59.3	41.4	50.4	93	JUN 30	7	JAN 15	5767	33.52	1.95	JUL 8-9	33.4	9.3	JAN 13		78	59		8.2		40	W	JAN 10	64	5.8	117	100	149	112	8	13	24	1	12	125	0
DELAWARE																																				
WILMINGTON	63.8	43.8	53.8	98	JUN 30	1	JAN 15	4990	32.82	2.33	JUL 8	32.7	8.1	MAR 21-22	76	78	53	63	9.8	29	42*	30	MAR 10		5.6	126	95	145	95	10	21	34	21	11	104	0
DIST OF COLUMBIA																																				
WASH NATL AP	67.6	47.3	57.5	100	JUN 10	7	JAN 15	4140	29.48	1.63	SEP 29-30	27.9	8.2	FEB 10-11	70	73	51	58	9.4	18	43	SW	MAR 10	59	5.8	120	93	153	92	6	19	19	49	5	78	0
FLORIDA																																				
APALACHICOLA U	74.6	61.3	68.0	95	AUG 28	24	JAN 14	1373	71.30	7.76	APR 27-28	T	T	JAN 13					7.6						5.5	119	103	144	114	0	62	41	20	0	5	0
DAYTONA BEACH	79.0	61.8	70.4	97	JUN 17	27	JAN 14	815	62.76	6.34	SEP 9-10	.0	.0		86	87	63	76	9.4	36	46*	26	SEP 9		6.4	73	129	164	108	0	58	21	46	0	3	0
FORT MYERS	84.6	64.6	74.6	97	JUL 14+	32	JAN 15	269	32.85	2.78	SEP 4	.0	.0		84	85	56	72	9.7		37*	27	FEB 8		5.9	69	185	112	104	0	80	19	127	0	1	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a m E S T	Relative humidity: 7:00 a m E S T	Relative humidity: 1:00 p.m. E S T	Relative humidity: 7:00 p.m. E S T	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90 °F and above	Number of days: Max temp: 32 °F and below	Number of days: Min temp: 32 °F and below	Number of days: Min temp: 0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In.		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
FLORIDA																																				
JACKSONVILLE	78.4	59.5	69.0	99	JUN 17+	22	JAN 15	1202	65.03	6.26	SEP 9-10	.0	.0		85	89	58	72	9.7	36	82	N	SEP 9	61	6.1	91	120	155	126	0	57	28	78	0	7	0
KEY WEST	82.8	73.3	78.1	91	SEP 15+	47	JAN 15	60	29.36	2.76	DEC 16-17	.0	.0		80	80	69	75	11.9	12	73	S	OCT 14	70	5.7	92	154	120	116	0	60	0	32	0	0	0
LAKELAND U	80.9	62.9	71.9	97	JUN 18	27	JAN 14	610	47.53	3.77	JAN 11-12	.0	.0						7.7					57	6.1	82	146	138	111	0	82	22	77	0	2	0
MIAMI BEACH	80.4	71.9	76.2	95	JUL 8	38	JAN 15+	127	46.48	3.83	APR 29-30	.0	.0												5.9	67	185	114	116	0	0	0	11	0	0	0
MIAMI	82.7	70.1	76.4	93	AUG 19	36	JAN 15	142	60.20	6.92	AUG 26-27	.0	.0		82	85	64	74	8.9	9	74*	36	AUG 27		6.6	40	179	147	127	0	72	9	39	0	0	0
ORLANDO	82.2	62.8	72.5	97	JUN 17+	27	JAN 14	582	54.39	5.36	SEP 9-10	.0	.0		87	90	57	70	9.5	18	46*	2	JUN 10		6.2	79	143	144	108	0	53	23	106	0	1	0
PENSACOLA	75.4	57.9	66.7	97	SEP 2+	20	JAN 14	1730	82.96	7.51	APR 26-27	T	T	JAN 13					7.8	35	45	SE	APR 27	59					134	0	69	0	49	0	16	0
TALLAHASSEE	77.7	55.9	66.8	98	JUN 20	16	JAN 15	1672	104.18	9.26	DEC 3-4	T	T	FEB 22	87	90	57	70	8.8	36	48*	27	MAR 15		6.1	95	120	151	137	0	90	50	76	0	28	0
TAMPA	81.5	61.9	71.7	97	JUL 14+	27	JAN 15	644	57.92	4.08	JUL 25-26	.0	.0		85	88	59	71	11.5	6	67*	31	JUN 25	64	6.4	81	127	158	105	0	75	20	81	0	4	0
WEST PALM BEACH	82.8	67.2	75.0	94	AUG 14+	35	JAN 14	213	79.30	7.07	OCT 11-12	.0	.0		84	86	65	77	10.0	12	86*	13	AUG 27		6.6	53	154	159	128	0	61	8	70	0	0	0
GEORGIA																																				
ATHENS	72.0	50.3	61.2	103	JUN 21	14	JAN 15	2996	71.42	4.70	OCT 4-5	T	T	FEB 25 +	81	79	58	66	7.8	5	31*	29	MAY 12		5.8	115	92	159	127	0	52	51	37	0	53	0
ATLANTA	70.0	50.8	60.4	98	JUN 22	14	JAN 15	3129	60.13	3.38	MAR 25-26	1.1	.8	JAN 13	80	85	60	65	7.7	6	45	SE	JUL 22	63	5.9	109	101	156	122	0	43	49	17	2	52	0
AUGUSTA	75.7	51.7	63.7	99	MAY 28	14	JAN 15	2451	66.04	5.98	AUG 28-29	T	T	JAN 13	83	86	53	67	7.3	24	40*	17	MAY 21		6.1	92	98	176	110	0	51	24	74	0	44	0
COLUMBUS	74.9	52.8	63.9	99	JUN 21	13	JAN 15	2397	73.22	5.63	OCT 4-5	T	T	JAN 13 +		87	57	68	7.3		37*	18	MAR 4		6.2	95	98	173	123	0	53	24	55	0	45	0
MACON	75.3	52.7	64.0	103	JUN 21	16	JAN 15	2380	52.85	3.54	APR 8	T	T	FEB 22 +	84	88	54	64	7.7	30	35	SW	DEC 26+	59	6.0	105	95	166	119	0	50	33	67	0	34	0
ROME	72.0	46.9	59.5	100	JUN 22	7	JAN 15	3489	68.56	5.85	MAR 25-26	1.9	.3	FEB 25															122	1	58	20	58	2	82	0
SAVANNAH	76.3	54.7	65.5	100	JUN 16+	18	JAN 15	1910	73.17	5.86	JUL 17-18	T	T	JAN 13	85	87	56	72	9.5	18	39	N	JUL 9	66	6.0	105	105	156	122	0	63	34	62	0	26	0
HAWAII																																				
HILO	80.6	65.5	73.1	90	DEC 21	60	DEC 18+	0	166.44	8.27	MAY 24-25	.0	.0		88	83	66	84	8.7	25	31*	16	DEC 9	33	7.4	37	113	216	307	0	18	0	1	0	0	0
HONOLULU	83.5	70.5	77.0	90	AUG 29	61	NOV 17	0	20.12	3.35	MAR 23-24	.0	.0		68	66	55	64	10.3	6	33	SW	DEC 19	63	5.9	79	167	120	137	0	12	0	1	0	0	0
KAHULUI	82.2	66.9	74.6	91	AUG 29	58	DEC 7+	0	10.02	.87	DEC 9-10	.0	.0		84	79	61	78	12.1	6	44	NE	DEC 16	73	5.0	131	145	90	100	0	7	0	3	0	0	0
LIHUE	80.8	69.6	75.2	86	JUN 17+	59	MAR 20	0	51.75	4.98	MAR 8-9	.0	.0		80	77	67	77	12.1	6	36	SW	DEC 21		6.7	54	153	159	242	0	12	0	0	0	0	0
IDAHO																																				
BOISE	60.0	36.9	48.5	101	AUG 17+	1	DEC 17+	6540	15.77	1.07	MAY 27-28	46.5	6.5	NOV 25-26	75	57	47	67	7.9	13	40	SW	DEC 20	71	5.4	133	81	152	108	14	17	25	39	29	151	0
IDAHO FALLS 42NW R	54.2	22.3	38.3	98	JUL 27	-32	DEC 17	9917	12.37	1.12	OCT 29-30																		77	0	0	0	28	96	231	72
IDAHO FALLS 46W R	54.2	23.9	39.1	96	JUL 27	-33	DEC 17	9601	12.40	1.18	DEC 22-23	51.5	6.6	APR 22-23					7.6		42A	WSW	SEP 25						82	14	17	14	19	89	224	64
LEWISTON	61.3	40.3	50.8	105	JUL 12	-11	DEC 17	5578	14.81	1.40	JUL 14-15	32.1	7.5	DEC 20	73	60	47								6.6	93	69	204	102	8	16	20	22	8	105	2
POCATELLO	57.4	31.0	44.2	99	JUL 17	-19	JAN 13	7901	11.67	.84	DEC 22-23	48.1	9.0	APR 22-23	73	55	47	63	10.8	24	42	SW	MAY 2+	63	5.8	123	87	156	104	15	21	35	34	60	179	22
ILLINOIS																																				
CAIRO U	69.3	50.9	60.1	103	AUG 4+	8	DEC 18	3627	43.83	6.58	MAR 8-9	3.9	2.4	JAN 11-12		80	56		8.6	S#	60	NW	MAR 4	63	5.4	129	98	139	95	2	44	8	63	7	73	0
CHICAGO MIDWAY	61.1	42.2	51.7	98	AUG 3	2	DEC 18	5887	26.95	2.09	JUL 17-18	41.4	7.1	MAR 29	70	77	57	61	10.8	21	47	SW	MAY 8	60	6.0	105	100	161	105	11	31	15	35	44	131	0
MOLINE	61.5	40.6	51.1	97	JUL 24	- 4	DEC 27	6093	35.67	1.95	APR 19-20	38.5	5.3	MAR 20	77	81	58	62	9.9	18	52	SW	MAY 8	60	5.8	106	114	146	110	13	54	16	32	42	141	7
PEORIA	62.1	40.9	51.5	99	AUG 2	- 3	JAN 1	5944	28.95	2.80	JUN 19-20	27.1	4.2	JAN 12	78	83	60	62	9.5	18	56	W	NOV 20	63	5.9	120	79	167	102	8	48	29	35	39	136	4
ROCKFORD	58.9	37.6	48.3	93	AUG 3+	-10	DEC 6	6724	39.24	2.50	APR 20-21	44.3	7.3	MAR 4-5	81	84	60	65	10.7	18	37*	22	APR 13		5.7	119	98	149	107	13	47	28	14	50	150	5
SPRINGFIELD	64.9	42.9	53.9	103	AUG 3	- 7	JAN 14	5357	31.02	2.82	APR 18-19	36.7	8.8	JAN 11-12	73	78	57	59	11.4	18	48	W	NOV 20+	67	5.5	135	76	155	97	11	46	21	55	33	130	3

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

YEAR 1964

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile					Sunrise to sunset							Max temp		Min temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 a.m. E S T	7:00 a.m. E S T	1:00 p.m. E S T	7:00 p.m. E S T	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 °F and above	32 °F and below	32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In.	In		In	In.		%	%	%	%	M.p.h		M.p.h			%	Tenths											
INDIANA																																				
EVANSVILLE	68.6	43.9	56.3	102	AUG 3	- 6	JAN 14	4515	38.37	5.63	MAR 8-9	9.2	3.5	JAN 12	80	84	56	60	7.3	18	43	SW	MAR 4	65	5.4	131	95	140	97	4	38	10	62	11	119	1
FORT WAYNE	61.4	39.8	50.6	98	AUG 2	- 5	DEC 9+	6083	28.54	1.65	JUL 7	49.7	13.6	MAR 9-10	78	82	60	65	9.7	22	52	SW	MAR 5	63	6.1	97	113	156	113	15	44	18	32	40	134	8
INDIANAPOLIS	63.6	42.6	53.1	97	AUG 3	- 5	JAN 14	5312	36.35	2.88	MAR 8-9	29.9	8.0	JAN 12-13	77	83	59	62	9.5	23	51	SW	MAR 5	63	6.0	95	117	154	113	9	43	14	31	24	120	1
SOUTH BEND	60.1	40.3	50.2	97	AUG 2	- 8	JAN 1	6175	36.12	1.73	JUL 6-7	79.4	5.4	DEC 2	75	78	58	58	10.8	23	46*	27	JUN 19		6.4	90	92	184	148	26	41	28	29	47	134	1
IOWA																																				
BURLINGTON	62.5	41.7	52.1	99	JUL 24	- 3	DEC 18	5759	29.51	2.62	APR 5	40.7	6.5	DEC 3-4												116	99	151	109	13	52	17	35	36	137	2
DES MOINES	59.5	39.3	49.4	100	AUG 2	- 9	DEC 17	6528	28.42	2.29	JUN 14-15	23.7	3.5	JAN 8	79	84	63	63	12.0	18	65	SW	MAY 8	59	5.7	121	99	146	105	9	56	23	24	51	146	9
DUBUQUE	57.4	37.7	47.6	93	AUG 2+	- 8	DEC 18+	6980	36.14	2.69	MAY 7-8	35.8	4.8	MAR 25-26		80	59	62							6.0	101	104	161	99	13	46	29	12	59	154	8
SIOUX CITY	60.1	38.2	49.2	102	JUL 22	-19	JAN 13	6676	27.30	1.94	AUG 6	27.0	5.1	MAR 19-20	76	82	60	59	11.4	32	57	SW	MAY 5	65	5.5	127	100	139	104	8	54	14	26	45	150	13
WATERLOO	58.6	35.8	47.2	97	AUG 2	-11	DEC 27+	7213	35.93	2.80	AUG 20	23.0	5.1	MAR 25	82	85	62	65	10.6	18	43*	33	NOV 20		5.9	107	114	145	97	7	42	23	24	59	162	21
KANSAS																																				
CONCORDIA	66.1	41.7	53.9	108	JUL 6	- 9	JAN 13	5340	28.61	2.72	JUN 4	11.0	2.3	MAR 8	71	79	52	52	12.8	18	52	W	JUN 21	72	5.0	156	86	124	85	6	59	16	60	20	136	5
DODGE CITY	68.8	42.6	55.7	107	AUG 10	- 6	JAN 13	4991	21.25	3.28	JUL 28	14.2	4.1	DEC 2-3	67	76	48	46	14.1	19	65	S	JUL 4	75	5.1	134	108	124	71	6	50	30	81	17	136	2
GOODLAND	66.4	35.5	51.0	108	JUL 4	-10	DEC 17	6123	10.81	1.78	JUL 8-9	26.9	5.3	APR 4	74	42	40	64	14.3	18	58*	27	MAY 8		4.5	167	104	95	60	7	40	18	70	23	166	5
TOPEKA	66.4	43.6	55.0	105	AUG 3+	- 5	JAN 13	4983	35.98	4.66	NOV 15	12.8	4.3	DEC 3	74	81	56	56	12.0	18	57	S	MAY 5+	62	5.4	129	95	142	84	5	66	10	42	14	131	3
WICHITA	68.9	46.2	57.6	110	AUG 6	- 1	JAN 13	4455	34.21	4.33	NOV 15-16	7.2	5.1	DEC 3	71	80	55	53	12.9	18	63	W	APR 27	66	5.1	143	103	120	78	2	55	20	74	12	122	1
KENTUCKY																																				
COVINGTON	66.0	42.2	54.1	101	AUG 3	-15	JAN 14	4944	43.88	5.21	MAR 9	25.9	7.6	JAN 1	78	82	56	61	8.4	21	37*	23	MAR 5		6.0	99	110	157	121	6	46	19	44	17	116	2
LEXINGTON	66.6	44.7	55.7	98	AUG 3	- 2	JAN 14	4574	43.48	3.54	MAR 4	24.5	6.4	JAN 31-1	71	76	54	58	9.0	18	39*	22	AUG 11		5.4	129	103	134	118	8	41	15	37	15	101	1
LOUISVILLE	67.7	44.9	56.3	101	AUG 3	- 1	JAN 14	4414	46.58	6.97	MAR 9	24.1	7.2	JAN 1	76	83	57	59	7.8	18	48	W	MAR 5	63	5.7	113	108	145	113	4	39	8	46	9	102	1
LOUISIANA																																				
ALEXANDRIA	75.6	52.4	64.0	101	AUG 5	11	JAN 14	2318	56.43	6.18	DEC 10-11	T	T	FEB 21 +	90	92	59	69	5.5	18	40*	9	JUL 24		6.0	109	100	157	95	0	68	39	73	0	48	0
BATON ROUGE	77.5	57.3	67.4	97	AUG 5+	20	JAN 14	1700	63.83	8.38	OCT 3-4	.0	.0		83	87	59	65	7.5	12	40*	33	OCT 4+		6.1	94	125	149	107	0	72	39	80	0	23	0
LAKE CHARLES	76.1	57.7	66.9	97	AUG 5	20	JAN 14	1743	47.17	4.98	JUN 29-30	T	T	FEB 21 +	87	90	61	70	8.9	18	46*	11	AUG 5		6.2	85	129	152	98	0	58	56	49	0	14	0
NEW ORLEANS MOISANT	76.9	57.5	67.2	96	AUG 31	21	JAN 1	1633	58.09	3.98	JAN 6	.0	.0		90	92	68	74	7.5	6	40*	17	OCT 4		6.0	103	105	158	114	0	69	33	59	0	17	0
NEW ORLEANS AUDUBON	77.9	59.2	68.6	97	SEP 3+	26	JAN 14+	1434	62.80	3.88	MAR 19	† .0	† .0		87	90	65	72	4.7		24	W	OCT 4	†54	†6.0	†89	†132	†145	130	†0	†82	†18	88	0	8	0
SHREVEPORT	76.7	55.6	66.2	105	AUG 5	15	JAN 14	2207	32.31	2.41	APR 24-25	1.4	1.4	JAN 15-16	77	86	56	57	10.1	18	41*	27	MAR 9	63	5.4	127	108	131	87	1	42	28	100	1	36	0
MAINE																																				
CARIBOU	48.0	29.2	38.6	93	JUL 18	-17	JAN 18+	9654	30.74	2.00	OCT 21	117.5	11.4	DEC 1		83	63	73							6.8	65	112	189	155	33	23	41	1	100	184	33
PORTLAND	55.2	33.1	44.2	93	JUN 20	-12	JAN 1	7721	34.59	1.87	OCT 17-18	78.6	11.5	MAR 10-11	81	80	56	72	8.8	18	43	NW	FEB 3	60	6.0	104	107	155	125	19	22	59	4	43	179	10
MARYLAND																																				
BALTIMORE	65.7	44.4	55.1	98	JUN 15	- 2	JAN 15	4676	34.68	2.02	NOV 25	42.9	11.5	MAR 21-22	73	76	51	59	8.7	28	57	NW	MAR 10	60	5.5	128	134	134	98	9	15	32	34	7	100	1
BALTIMORE U	66.5	49.9	58.2	98	JUL 1+	12	JAN 14	3981	37.19	2.44	NOV 25																		93	0	0	0	37	6	65	0
MASSACHUSETTS																																				
BLUE HILL OBS R	57.5	39.6	48.6	98	JUL 1	6	JAN 15+	6349	40.22	2.43	APR 14-15	72.5	13.4	JAN 13-14	79	79	61	69											124	15	0	0	8	34	123	0
BOSTON	58.0	42.3	50.2	97	JUL 1	10	JAN 15+	5854	36.47	2.09	DEC 27-28	57.5	9.5	FEB 19-20	75	75	59	66	12.6	30	45*	N	JUL 1	61	5.7	126	86	154	127	10	20	36	9	27	104	0

See reference notes at end of table

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State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00am EST	7:00am EST	1:00p.m. EST	7:00p.m. EST	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0–0.3	Partly cloudy, 0.4–0.7	Cloudy, 0.8–1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 °F and above	32 °F and below	32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In.	In		%	%	%	%	M.p.h		M.p.h			%	Tenths											
MASSACHUSETTS																																				
NANTUCKET	55.8	42.6	49.2	92	JUL 1	15	FEB 18+	5885	42.59	2.54	SEP 13–14	51.6	17.8	JAN 13–14	83	79	68	80	13.4	24	66	NW	FEB 16	56	6.4	105	77	184	120	11	14	98	1	15	99	0
PITTSFIELD	56.4	33.7	45.1	92	JUL 19+	-11	JAN 1	7472	28.58	1.54	AUG 22	94.7	14.5	FEB 15–16															140	25	0	0	4	48	161	13
WORCESTER	56.2	37.8	47.0	94	JUL 1	3	FEB 25+	6826	37.65	2.32	JAN 20–21	63.2	12.4	FEB 16	75	74	54	64	10.5	28	42*	29	JAN 1		5.8	116	100	150	119	15	17	92	2	45	144	0
MICHIGAN																																				
ALPENA	54.6	32.3	43.5	97	JUN 30	-12	JAN 13+	8093	26.99	1.75	AUG 2–3	60.7	8.8	MAR 25–26		79	59	67	7.8	24	37	SW	APR 14	63	6.7	65	117	184	138	23	31	24	10	58	182	14
DETROIT	60.0	42.3	51.2	96	JUL 20	6	JAN 1	5832	27.94	2.06	AUG 11	33.2	3.5	DEC 2	74	77	56	61	10.9	18	56	W	JUN 19	56	6.3	82	123	161	132	12	31	9	26	41	119	0
DETROIT M WAYNE CO	58.6	37.6	48.1	97	AUG 2	- 2	JAN 1	6663	28.74	3.21	AUG 11	36.8	3.3	MAR 8	78	80	59	65	9.0	22					6.3	77	124	165	123	13	35	32	21	43	146	2
DETROIT WILLOW RUN	59.0	38.9	49.0	99	AUG 2	- 2	JAN 1	6433	26.39	2.04	AUG 11	32.3	3.2	MAR 8	84	87	60	67	10.3	21	44*	25	MAY 9+		6.3	79	120	167	110	13	30	36	27	43	138	1
FLINT	58.3	37.5	47.9	97	AUG 2	- 9	JAN 1	6762	24.59	1.95	JUN 15	39.3	3.7	DEC 4	77	78	59	65	10.1	22	39*	22	MAR 5		6.5	77	115	174	120	13	33	25	13	45	147	4
GRAND RAPIDS	58.7	38.4	48.6	100	AUG 3	-15	JAN 1	6656	32.28	2.65	JUN 14–15	67.1	12.1	JAN 25–26	84	87	63	69	10.2	25	58	W	JUN 9	55	6.7	75	112	179	124	27	39	30	20	53	149	3
LANSING	59.6	37.7	48.7	100	AUG 2	-17	DEC 6	6635	26.40	1.57	JUN 14–15	43.2	5.4	DEC 4	82	84	60	67	8.6	29	47	SW	NOV 12	57	6.3	78	119	169	130	19	38	25	22	50	156	4
MARQUETTE U	51.2	35.6	43.4	98	MAY 22	- 5	DEC 17	8067	31.48	1.93	JUL 24	99.6	10.1	FEB 7–8		75	63	65	8.8	W#	50	SW	APR 13	56	7.1	62	97	207	161	36	25	21	8	83	155	4
MUSKEGON	58.0	40.0	49.0	99	AUG 3	- 9	JAN 1	6413	24.31	1.38	NOV 2	105.4	9.1	NOV 20–21	79	83	64	68	11.6	22	43*	22	MAY 8+		6.8	78	95	193	131	33	49	27	11	46	136	1
SAULT STE MARIE	49.4	31.5	40.5	89	JUN 29	-16	JAN 12	9028	32.71	1.38	NOV 27–28	157.2	11.9	MAR 4–5	84	86	67	73	10.9	31	52*	21	APR 14	52	7.3	60	94	212	181	43	38	53	0	94	175	26
MINNESOTA																																				
DULUTH	48.8	28.8	38.8	94	JUL 17	-25	DEC 27	9710	34.95	3.66	SEP 6–7	69.6	9.0	DEC 22–23	75	78	60	62	10.9	30	56	NE	JAN 23	58	6.6	73	116	177	128	21	43	53	3	102	179	52
INTERNATIONAL FALLS	48.4	25.2	36.8	96	JUL 16	-35	JAN 12	10455	26.63	3.80	JUN 8–9	46.5	3.7	DEC 22	82	86	64	67	10.8	27	37*	27	OCT 3+		6.6	81	103	182	127	16	36	18	9	109	196	78
MINNEAPOLIS	55.8	35.5	45.7	98	AUG 1	-17	NOV 30	7778	25.97	2.49	SEP 7–8	33.7	4.5	MAR 3–4	75	80	60	61	10.5	13	61	NW	MAY 23	64	5.7	111	112	143	109	13	44	14	27	81	162	18
ROCHESTER	55.1	34.3	44.7	97	JUL 19+	-15	DEC 17+	7963	19.91	2.66	SEP 7–8	32.1	4.0	NOV 20	78	82	62	63	13.0	18	52*	28	MAY 23+		5.9	103	109	154	106	9	45	28	23	75	161	23
ST CLOUD	53.8	32.1	43.0	99	AUG 1	-20	NOV 30	8608	21.17	2.02	AUG 29	36.9	7.5	MAR 19–20	76	81	58	60							5.9	110	102	154	99	11	39	18	23	89	171	41
MISSISSIPPI																																				
JACKSON	76.6	53.7	65.2	99	AUG 4+	15	JAN 15	2326	71.45	6.97	OCT 4	1.5	1.5	JAN 16	80	85	56	63	8.6		38*	14	MAR 3		5.7	109	104	153	111	1	66	27	92	1	40	0
MERIDIAN	75.8	51.1	63.5	101	JUN 21	10	JAN 15	2589	68.55	6.36	APR 5–6	1.0	T	JAN 16 +	88	91	57	67	6.6	18	40*	3	JUL 6		6.0	93	110	163	111	1	67	37	78	1	60	0
VICKSBURG U	74.2	56.2	65.2	97	AUG 4	18	JAN 13	2150	58.37	3.48	MAR 1–2	T	T	DEC 17 +					8.1		41	W	APR 5	62	5.6	112	119	125	99	0	53	16	62	2	26	0
MISSOURI																																				
COLUMBIA	66.8	45.6	56.2	103	AUG 3	- 2	DEC 18	4651	33.57	2.51	APR 4–5	23.4	6.0	FEB 15	71	77	53	54	11.0	18	59	NW	MAR 29	64	5.4	133	90	143	97	7	59	15	45	18	110	1
KANSAS CITY	66.6	47.3	57.0	104	AUG 3+	1	DEC 18+	4456	38.82	3.69	NOV 15	29.6	7.3	JAN 11–12	66	73	55	52	9.7	18	47	N	JUL 1	67	5.4	130	92	144	100	8	64	4	44	15	95	0
ST JOSEPH	64.9	42.2	53.6	101	AUG 3	- 6	JAN 13	5299	36.55	5.83	JUN 20–21	16.5	3.4	DEC 3–4 +					9.5	18	43*	21	MAY 8		5.0	149	94	123	95	6	59	11	35	23	131	4
ST LOUIS	66.4	45.6	56.0	104	AUG 3	- 1	JAN 14	4710	32.16	2.81	JUL 11–12	28.8	6.1	MAR 9–10	73	81	55	57	10.4	18	60	SE	JUN 29	64	5.4	142	91	133	103	10	35	9	47	19	108	1
SPRINGFIELD	68.4	45.1	56.8	102	AUG 4+	- 1	DEC 18	4341	34.62	2.85	APR 4–5	8.5	2.5	MAR 9	76	81	56	59	10.4	16	35	S	JAN 19	63	5.1	142	102	122	109	4	49	17	37	10	109	2
MONTANA																																				
BILLINGS	57.9	35.0	46.5	103	AUG 4	-26	DEC 16	7275	18.76	1.90	JUN 8–9	56.3	10.5	MAR 22	66	51	45	59	11.9	24	59	NW	JUL 14	62	5.9	95	134	137	89	17	19	10	27	44	160	13
GLASGOW	54.8	30.7	42.8	102	AUG 18+	-31	DEC 17	8599	10.53	1.61	JUN 17–18	24.7	3.8	DEC 15	72	52	47	64							6.6	79	109	178	86	8	20	7	25	72	176	36
GREAT FALLS	55.8	33.5	44.7	101	AUG 18	-36	DEC 16	7788	17.91	2.74	JUN 7–8	66.5	7.3	JAN 21	65	49	45	59	13.4	23	47	W	SEP 30	63	6.6	78	100	188	102	22	25	4	23	49	158	25
HAVRE	54.7	29.5	42.1	102	AUG 18	-31	DEC 17	8642	12.14	.92	AUG 19–20	33.9	4.5	DEC 21–22	75	54			9.8	SW#	52	SW	MAR 1	58	6.5	89	91	186	100	13	29	3	25	58	183	40
HELENA	55.6	30.3	43.0	95	AUG 18+	-38	DEC 17	8214	13.61	2.06	MAY 2–3	56.1	10.1	MAY 2–3	70	51	46	62	8.5	27	38	W	OCT 1+	62	6.4	88	105	173	85	18	26	5	15	45	185	20

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
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State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00am E S T	7:00am E S T	1:00p.m. E S T	7:00p.m. E S T	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0–0.3	Partly cloudy, 0.4–0.7	Cloudy, 0.8–1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 °F and above	32 °F and below	32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In.		%	%	%	%	M.p.h		M.p.h			%	Tenths											
MONTANA																																				
KALISPELL	52.6	28.6	40.6	94	JUL 8	-24	DEC 17	8883	22.36	1.47	MAY 1-2	94.7	10.6	DEC 21-22		69			6.6						7.2	66	74	226	157	31	18	45	5	47	207	20
MILES CITY	57.2	32.4	44.8	105	AUG 4+	-29	DEC 17	8052	14.91	2.71	JUN 18	54.3	8.0	NOV 14	74	53	48	65	10.0	15	58*	27	JUN 16						93	20	30	13	41	67	175	25
MISSOULA	53.0	28.7	40.9	96	JUL 12+	-30	DEC 17	8812	15.22	1.61	JUN 7-8	77.2	7.8	DEC 20-21	87	69	57	78	6.5	32	45	W	FEB 4	49	7.1	77	68	221	131	25	14	29	9	64	214	15
NEBRASKA																																				
GRAND ISLAND	63.3	37.4	50.4	106	AUG 2	-20	JAN 13	6341	20.67	3.30	APR 25-26	15.2	4.3	FEB 14-15	72	78	52	51	12.3	18	57*	32	JUN 11		5.0	139	107	120	76	4	51	16	51	42	155	10
NORFOLK	60.2	36.6	48.4	104	JUL 22	-23	JAN 13	6932	26.36	2.82	JUN 21-22	31.2	3.7	FEB 14-15		77	54	53							5.2	133	107	126	93	13	55	12	37	55	158	17
NORTH PLATTE	63.4	33.6	48.5	102	JUL 30	-13	DEC 17	6825	20.96	3.15	JUL 10	21.4	5.4	APR 4-5	69	78	48	45	10.8	34	65	W	JUN 22	69	5.1	143	107	116	69	8	47	15	44	27	182	13
OMAHA	63.3	40.4	51.9	107	AUG 2	-13	JAN 13	5886	35.75	3.58	MAY 25-26	26.9	4.4	JAN 11-12	72	77	56	55	9.5	16	63	NW	MAY 25	64	5.4	132	99	135	105	11	51	12	41	34	139	8
SCOTTSBLUFF	62.7	33.0	47.9	103	JUL 22	-25	DEC 17	6938	7.70	.93	APR 2-3	27.2	7.5	APR 3	74	45	41	65	12.3	30	54*	32	APR 27		5.4	126	103	137	69	7	34	6	51	29	181	9
VALENTINE	61.3	33.2	47.3	109	JUL 23+	-19	DEC 17	7258	13.33	1.96	JUL 29	18.9	3.0	APR 4-5	79	56	48	69	11.5	S#				66	5.1	140	115	111	65	9	40	4	45	43	178	20
NEVADA																																				
ELKO	59.5	26.3	42.9	96	JUL 20	-15	JAN 13	8225	12.14	.90	DEC 23-24	67.7	5.8	JAN 18					6.7		36*	24	NOV 1		5.3	132	101	133	104	27	13	4	37	42	228	25
ELY	58.7	25.7	42.2	92	AUG 9+	-17	JAN 24+	8432	12.70	1.48	JUN 6-7	101.3	11.6	JAN 21-22	71	46	41	61	8.5	19	49	SW	JAN 21	78	5.0	144	100	122	79	29	20	10	14	43	231	24
LAS VEGAS	78.2	51.3	64.8	110	JUL 29+	20	JAN 9	2929	1.12	.62	NOV 15-16	4.0	4.0	NOV 15-16	35	24	17	29	10.1	23	54*	SW	DEC 27	87	3.1	227	88	51	16	2	10	0	143	0	67	0
RENO	66.5	31.5	49.0	101	JUL 11	0	DEC 31	6076	7.73	1.55	DEC 22-23	48.8	7.6	MAY 5-6	70	45	32	54	7.0	29	51	SW	JAN 20	93	4.3	174	87	105	48	19	4	7	51	9	181	1
WINNEMUCCA	63.6	30.8	47.2	98	JUL 25	- 4	NOV 18	6753	10.47	1.10	JUN 8-9	51.1	4.8	NOV 12-13+	65	43	33	53	8.4	18	52	W	DEC 23	65	5.2	150	77	139	77	21	11	11	48	9	203	6
NEW HAMPSHIRE																																				
CONCORD	57.8	33.4	45.6	97	JUN 30+	-16	JAN 1	7377	27.90	1.82	AUG 22	71.6	11.9	JAN 13-14	83	80	51	63	7.3	32	46*	32	DEC 1	59	5.8	111	108	147	114	17	18	56	12	40	173	12
MT WASHINGTON OBS	33.8	19.5	26.7	67	JUL 18	-23	JAN 12+	13923	76.66	2.35	AUG 22-23	232.5	13.3	OCT 20-21	84	82	82	84	33.7	W#	141Y	NW	FEB 3	35	7.5	45	93	228	215	66	20	318	0	168	260	66
NEW JERSEY																																				
ATLANTIC CITY	64.1	44.1	54.1	97	JUL 1+	3	JAN 15	4913	41.01	3.08	SEP 29-30	31.5	14.4	JAN 12-13	80	80	54	67	10.2	20	44*	30	MAR 26	61	5.7	119	90	157	99	6	20	44	23	9	106	0
NEWARK	63.1	46.0	54.6	99	JUL 1+	8	JAN 15	4845	33.42	2.03	JUL 8-9	36.4	12.1	JAN 13	69	72	51	58	10.9	23	52*	30	JAN 21		5.7	115	108	143	120	6	15	25	26	10	87	0
TRENTON U	63.0	45.1	54.1	98	JUN 30	8	JAN 14	4909	35.44	4.85	JUL 8-9	25.9	8.9	JAN 12-13					9.1	NW#	42	NW	JAN 21+	62	5.5	125	112	129	111	8	28	27	21	12	84	0
NEW MEXICO																																				
ALBUQUERQUE	67.8	41.2	54.5	99	JUL 4+	0	JAN 14	5049	7.44	.88	JUL 27	10.3	2.4	FEB 2-3	57	37	29	47	7.5	18	52	SW	MAY 7+	79	3.7	195	98	73	63	4	44	6	73	14	130	1
CLAYTON	67.2	38.6	52.9	102	JUL 3	- 6	JAN 13	5359	8.93	1.45	AUG 7-8	14.9	5.0	FEB 3-4	64	35	35								4.2	188	77	101	64	6	65	4	57	13	145	1
RATON	64.5	31.8	48.2	96	JUL 6+	-14	DEC 13	6556	10.34	1.04	APR 3-4	31.9	10.1	APR 3-4		34									4.5	159	115	92	76	11	55	3	21	21	182	16
ROSWELL	76.4	41.2	58.8	105	JUL 2	- 9	JAN 13	3968	6.98	1.10	JUN 13	15.2	5.5	FEB 20	64	35			8.9		43	W	JAN 19	75	3.6	210	97	59	42	4	24	6	116	2	138	4
SILVER CITY	70.6	41.0	55.8	100	JUL 4	4	JAN 13	4349	10.20	1.99	SEP 23-24	7.8	3.0	APR 3-4		31	27								3.3	207	104	55	50	2	42	3	48	0	127	0
NEW YORK																																				
ALBANY	58.5	37.3	47.9	98	JUN 30	-15	JAN 15	6765	21.55	1.53	MAR 9-10	67.2	15.4	JAN 13-14	77	77	52	62	5.8	17	42	W	JAN 20	52	6.5	80	108	178	115	12	19	20	17	46	145	9
BINGHAMTON	55.1	37.2	46.2	92	SEP 10+	- 6	JAN 15	7196	31.33	1.95	MAR 9-10	87.7	18.4	JAN 13	79	83	63	68	10.5	34	47	SW	MAR 5	53	7.1	58	107	201	156	21	20	54	3	72	146	6
BINGHAMTON U	59.8	40.4	50.1	96	JUN 30	-10	JAN 15	6020	28.62	2.16	MAR 10	64.4	16.3	JAN 13															157	14			18	38	123	0
BUFFALO	56.6	39.5	48.1	93	JUL 28	1	FEB 11	6633	29.67	1.82	JUL 12-13	65.0	8.2	JAN 1-2	79	79	63	70	11.0	24	56	SW	MAR 5	55	7.0	58	117	191	154	19	30	17	6	51	131	0
NEW YORK CENT PK	62.7	46.4	54.6	99	JUL 1+	9	JAN 14	4779	32.99	2.12	JUL 8-9	36.5	12.5	JAN 12-13	66	69	49	57	9.1	W#	43	NE	JAN 13	60	4.9	158	97	111	115	10	11	0	25	13	75	0
J.F.KENNEDY AP	61.7	45.2	53.5	99	JUN 30	10	JAN 14	5068	36.70	1.63	DEC 4	30.3	13.0	JAN 13	72	71	55	65	11.4		43	31	DEC 31+		5.6	108	117	139	128	6	13	38	8	13	88	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00am E S T	7:00am E S T	1:00p.m E S T	7:00p m E S T	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 °F and above	32 °F and below	32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h		M p h			%	Tenths											
NEW YORK																																				
NEW YORK LAGUARDIA	61.5	47.9	54.7	97	JUL 1+	10	JAN 14	4778	31.31	1.79	JUL 8-9	25.3	9.0	JAN 12-13	69	71	55	60	11.9	18	59	NE	JAN 13		5.7	100	133	133	119	6	16	19	17	17	75	0
ROCHESTER	58.4	38.5	48.5	98	JUL 28	- 6	JAN 1	6547	22.45	1.35	MAY 13-14	69.7	10.1	MAR 10	76	77	57	65	10.0	25	56	SW	MAY 9	59	6.5	77	121	168	137	21	24	17	17	46	139	1
SYRACUSE	58.9	38.3	48.6	96	JUL 28	- 6	JAN 12	6496	27.10	1.33	MAR 10	74.0	10.3	MAR 10	78	77	56	67	10.1	27	52	S	JAN 25	54	6.6	65	140	161	156	22	28	10	18	47	139	6
NORTH CAROLINA																																				
ASHEVILLE U	66.7	45.4	56.1	94	JUN 22	5	JAN 15	4105	49.88	3.55	OCT 4	15.7	4.5	FEB 25															120	6			9	6	86	0
CAPE HATTERAS R	69.3	54.5	61.9	92	JUN 15	19	JAN 15	2545	57.16	4.08	OCT 4-5	T	T	FEB 22 +	83	82	66	79	10.8	24	45	S	AUG 31	64	6.1	98	100	168	138	0	40	19	1	0	25	0
CHARLOTTE	70.7	49.1	59.9	99	JUN 21	12	JAN 15	3309	46.64	3.34	OCT 15-16	.8	.6	JAN 12-13	76	65	55	62	7.6	22	34	SW	MAR 5	64	5.6	129	82	155	114	0	30	29	26	0	64	0
GREENSBORO	68.6	47.0	57.8	98	JUN 21	7	JAN 15	3827	45.19	4.10	OCT 4-5	5.1	2.4	FEB 28	81	65	56	66	7.5	22	42	NW	MAR 30	57	5.7	123	85	158	107	1	33	32	17	2	82	0
RALEIGH	70.2	47.5	58.9	99	JUN 21+	9	JAN 15	3530	42.91	3.05	AUG 30-31	3.9	1.0	FEB 28 +	84	88	54	67	8.1	22	40*	22	JAN 20	60	5.8	113	97	156	121	3	45	41	25	2	78	0
WILMINGTON	73.6	53.6	63.6	97	JUN 15	20	JAN 15	2341	57.83	4.34	OCT 4-5	T	T	NOV 30 +	84	84	57	74	8.4	22	50	W	JAN 20	62	6.0	108	97	161	124	0	41	21	25	0	33	0
WINSTON-SALEM	69.1	49.4	59.3	99	JUN 22+	14	JAN 15	3506	47.34	3.55	OCT 4-5	7.5	1.8	JAN 12-13	76	81	56	63	7.5	24	32*	16	DEC 6		5.6	123	94	149	108	5	34	29	25	2	63	0
NORTH DAKOTA																																				
BISMARCK	54.0	27.9	41.0	104	AUG 5	-38	JAN 12	9130	15.43	1.97	APR 26-27	34.4	4.6	NOV 26-27	70	76	53	50	10.9	7	52	NE	JUN 8	65	6.2	98	105	163	82	15	45	10	19	78	189	53
FARGO	53.5	30.2	41.9	98	JUN 28+	-24	DEC 26	8995	18.26	2.74	JUN 18-19	46.8	5.4	DEC 22-23	76	81	60	60	11.1	16	68	NW	APR 13	63	6.2	98	104	164	89	15	35	13	20	88	172	53
WILLISTON	53.8	27.8	40.8	103	AUG 4	-30	JAN 27	9249	15.71	2.20	JUN 7-8	42.6	5.2	APR 5-6		78	54	52	10.9	SW#	70	NW	JAN 17	62	5.9	103	123	140	87	16	16	10	19	84	197	57
OHIO																																				
AKRON	60.6	39.4	50.0	93	SEP 10+	- 5	JAN 14	6044	40.82	3.29	MAR 8-9	55.8	7.9	JAN 12-13	76	79	58	64	9.3	24	40*	22	MAR 5		6.4	79	125	162	143	16	43	29	19	38	132	2
CINCINNATI OBS	66.0	45.2	55.6	101	AUG 3	3	DEC 18	4631	44.31	4.63	MAR 9	23.0	8.3	JAN 12-13					6.0	S#	38	SW	MAR 5	57					119	4	44	0	46	18	102	0
CLEVELAND	58.8	40.8	49.8	93	SEP 10+	3	FEB 22	6097	31.40	2.03	MAR 4-5	51.3	8.1	JAN 12-13	78	82	63	67	10.1	18	48	SW	MAR 5	59	6.5	80	113	173	144	13	35	14	12	44	127	0
COLUMBUS	63.1	41.4	52.3	98	AUG 2	-14	JAN 14	5467	41.21	3.40	MAR 9	30.7	6.6	JAN 12-13	77	81	58	63	8.7	18	54	NW	MAY 24	57	6.2	89	112	165	123	11	49	14	30	29	121	1
DAYTON	64.2	42.7	53.5	100	AUG 3	- 2	JAN 14	5211	31.57	2.87	MAR 4	40.0	9.8	JAN 1	74	79	57	62	10.5	20	43	S	MAR 5	64	5.9	108	104	154	119	10	45	26	37	23	116	1
MANSFIELD	59.8	39.9	49.9	95	AUG 2	- 5	JAN 14	6127	34.78	2.45	MAR 4-5	51.5	8.0	JAN 12-13		81	61								6.3	85	109	172	133	16	42	34	14	40	131	1
TOLEDO	60.2	38.2	49.2	98	AUG 2	- 8	JAN 14	6433	24.28	1.56	MAR 25-26	43.7	5.5	MAR 10	76	80	57	61	9.3	24	37	SW	JUN 12	63	6.2	87	122	157	127	15	34	17	33	46	144	4
YOUNGSTOWN	58.8	39.2	49.0	92	SEP 10	- 6	JAN 14	6309	38.56	2.04	MAR 9-10	65.5	10.9	JAN 12-13	75	78	59	65	10.1	24	36*	26	NOV 20		6.6	79	104	183	153	16	44	25	9	47	130	2
OKLAHOMA																																				
OKLAHOMA CITY	71.9	48.7	60.3	106	AUG 6+	5	DEC 18	3678	29.14	2.58	MAY 9-10	2.1	.8	MAR 9	71	79	52	51	13.5	16	56	W	APR 12	68	4.8	150	102	114	76	0	53	20	83	7	92	0
TULSA	72.9	49.3	61.1	110	AUG 5	3	JAN 13	3495	44.27	4.58	APR 3-4	9.9	7.0	MAR 4	71	79	52	51	11.5	18	42	S	APR 12	63	4.9	150	94	122	110	2	59	16	78	5	93	0
OREGON																																				
ASTORIA	57.0	42.2	49.6	86	AUG 24	15	DEC 17+	5555	73.49	4.32	JAN 24-25	19.0	7.2	DEC 28-29	89	80	73	87	8.9	24	44*	19	MAR 11		7.6	49	77	240	223	5	6	48	0	1	38	0
BURNS U	58.3	30.4	44.4	95	JUL 27+	-10	DEC 17	7630	16.03	2.15	DEC 22-23	62.6	5.5	JAN 18-19	74	55	42	63							5.4	139	87	140	110	21	14	9	14	18	197	3
EUGENE	62.3	41.4	51.9	96	AUG 22	10	DEC 17	4874	57.95	3.78	JAN 19-20	10.2	3.5	DEC 29-30+		76	60		7.0		36*	20	JAN 19		7.0	70	76	220	138	3	2	53	11	1	55	0
MEACHAM	50.2	33.3	41.8	90	JUL 12	-22	DEC 16	8477	39.78	1.68	NOV 23-24	201.3	15.1	JAN 24-25		61									6.8	84	70	212	182	59	11	23	1	66	185	2
MEDFORD	65.5	38.2	51.9	103	AUG 22+	17	NOV 19	5128	29.09	3.75	DEC 21-22	11.5	4.2	DEC 29-30	88	69	49	76	4.8	30	29*	23	DEC 22+		5.6	127	75	164	114	3	8	50	39	4	124	0
PENDLETON	62.7	41.1	51.9	102	JUL 12	-12	DEC 17+	5181	10.14	.67	DEC 23-24	5.9	2.2	DEC 15-16	70	54	46	61	10.7	26	46*	25	DEC 14+		6.1	110	73	183	101	2	11	21	23	5	80	3
PORTLAND	59.3	40.8	50.1	94	AUG 24	6	DEC 16	5476	37.88	2.09	DEC 21-22	11.0	8.0	DEC 19	86	76	62	79	8.4	12	49	S	JAN 17	45	7.3	66	74	226	178	2	2	41	2	4	64	0
PORTLAND U	61.5	45.7	53.6	93	AUG 24	10	DEC 17+	4329	49.17	2.16	DEC 21-22	13.4	8.3	DEC 19															164	3	0	0	5	2	13	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile					Sunrise to sunset							Max temp		Min temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	100am E S T	700am E S T	100p.m. E S T	700p.m. E S T	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 °F and above	32 °F and below	32 °F and below	0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h		M.p.h			%	Tenths											
OREGON																																				
ROSEBURG	64.2	41.4	52.8	97	AUG 24+	17	DEC 17	4603	43.12	3.17	JAN 18-19	6.3	4.0	DEC 30		72	55		4.4	N#	32	S	MAR 11	50	6.8	70	99	197	138	1	1	52	17	1	58	0
SALEM	61.6	40.3	51.0	97	JUL 11	9	DEC 17	5190	42.49	2.72	DEC 21-22	5.7	2.0	DEC 18-19	92	76	62	84	7.7	18	35*	19	MAR 11+		7.0	68	79	219	164	3	2	27	10	3	65	0
SEXTON SUMMIT R	55.0	37.4	46.2	90	AUG 22+	19	DEC 31+	6967	47.29	4.43	DEC 21-22	172.7	13.7	JAN 17-18		72	62		11.3						5.5	141	68	157	126	41	0	144	2	32	134	0
PACIFIC AREA																																				
CANTON ISLAND	87.2	77.4	82.3	92	JAN 4	73	AUG 29+	0	20.45	3.70	JAN 12-13	.0	.0		78	77	64	75			29*	22	JAN 17		5.5	108	156	102	83	0	3	□	41	0	0	0
ENIWETOK	86.6	77.2	81.9	91	MAY 31	71	DEC 18+	0	63.65	3.06	APR 22-23	.0	.0		79	80	73	75	13.5										234	0	11	0	5	0	0	0
TAGUAC GUAM R	84.9	72.5	78.7	90	OCT 11+	64	MAR 9+	0	109.68	7.50	MAY 16-17	.0	.0											56					277	0	43	0	2	0	0	0
JOHNSTON	81.9	74.8	78.4	86	AUG 13	62	DEC 12	0	39.14	9.23	DEC 12-13	.0	.0		79	79	72	77	14.7	9	49	SE	MAR 11	55	6.4	48	179	139	148	0	8	0	0	0	0	0
KOROR R	87.0	75.5	81.3	91	NOV 2+	72	NOV 22+	0	130.57	5.13	MAY 10-11	.0	.0		94	82	80	91	6.9	6	59	SE	NOV 17	60	9.9	0	2	364	266	0	40	0	44	0	0	0
KWAJALEIN	85.9	75.9	80.9	89	JUN 11+	71	JUN 22+	0	139.37	4.58	MAY 5-6	.0	.0		86	87	78	82	13.2	6	39*	15	OCT 8		8.2	22	89	255	232	0	7	0	0	0	0	0
MAJURO	85.3	76.7	81.0	88	OCT 21+	71	JUN 12	0	162.70	5.56	FEB 20-21	.0	.0		82	82	75	78	10.9	7	38	NE	JUN 12	52	8.5	14	80	272	267	0	25	0	0	0	0	0
MARCUS	82.1	72.6	77.4	90	SEP 23+	58	FEB 8	0	43.83	3.67	MAY 21-22	.0	.0		79	70	71	77	12.1	9	54	SE	MAY 22	70	6.1	83	141	142	158	0	5	1	8	0	0	0
PONAPE R	86.7	73.8	80.3	91	OCT 30+	69	NOV 23+	0	167.39	6.42	FEB 22	.0	.0		91	78	79	90	6.6	6	27	NE	DEC 2	48	8.9	5	57	304	294	0	21	0	12	0	0	0
TRUK MOEN ISLAND	86.2	75.6	80.9	90	NOV 20+	72	DEC 26+	0	140.25	4.54	DEC 9-10	.0	.0		86	76	75	84	9.3	4	34	SE	MAY 14	55	9.1	2	51	313	256	0	23	0	6	0	0	0
WAKE ISLAND	84.6	74.9	79.8	90	JUN 23	66	DEC 28+	0	36.19	2.58	JUN 3	.0	.0		76	77	66	71	10.9	6	35*	35	NOV 30		6.0	90	148	128	168	0	14	0	1	0	0	0
YAP R	86.5	75.5	81.0	91	SEP 22	71	AUG 19+	0	113.00	5.34	MAY 22-23	.0	.0		91	80	78	88	8.4	4	47	NE	DEC 11	49	9.5	2	29	335	261	0	26	0	15	0	0	0
PENNSYLVANIA																																				
ALLENTOWN	61.7	40.2	51.0	97	JUN 30	2	JAN 15	5798	34.74	1.54	NOV 25	45.9	13.0	JAN 12-13	78	80	54	65	10.2	29	81*	27	JUN 15		5.6	126	104	136	105	12	29	30	17	20	130	0
ERIE	57.8	41.4	49.6	93	SEP 10+	1	FEB 11	6156	36.47	2.79	AUG 2-3	86.8	13.8	NOV 21-22	76	76	64	69	14.3	18	46*	22	MAR 5		6.5	84	111	171	150	20	41	16	9	48	120	0
HARRISBURG	63.1	41.9	52.5	97	SEP 11+	- 3	JAN 15	5455	34.45	1.73	AUG 31	60.3	19.6	FEB 18-19	73	76	53	60	8.6	27	42	W	MAR 26	61	6.0	106	95	165	106	10	26	23	32	16	112	2
PHILADELPHIA	64.1	44.0	54.1	100	JUN 30	2	JAN 15	4947	29.88	2.28	JUL 8	27.5	7.2	JAN 12-13	75	77	53	61	9.3	23	42	SW	MAR 5	60	5.8	120	103	143	106	10	15	18	28	11	105	0
PITTSBURGH	61.4	40.8	51.1	94	SEP 10	- 6	JAN 14	5602	37.89	2.15	APR 28-29	48.1	13.6	JAN 12-13	73	77	55	60	9.4	23	44*	26	JAN 25	60	6.8	61	116	189	143	12	39	20	5	33	117	1
READING	63.4	44.5	54.0	98	JUN 30	10	JAN 14	4976	34.26	1.97	JUL 8-9	42.5	12.5	JAN 12-13					10.5	Nw#	59	SE	MAR 10	58	5.9	131	98	137	117	10	27	9	27	11	94	0
SCRANTON	59.4	39.8	49.6	97	JUN 30	- 9	JAN 15	6221	30.33	2.20	MAR 9-10	64.6	20.1	JAN 12-13	73	77	54	60	8.0	23	43	SE	JAN 25	54	6.3	94	104	168	119	13	20	25	17	44	132	2
WILLIAMSPORT	61.2	39.7	50.5	98	JUN 30	-11	JAN 15	5966	34.94	2.52	MAR 9-10	61.5	23.1	JAN 12-13	79	81	55	63	7.9	27	35*	23	MAR 5		6.4	81	115	17□	129	11	28	37	21	26	135	4
RHODE ISLAND																																				
BLOCK ISLAND	55.6	43.4	49.5	85	JUL 1	12	JAN 14	5841	34.96	2.40	DEC 27-28	21.0	5.5	JAN 13-14		72	59								5.9	104	113	149	107	6	12	88	0	17	93	0
PROVIDENCE	59.7	40.3	50.0	97	JUL 1	0	JAN 1	5881	38.41	2.67	APR 14-15	36.7	10.6	JAN 13-14	75	74	55	66	10.6	29	41*	31	NOV 17	57	5.7	126	89	151	115	8	17	29	8	21	121	1
SOUTH CAROLINA																																				
CHARLESTON	75.5	54.7	65.1	97	AUG 3+	18	JAN 15	1982	72.99	5.77	AUG 28-29	T	T	JAN 13	85	85	57	73	9.0	2	54Y	W	JAN 22	56	6.2	92	110	164	128	0	51	23	46	0	30	0
COLUMBIA	74.5	51.8	63.2	99	JUN 21+	14	JAN 15	2602	70.53	5.46	OCT 15-16	.0	.0		82	86	52	64	7.2	23	46*	28	JAN 20	60	5.6	119	95	152	120	0	35	23	67	0	46	0
FLORENCE	73.8	52.1	63.0	101	JUN 20	18	JAN 15	2555	58.97	5.33	SEP 30-1	T	T	NOV 30 +	82	85	53	68	8.2	2	33*	30	JAN 20		5.7	120	89	157	120	0	40	37	51	0	39	0
GNVLE SPARTANBURG	71.1	50.5	60.8	98	JUN 21	14	JAN 15	3122	70.41	4.28	OCT 15-16	1.7	1.2	FEB 25	76	82	54	61	7.6	4	45	SE	DEC 25	61	5.5	131	87	148	115	1	37	43	34	1	53	0
SOUTH DAKOTA																																				
HURON	60.1	31.6	45.9	108	JUL 23	-26	DEC 26+	7859	10.85	1.27	APR 20-21	35.3	6.0	MAR 19-20	72	78	51	51	12.5	15	57	NW	SEP 25	66	5.6	126	100	140	80	8	40	8	51	63	174	39
RAPID CITY	59.9	34.3	47.2	104	JUL 21	-23	DEC 17	7173	15.17	1.96	JUN 8-9	32.7	4.1	FEB 19-20	68	47	47	63	12.5	32	61	NW	SEP 25	65	5.4	122	121	123	98	6	36	11	[illegible]	37	159	15

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Annual	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 100am E ST.	Relative humidity: 700am E ST	Relative humidity: 100p.m. E ST	Relative humidity: 700p.m. E ST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-0.3	Number of days: Sunrise to sunset: Partly cloudy, 0.4-0.7	Number of days: Sunrise to sunset: Cloudy, 0.8-1.0	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90 °F and above	Number of days: Max temp: 32 °F and below	Number of days: Min temp: 32 °F and below	Number of days: Min temp: 0 °F and below
	°F	°F	°F	°F		°F		Base 65 °F	In.	In		In	In.		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
SOUTH DAKOTA																																				
SIOUX FALLS	58.7	34.3	46.5	101	JUL 31	-20	DEC 26+	7568	22.56	1.71	JUL 10-11	23.7	4.9	DEC 24-25	76	83	59	58	11.5	18	44*	26	MAY 6		5.5	130	93	143	79	6	45	24	37	61	169	24
TENNESSEE																																				
BRISTOL	67.5	44.6	56.1	95	JUN 28	- 4	JAN 16+	4323	40.05	3.65	OCT 16	21.1	8.9	JAN 12-13	79	84	56	61	5.0	27	40*	36	AUG 3		5.9	106	101	159	126	5	36	43	30	5	99	2
CHATTANOOGA	71.0	48.9	60.0	97	JUN 28+	10	JAN 2	3374	64.26	4.09	MAR 14-15	3.5	.1	FEB 28	86	90	59	65	6.1	18	54	SW	MAR 4	61	5.9	120	84	162	119	1	52	47	48	0	58	0
KNOXVILLE	68.2	47.4	57.8	96	JUN 28	7	JAN 15	3811	45.93	2.95	AUG 15-16	13.7	6.0	JAN 1	79	84	57	61	7.1	24	56	SW	MAR 10	60	5.8	121	82	163	130	4	37	32	22	1	74	0
MEMPHIS	71.7	51.2	61.5	101	AUG 4	13	DEC 18	3146	57.68	4.15	DEC 2-3	.5	.5	JAN 12	79	85	59	61	8.2	18	56	NW	JUL 11	69	5.2	139	99	128	105	0	53	17	60	3	68	0
NASHVILLE	70.6	48.2	59.4	101	AUG 4	8	DEC 18	3668	45.01	2.25	AUG 15-16	9.2	4.2	FEB 28	80	86	58	62	8.3	18	47	NW	JUN 15	60	5.6	125	98	143	112	2	56	20	67	5	82	0
OAK RIDGE AREA STA	68.8	46.7	57.8	98	JUN 23	10	JAN 15	3819	45.39	2.56	AUG 15-16								4.5	SW#									114				25	1	85	0
OAK RIDGE	68.6	46.3	57.5	97	JUN 22	8	JAN 15	3923	49.94	2.51	MAR 14-15	3.4	2.5	FEB 28					4.9		53Y		AUG 12		5.6	136	72	158	126	1	40	33	28	1	81	0
TEXAS																																				
ABILENE	77.7	54.4	66.1	105	AUG 11+	12	JAN 14+	2313	25.35	3.16	AUG 15-16	6.3	4.3	FEB 20-21	58	66	43	37	11.3	18	46	NW	AUG 20	77	4.2	186	86	94	63	2	39	7	107	1	51	0
AMARILLO	71.5	44.2	57.9	104	AUG 6	0	JAN 13	4226	17.97	3.94	AUG 14-15	17.8	11.0	FEB 3-4	58	68	40	37	14.4	21	47	SW	JUN 11+	75	4.0	196	89	81	61	2	36	20	85	7	121	1
AUSTIN	78.9	58.0	68.5	103	JUL 25	17	JAN 14	1690	32.97	6.50	JUN 15-16	4.6	4.0	FEB 21	75	84	55	52	9.5	18	38	NW	MAR 9	63	5.3	126	116	124	74	1	42	19	103	0	26	0
BROWNSVILLE	82.4	64.6	73.5	98	APR 26	32	DEC 18+	705	15.72	2.43	DEC 8-9	T	T	DEC 18	85	90	59	68	13.0	14	40	NW	MAR 9	61	5.9	97	126	143	51	0	19	32	125	0	2	0
CORPUS CHRISTI	81.5	61.0	71.3	101	JUL 12	27	JAN 13	1058	21.71	3.24	SEP 25	T	T	FEB 21	86	91	62	68	12.6	15	45	NW	MAR 9	55	6.0	102	117	147	75	0	29	29	117	0	10	0
DALLAS	76.6	56.1	66.4	107	AUG 5	11	JAN 14	2275	37.47	4.73	SEP 20-21	7.7	7.4	JAN 15-16	68	78	54	49	11.8	18	45	SE	JAN 30	66	4.8	160	90	116	70	2	36	10	93	3	42	0
DEL RIO	81.7	58.0	69.9	107	AUG 6	19	JAN 14	1585	25.15	4.50	SEP 21-22	T	T	DEC 18 +	60	74	50	41	10.7						5.0	130	118	118	50	0	45	8	131	0	26	0
EL PASO	76.2	49.4	62.8	105	JUL 3	10	JAN 10	3050	5.35	1.79	SEP 11-12	T	T	DEC 18 +	48	32	23	37	8.7	27	56	W	MAR 24	88	3.1	225	91	50	26	0	35	4	113	0	77	0
FORT WORTH	76.6	53.7	65.2	108	AUG 11	4	JAN 14	2507	34.31	4.75	SEP 20-21	12.7	12.1	JAN 15-16	72	82	54	51	10.2	18	40*	29	MAY 1+		4.7	160	93	113	75	2	42	16	92	2	60	0
GALVESTON U	73.5	64.4	69.0	95	AUG 5	25	JAN 13	1342	38.88	5.43	DEC 9-10	T	T	FEB 21					10.7		47	E	AUG 5	64					85				8	0	3	0
HOUSTON U	78.2	62.9	70.6	103	AUG 5	24	JAN 13	1224	33.05	3.02	DEC 9-10																		101				88	0	5	0
HOUSTON	78.1	59.2	68.7	101	JUL 25	21	JAN 14	1496	39.12	4.39	DEC 9-10	T	T	FEB 21	84	88	61	66	10.2	16	40*	36	JUL 25	66	6.2	95	112	159	102	0	46	40	90	0	14	0
LAREDO	84.9	62.5	73.7	106	AUG 19+	26	JAN 13	931	13.39	3.08	AUG 23	T	T	NOV 22	67	79	47	41	11.0	14	36*	33	MAR 9		5.1	140	107	119	55	0	30	13	160	0	7	0
LUBBOCK	74.1	46.3	60.2	102	JUN 9	1	JAN 13	3524	14.22	2.10	JUN 21	3.6	2.3	FEB 20-21	59	72	44	38	14.0	18	58*	25	JUN 21		3.9	192	96	78	48	2	35	11	93	3	98	0
MIDLAND	80.1	51.7	65.9	107	AUG 6	7	JAN 13	2470	7.65	2.08	MAY 28	.4	.2	FEB 24 +	54	68	36	30	11.4	18	38*	24	JUN 4		4.0	184	101	81	38	0	23	10	134	1	70	0
PORT ARTHUR	77.7	58.3	68.0	98	AUG 5	19	JAN 14	1617	46.78	4.87	JUL 30-1	T	T	MAR 26 +	90	92	65	74	9.7	18	73	E	AUG 5	57	6.0	91	136	139	97	0	56	49	89	0	18	0
SAN ANGELO	79.9	53.9	66.9	107	AUG 6	14	JAN 13	2213	12.18	1.58	APR 20-21	.8	.8	FEB 20-21	60	72	42	37	9.6	16	40*	30	APR 20		4.1	186	94	86	49	0	29	6	127	2	59	0
SAN ANTONIO	80.3	57.4	68.9	104	AUG 5	15	JAN 14	1638	31.88	3.97	AUG 22-23	2.2	2.0	FEB 21	74	82	54	48	9.5	16	45	SE	AUG 6	71	5.1	134	120	112	74	1	34	25	121	0	23	0
VICTORIA	80.0	60.7	70.4	104	JUL 12	21	JAN 14	1282	33.32	6.14	AUG 7-8	T	T	DEC 18 +		88	59	63	10.2		56Y		APR 3		6.1	96	114	156	88	0	44	36	107	0	12	0
WACO	78.4	56.1	67.3	106	AUG 5+	7	JAN 14	2099	29.32	3.99	JUN 15-16	6.6	5.6	JAN 15-16	71	80	55	52	11.7	18	40*	30	APR 5		4.7	157	92	117	70	3	40	10	103	1	44	0
WICHITA FALLS	76.9	51.2	64.1	113	AUG 6	7	JAN 13	2899	31.85	3.39	MAY 28-29	4.2	1.7	FEB 5	70	79	48	47	11.9	18	48*	23	MAY 1		4.1	186	90	90	64	3	46	15	106	3	71	0
UTAH																																				
MILFORD	63.8	31.1	47.5	102	JUL 29	-10	NOV 17	6939	8.66	.83	NOV 13	62.0	8.3	NOV 13		40	32								4.5	170	90	106	72	21	21	9	57	28	183	14
SALT LAKE CITY	61.0	35.5	48.3	101	JUL 18	-10	JAN 13	6807	17.87	1.41	DEC 23-24	79.8	11.8	MAR 21-22	66	47	43	62	9.2	16	57	NW	APR 11	69	5.6	131	78	157	97	26	38	15	54	36	158	5
WENDOVER	60.8	40.6	50.7	101	JUL 21	3	DEC 18+	6147	7.17	1.33	JUN 6-7	9.4	3.1	MAR 23-24	51	41	33								4.4	179	84	103	59	5	25	2	42	21	140	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA

ENGLISH UNITS

YEAR 1964

State and Station	Temperature Averages Daily maximum	Temperature Averages Daily minimum	Temperature Averages Annual	Temperature Extremes Highest	Date	Temperature Extremes Lowest	Date	Heating degree days	Precipitation Total	Precipitation Greatest in 24 hours	Date (s)	Snow, Sleet Total	Snow, Sleet Greatest in 24 hours	Date (s)	Relative humidity 100am EST	Relative humidity 700am EST	Relative humidity 100p.m. EST	Relative humidity 700p.m. EST	Wind Average speed	Wind Prevailing direction	Fastest mile Speed	Fastest mile Direction	Fastest mile Date	Possible sunshine	Average sky cover sunrise to sunset	Sunrise to sunset Clear, 0-0.3	Sunrise to sunset Partly cloudy, 0.4-0.7	Sunrise to sunset Cloudy, 0.8-1.0	Precipitation .01 inch or more	Snow, Sleet 1.0 inch or more	Thunderstorms	Heavy fog	Max temp 90 °F and above	Max temp 32 °F and below	Min temp 32 °F and below	Min temp 0 °F and below
VERMONT	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
BURLINGTON	54.8	33.3	44.1	96	JUL 28	- 9	FEB 10	7888	29.71	2.09	AUG 22-23	61.5	12.6	MAR 10-11	78	76	57	66	9.1	16	47	NW	NOV 18	60	7.0	58	117	191	142	17	32	16	7	66	175	15
VIRGINIA																																				
LYNCHBURG	66.6	45.2	55.9	99	JUN 20	7	JAN 15+	4272	33.73	2.40	JUL 12	18.5	6.0	FEB 28		78	53	63	6.5		36	NE	OCT 16	61	5.5	131	80	155	107	7	27	41	20	4	90	0
NORFOLK	68.1	50.1	59.1	101	JUN 10	20	JAN 15+	3436	57.71	11.40	AUG 31-1	8.0	3.6	FEB 11-12	80	79	59	69	11.5	18	63	NE	SEP 13		5.9	114	92	160	115	4	35	22	26	2	54	0
RICHMOND	68.3	45.2	56.8	98	JUN 10	0	JAN 15	4018	45.03	2.28	AUG 30-31	24.5	7.3	FEB 28	82	84	54	69	7.9	18	54	W	AUG 12	62	5.7	118	93	155	121	7	24	35	25	3	90	1
ROANOKE	67.7	45.7	56.7	98	JUN 21	8	DEC 19	4175	37.87	2.59	AUG 30-31	40.7	11.0	JAN 12-13	73	76	50	57	7.6	32	53*	30	JAN 21		5.5	128	96	142	116	9	30	31	37	4	90	0
WASHINGTON																																				
OLYMPIA	57.7	37.9	47.8	87	AUG 24	3	DEC 17	6208	51.93	2.94	JAN 24-25	21.2	3.8	DEC 18-19	94	82	68	89	8.0	20	44*	22	JAN 19+		7.8	42	76	248	173	7	3	89	0	3	102	0
SEATTLE-TACOMA	57.2	42.8	50.0	90	MAY 31	10	DEC 16	5468	41.34	2.23	NOV 23-24	11.4	3.3	DEC 19	83	76	65	78	9.3	20	38*	23	JAN 19		7.6	53	71	242	172	3	11	55	1	3	42	0
SEATTLE	58.5	46.5	52.5	86	AUG 11+	11	DEC 16	4592	37.06	1.93	JAN 31-1	9.6	3.8	DEC 19										47					165	4	0	0	0	2	6	0
SPOKANE	55.0	35.4	45.2	99	JUL 12	-20	DEC 17	7359	21.51	2.07	JUN 7-8	100.5	7.0	DEC 18-19+	78	64	53	69	10.0	21	42	SW	FEB 16	54	6.7	82	83	201	133	32	14	47	8	40	160	5
STAMPEDE PASS R	42.6	31.8	37.2	82	JUL 11	-16	DEC 17	10089	111.58	3.40	SEP 30-1	573.3	19.5	JAN 5-6	92	84	80								7.8	65	37	266	228	106	0	263	0	121	201	3
TATOOSH ISLAND R	52.2	43.8	48.0	70	OCT 4+	14	DEC 16	6138	71.54	2.19	SEP 29-30	22.8	7.0	DEC 18	88	83	81	87	14.9	27	72	SW	JAN 19	43	7.7	50	72	244	216	11	6	59	0	2	12	0
WALLA WALLA U	62.4	43.7	53.1	103	JUL 12	- 6	DEC 17	4864	15.28			12.3	3.4	DEC 20															101	4	12	15	22	6	51	2
YAKIMA	61.3	34.4	47.9	101	JUL 12	-17	DEC 17	6391	7.55	1.40	DEC 21-22	43.4	14.0	DEC 20-21	74	54	42	64	7.6	27	44*	28	FEB 17		6.0	97	114	155	51	12	8	29	15	14	157	4
WEST INDIES																																				
SAN JUAN P.R. U	84.2	73.5	78.9	94	JUN 10+	66	DEC 22	0	51.89	3.68	JUN 3																		196	0	31	0	19	0	0	0
SAN JUAN P.R.	86.3	72.9	79.6	94	JUN 10+	63	DEC 22+	0	47.54	2.19	AUG 30-31				84	81	66	77	8.8	7	32	E	MAY 23	67	5.8	57	213	96	209	0	32	0	36	0	0	0
WEST VIRGINIA																																				
BECKLEY	62.1	40.6	51.4	90	JUN 23	1	DEC 19	5376	41.55	5.34	SEP 28-29	53.9	5.9	FEB 10-11	79	82	56	65	9.3	24	32	25	MAR 10		6.6	87	86	193	142	17	44	26	1	21	128	0
CHARLESTON	67.6	44.2	55.9	96	SEP 9	3	JAN 15	4361	32.98	1.36	NOV 25-26	37.5	7.8	JAN 12-13	77	82	52	57	6.2	22	37*	25	MAR 10		6.2	89	121	156	137	11	32	96	41	12	104	0
ELKINS	62.6	36.7	49.7	90	SEP 10+	-12	JAN 15	5868	41.58	1.83	SEP 28-29	61.2	6.4	JAN 12-13	88	90	57	69	6.6	30	37*	25	JAN 25		6.8	64	106	196	165	22	45	88	2	22	159	4
HUNTINGTON	66.7	43.7	55.2	100	AUG 3	0	JAN 14	4559	37.02	2.90	AUG 22	27.7	6.3	FEB 10-11	79	86	57	60	6.1	18	35*	26	MAR 17+		6.1	97	116	153	126	7	40	40	36	13	107	1
PARKERSBURG U	65.5	43.7	54.6	95	SEP 10+	6	JAN 15+	4713	38.50	1.84	JUN 14-15	23.5	10.0	JAN 12-13					6.7		37	W	MAR 17	55					132	8	42	8	29	16	105	0
WISCONSIN																																				
GREEN BAY	54.9	35.2	45.1	96	JUN 29	-12	FEB 24	7723	28.12	2.99	SEP 3	27.7	10.1	MAR 25-26	81	85	64	68	10.2	22	59	SW	APR 13	54	6.1	93	124	147	124	6	49	29	14	77	158	12
LA CROSSE	57.7	38.1	47.9	101	AUG 2	-19	DEC 27	7052	25.36	2.54	JUN 22-23	35.8	6.3	MAR 25-26	78	80	58	62	10.9	18	53*	25	APR 13						94	8	35	17	28	59	147	14
MADISON	58.4	35.4	46.9	97	JUL 24+	- 9	DEC 17	7242	23.62	1.70	AUG 20-21	30.5	5.2	MAR 8-9	76	79	56	61	9.3	18	57	NW	JUL 27	58	6.2	93	107	166	109	9	55	22	25	54	168	14
MILWAUKEE	56.6	38.0	47.3	95	AUG 2+	- 2	DEC 17+	7027	28.18	4.04	JUL 17-18	38.8	9.2	MAR 4-5	77	80	62	68	11.0	21	51	SW	APR 14+	63	5.7	112	122	132	114	10	47	32	20	59	153	5
WYOMING																																				
CASPER	56.2	30.8	43.5	95	JUL 30+	-31	DEC 17+	8251	10.88	1.57	APR 2	81.1	13.2	APR 2-3	65	45	41	60	13.5	23	49*	24	MAY 3		5.5	118	119	129	91	27	26	12	26	70	190	18
CHEYENNE	57.7	31.8	44.8	91	JUL 21+	-24	DEC 17	7632	5.94	.68	JUL 25-26	22.4	3.5	APR 2-3	59	38	39	56	14.9	29	61	NW	APR 27	64	5.2	127	117	122	79	7	36	9	8	43	176	7
LANDER	57.3	30.6	44.0	98	JUL 21	-22	DEC 17	8087	12.81	2.75	MAY 29-30	89.8	9.3	FEB 24-25	61	46	42	54	7.8	27	73	SW	DEC 22	73	5.3	129	123	114	66	25	22	6	26	49	183	15
SHERIDAN	57.5	30.8	44.2	101	JUL 21	-29	DEC 17	7964	15.62	2.18	JUN 8-9	69.0	10.4	NOV 13-14	74	52	50	65	9.9	30	63	NW	FEB 5	65	6.0	103	106	157	104	21	22	4	24	53	189	17

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites
- * Values entered in column "Fastest Mile" is the highest observed 1-minute wind speed.
  This station is not equipped with a recording anemometer from which Fastest Mile data can be evaluated.
- + And also on an earlier date or dates.
- A Maximum hourly average.
- B Number of days maximum 70 F. or above for Alaskan Stations.

- Y Peak gust.
- # Wind direction to 8 compass points only
- F Computed as of 8 00 a.m. local time.
- K Computed as of noon local time.
- V Sun below horizon November 19 - January 23.
- X Sun below horizon November 24 - January 17.
- † From the Loyola Avenue site.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature, Averages, Daily maximum °C	Temperature, Averages, Daily minimum °C	Temperature, Averages, Annual °C	Temperature, Extremes, Highest °C	Date	Temperature, Extremes, Lowest °C	Date	Heating degree days Base 18.3°C	Precipitation, Total Mm	Precipitation, Greatest in 24 hours Mm	Date (s)	Snow, Sleet, Total Mm	Snow, Sleet, Greatest in 24 hours Mm	Date (s)	Relative humidity, 1:00 a.m. EST %	Relative humidity, 7:00 a.m. EST %	Relative humidity, 1:00 p.m. EST %	Relative humidity, 7:00 p.m. EST %	Wind, Average speed M.p.s.	Wind, Prevailing direction	Wind, Fastest mile (1.6 kilometers), Speed M.p.s.	Direction	Date	Possible sunshine %	Average sky cover sunrise to sunset Tenths	Number of days, Sunrise to sunset, Clear, 0–0.3	Partly cloudy, 0.4–0.7	Cloudy, 0.8–1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	Max. temp. 32.2°C and above	Max. temp. 0°C and below	Min. temp. 0°C and below	Min. temp. –17.8°C and below
ALABAMA																																				
BIRMINGHAM	22.9	10.9	16.9	37.2	JUN 22	- 10.6	JAN 15	1536	1468	93	APR 5-6	10	T	DEC 18 +	82	85	59	64	3.7	15	2.2	S	MAR 4	63	6.1	106	97	163	120	0	59	7	46	1	52	0
HUNTSVILLE	21.9	10.2	16.1	36.1	JUN 22	- 10.6	DEC 18+	1783	1631	130	MAR 14-15	69	25	FEB 28	77	81	56	59	3.7	14	2.1*	18	MAR 4		5.7	113	106	147	109	2	52	13	46	3	60	0
MOBILE	24.8	13.8	19.3	36.7	SEP 2	- 6.7	JAN 14	986	1622	186	APR 26-27	T	T	JAN 13 +	85	87	60	70	5.2	36	2.4*	36	OCT 4		6.2	94	106	166	128	0	76	56	72	0	21	0
MONTGOMERY	23.9	12.3	18.1	37.2	JUN 21	- 9.4	JAN 15	1292	1636	115	APR 8	T	T	FEB 19 +	84	89	59	65	3.8	36	2.2	S	MAR 4	57	6.2	92	110	164	107	0	73	29	61	1	41	0
ALASKA																																				
ANCHORAGE	4.9	- 3.2	.9	23.9	MAY 31	- 34.4	DEC 14	6350	404	42	NOV 18-19	2550	417	NOV 18-19	79	75	65	72	3.8	18	2.1*	5	DEC 22	45	7.1	70	75	218	125	24	1	19	B 9	131	210	52
ANNETTE	7.5	3.6	5.6	26.7	JUN 8	- 17.2	DEC 15	4217	3071	98	OCT 17-18	2075	325	DEC 31	85	79	74	82	4.9	18	2.2*	15	OCT 18		8.5	22	57	287	252	20	1	11	17	28	95	0
BARROW	-12.3	-18.2	-15.2	19.4	JUL 23	- 47.8	FEB 19	12251	78	9	JUN 30	907	99	OCT 18-19	77	78	74	75	6.1	9	2.1*	11	NOV 17			V69	V53	V178	81	12	0	62	0	259	336	192
BARTER ISLAND	-11.2	-17.2	-14.2	17.8	JUL 6	- 44.4	FEB 19	11880	130	18	AUG 24-25	826	69	AUG 26	78	77	76	78	6.1	8	2.5*	27	MAR 14			X65	X56	X190	88	9	0	59	0	249	320	192
BETHEL	.7	- 7.9	- 3.6	25.0	JUL 8	- 39.4	MAR 14	7980	260	19	OCT 26-27	1532	135	OCT 26-27	85	83	74	79	6.2	3	2.8*	18	NOV 14		7.6	56	58	252	140	20	2	77	13	161	234	101
COLD BAY	5.6	.4	3.0	20.6	OCT 26	- 14.4	FEB 18	5553	673	45	SEP 24	1339	218	NOV 30	86	85	79	83	8.2	15	3.0*	11	NOV 16		8.7	16	57	293	203	16	0	25	0	55	166	0
FAIRBANKS	.3	-10.6	- 5.1	27.8	JUL 16	- 48.9	DEC 14	8581	256	16	JUN 24	1740	196	NOV 19-20	81	76	64	71	2.6	36	1.2*	26	SEP 3+		7.1	62	92	212	113	21	8	16	53	166	238	134
JUNEAU	8.0	1.1	4.6	26.1	MAY 29	- 26.1	DEC 30+	4998	1480	59	DEC 4-5	3432	378	DEC 16-17	88	83	76	84	5.2	12	2.3*	13	DEC 7	30	8.6	35	33	298	242	33	0	12	12	49	132	9
KING SALMON	4.4	- 4.9	- .2	24.4	JUN 24+	- 33.3	DEC 31	6765	479	21	SEP 24-25	1331	132	DEC 14-15	81	77	67	77	5.8	36	2.8*	9	NOV 16		7.2	70	64	232	168	18	2	35	17	111	220	61
KOTZEBUE	- 4.8	-12.4	- 8.6	22.8	JUL 22	- 46.7	FEB 19+	9812	168	14	SEP 4-5	1798	142	NOV 6-7	79	79	76	76	6.2	11	2.7*	11	DEC 29		6.3	107	68	191	98	22	1	30	4	206	261	154
MC GRATH	.3	-10.4	- 5.0	27.8	JUL 28	- 48.3	DEC 11	8534	368	31	JUN 19-20	3114	335	APR 23-24	77	74	59	67	2.6	33	1.8*	19	AUG 30		7.3	67	65	234	136	40	9	22	40	162	244	126
NOME	- 1.0	- 9.3	- 5.1	27.2	AUG 13	- 38.9	MAR 13	8537	366	33	SEP 1	1364	119	APR 4	80	78	73	77	6.4	9	2.7*	9	DEC 29	38	6.7	90	80	196	119	19	0	20	4	193	242	114
ST. PAUL ISLAND	3.2	- 1.4	.9	13.3	JUN 15	- 23.3	FEB 20	6331	930	38	NOV 15-16	4039	351	JAN 30	92	90	87	90	9.1	32	4.2*	35	NOV 16		9.0	17	34	315	224	45	0	96	0	84	202	7
SHEMYA	4.4	1.5	3.0	15.0	AUG 11	- 8.9	JAN 14	5559	816	44	NOV 6-7	1963	91	DEC 17-18	84	85	84	85	10.8	24	4.6*		DEC 10		8.9	9	59	298	214	29	0	60	0	50	145	0
YAKUTAT	6.9	- .1	3.4	25.0	MAY 30+	- 31.1	DEC 30	5405	4276	127	FEB 19-20	7729	396	FEB 13-14	90	83	76	86	3.6	9	2.3*	13	OCT 21		8.3	44	41	281	243	82	3	16	6	56	174	14
ARIZONA																																				
FLAGSTAFF	15.2	- 1.8	6.7	32.2	JUL 7	- 26.1	JAN 24	4254	484	65	JUL 15	2588	310	MAR 23-24	70	39	38	62	4.0	18	1.6*	2	NOV 3		4.3	179	90	97	77	23	49	20	1	25	215	14
PHOENIX	28.0	11.8	19.9	44.4	JUL 3	- 6.7	JAN 11	1141	152	38	SEP 14	0	0		54	34	24	42	3.5	12	3.1Y	NNW	SEP 14	89	3.2	224	82	60	31	0	23	3	154	0	35	0
PRESCOTT	20.3	4.1	12.2	37.2	JUL 7	- 15.0	JAN 14	2682	289	36	JUL 24-25	627	203	NOV 15	60	34	30	50	4.6	19	2.9	SW	NOV 13	84	3.8	194	90	82	53	10	42	5	74	2	144	0
TUCSON	26.4	11.4	18.9	41.1	JUL 5+	- 7.8	JAN 12	1203	457	77	SEP 9-10	147	145	MAR 2-3	51	30	23	43	4.6	12	2.8	S	JUL 24	84	3.5	206	89	71	52	2	42	2	124	0	34	0
WINSLOW	21.2	3.1	12.2	38.9	JUL 6+	- 18.3	JAN 14	2864	195	53	AUG 12	305	76	MAR 24	58	34	26	47	4.5	22	2.4*	22	NOV 13		3.9	179	114	73	55	3	43	3	74	5	156	1
YUMA	29.8	14.6	22.2	45.6	JUL 12	- 1.1	DEC 15+	707	50	20	APR 28	0	0		49	30	21	39	4.1	18	2.6	W	FEB 20	91	2.8	242	66	58	13	0	10	1	167	0	5	0
ARKANSAS																																				
FORT SMITH	23.9	8.8	16.3	43.3	AUG 4	- 16.1	JAN 14	1833	1007	130	APR 3	20	15	JAN 12	76	84	51	51	3.9	7	2.2	N	AUG 28	64	5.1	141	95	130	75	0	42	26	94	3	86	0
LITTLE ROCK	23.6	10.1	16.8	42.2	AUG 4	- 12.8	JAN 14	1690	1174	92	SEP 16-17	5	5	DEC 19	79	84	55	59	4.0	25	2.4	N	JUL 9	62	5.2	140	91	135	85	0	46	15	87	3	71	0
TEXARKANA	24.3	12.1	18.2	40.6	AUG 5	- 11.7	JAN 14	1350	1156	141	SEP 16-17	10	8	JAN 16	79	85	59	60	3.5	18									92	0	57	15	87	1	47	0
CALIFORNIA																																				
BAKERSFIELD	25.1	10.9	18.0	43.9	JUN 25	- 3.3	DEC 13	1311	102	10	OCT 29	0	0		62	47	35	52	3.4	34	1.6*	32	JUN 8+		3.2	214	83	69	45	0	0	21	103	0	17	0
BISHOP	23.3	2.8	13.1	40.6	JUL 24	- 17.8	JAN 23	2440	69	12	APR 18-19	312	127	JAN 21-22		26	18								3.3	220	81	65	20	4	9	0	97	0	155	1
BLUE CANYON	13.8	4.7	9.2	29.4	SEP 24	- 11.1	DEC 31	3412	2257	237	DEC 22	6690	495	JAN 20-21		49									4.1	193	66	107	96	43	1	77	0	23	116	0

See reference notes at end of table

ERRATA

Climatological Data National Summary, Annual 1964
Volume 15, No. 13.

Annual Climatological Data, metric units table, pages 32 through 41.

The following changes are necessary:

Wind, average speed: multiply each printed value by 0.868.

Wind, fastest mile: multiply each printed value by 8.68.

Slight differences from direct conversions derive from the arithmetic rounding of figures.

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ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum °C	Daily minimum °C.	Annual °C.	Extremes: Highest °C	Date	Lowest °C	Date	Heating degree days Base 18.3°C	Precipitation: Total Mm	Greatest in 24 hours Mm.	Date (s)	Snow, Sleet: Total Mm.	Greatest in 24 hours Mm.	Date (s)	Relative humidity: 1:00 am EST %	7:00 am EST %	1:00 pm EST %	7:00 pm EST %
CALIFORNIA																		
BURBANK	23.7	10.0	16.9	37.8	OCT 6+	1.1	DEC 29+	1107	214	38	JAN 21-22	T	T	NOV 17	72	50	42	66
EUREKA U	13.5	7.7	10.6	28.3	SEP 24	- 1.1	NOV 15	2770	1195	68	NOV 8-9	8	8	DEC 31				
FRESNO	24.4	8.4	16.4	43.3	JUN 25	- 3.9	JAN 13	1569	214	29	OCT 28-29	0	0		77	51	38	63
LONG BEACH	21.8	10.7	16.3	36.1	APR 14	.6	MAR 8	1042	126	18	NOV 16-17	0	0		79	59	52	74
LOS ANGELES	20.3	11.8	16.1	34.4	OCT 20	3.3	NOV 19+	1032	165	22	DEC 19-20	0	0		76	58	62	74
LOS ANGELES U	22.7	12.4	17.6	35.6	OCT 20	3.9	NOV 19+	775	203	28	MAR 22-23	0	0					
MT SHASTA R	16.2	2.1	9.2	36.1	JUL 11	- 12.8	DEC 31	3411	825	122	DEC 21-22	3180	452	DEC 18-19		59		
OAKLAND	17.2	10.5	13.8	31.7	SEP 22	2.2	JAN 13	1666	427	56	JAN 20-21	0	0		79	73	66	77
RED BLUFF	23.9	9.8	16.9	43.9	JUL 24	- 2.8	DEC 13	1485	434	47	JAN 20	0	0		62	47	33	53
SACRAMENTO	23.4	8.4	15.9	41.1	JUL 24+	- 2.2	JAN 13	1518	424	68	JAN 20-21	T	T	JAN 21	81	63	44	71
SACRAMENTO U	22.7	9.4	16.1	39.4	JUL 11+	- 1.1	JAN 5	1396	383	58	JAN 20-21	0	0					
SANDBERG R	17.2	7.2	12.2	35.6	JUL 13	- 6.1	DEC 31+	2732	210	43	NOV 17	912	356	NOV 17		40		
SAN DIEGO	20.9	12.5	16.7	36.1	OCT 19	3.3	DEC 14+	859	134	26	JAN 21-22	0	0		76	59	61	75
SAN FRANCISCO	18.2	8.9	13.6	33.3	SEP 24	.6	JAN 13+	1776	446	68	JAN 20-21	0	0		83	68	61	78
SAN FRANCISCO U	16.8	10.4	13.6	33.3	SEP 24	4.4	DEC 31	1771	450	49	JAN 20-21	0	0			F76	K63	
SANTA CATALINA	20.1	12.4	16.3	36.7	AUG 8	3.9	NOV 17	1298	140	17	NOV 17	T	T	NOV 14 *				
SANTA MARIA	19.6	5.9	12.8	37.2	OCT 19	- 3.9	MAR 8	2022	252	36	OCT 28-29	0	0			61	62	
STOCKTON	23.4	9.3	15.9	42.2	JUN 23	- 4.4	JAN 13	1578	358	40	OCT 28-29	0	0		76	58	43	65
COLORADO																		
ALAMOSA	13.7	- 6.3	3.7	32.8	JUL 4	- 36.1	JAN 14+	5354	180	24	DEC 3-4	1585	373	DEC 3	75	44	47	
COLORADO SPRINGS	16.9	1.8	9.3	37.2	JUL 4	- 20.6	FEB 26	3588	218	38	MAY 29-30	841	338	MAR 7	55	32	35	51
DENVER	17.9	1.7	9.8	36.7	JUL 27+	- 22.2	DEC 17	3449	258	43	MAY 29-30	1453	262	APR 2-3	62	35	35	54
GRAND JUNCTION	18.3	3.8	11.1	38.9	JUL 20+	- 19.4	JAN 14	3252	175	18	AUG 12-13	739	155	NOV 15-16	54	36	32	46
PUEBLO	20.3	2.1	11.2	38.9	JUL 20+	- 23.3	MAR 9	3134	211	41	MAY 29-30	617	229	MAR 6	63	34	[illegible]	50
CONNECTICUT																		
BRIDGEPORT	15.3	6.0	10.7	33.9	JUN 30	- 13.9	JAN 15	3104	585	44	APR 14-15	648	254	JAN 13-14	79	79	61	7[illegible]
HARTFORD	16.2	3.8	[illegible]	38.3	JUL 1	- 21.1	JAN 15	3382	978	53	JAN 20-21	1326	259	FEB 19-2[illegible]	77	78	51	[illegible]
NEW HAVEN	15.2	5.2	[illegible]	33.9	JUN 30	- 13.9	JAN 15	3204	851	56	JUL 8-9	848	236	JAN 12		78	59	
DELAWARE																		
WILMINGTON	17.7	6.6	12.1	36.7	JUN 30	- 17.2	JAN 15	2772	834	59	JUL 8	831	206	MAR 21-22	[illegible]	78	53	63
DIST OF COLUMBIA																		
WASH NATL AP	19.8	8.5	14.2	37.8	JUN 10	- 13.9	JAN 15	230[illegible]	749	41	SEP 29-3[illegible]	729	208	FEB 10-11	70	73	51	58
FLORIDA																		
APALACHICOLA U	23.7	16.3	[illegible]	35.[illegible]	AUG 28	- 4.4	JAN 14	763	1811	197	APR 27-28	T	T	JAN 13				
DAYTONA BEACH	26.1	16.6	21.3	36.1	JUN 17	- 2.8	JAN 14	453	1594	161	SEP 9-10	[illegible]	[illegible]		86	87	[illegible]	[illegible]
FORT MYERS	29.[illegible]	18.1	23.7	36.1	JUL 14+	[illegible]	JAN 15	14[illegible]	834	71	SEP 4	0	0		84	[illegible]	[illegible]	[illegible]

State and Station	Wind: Average speed M.p.s.	Prevailing direction	Fastest mile (1.6 kilometers): Speed M.p.s.	Direction	Date	Possible sunshine %	Average sky cover sunrise to sunset Tenths	Number of days: Sunrise to sunset: Clear, 0-.03	Partly cloudy, .04-.07	Cloudy, .08-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	Max temp.: 32.2°C and above	0°C and below	Min. temp.: 0°C and below	-17.8°C. and below
CALIFORNIA																		
BURBANK	3.8	16	1.9*	2	MAR 16		3.3	216	83	67	34	0	1	18	50	0	0	0
EUREKA U	3.8	N#	2.2	SW	DEC 22	58	6.5	93	83	190	118	0	13	47	0	0	5	0
FRESNO	3.5	31	2.1	NW	MAR 2	83	3.5	219	61	86	47	0	5	40	105	0	39	0
LONG BEACH	3.3	28	1.9*	17	JAN 21		4.1	172	126	68	29	[illegible]	1	26	10	0	0	0
LOS ANGELES	4.8	27	2.8Y		MAR 16		4.2	171	119	76	32	0	2	25	3	0	0	0
LOS ANGELES U	3.1		2.4	NW	MAR 16	75	3.5	201	109	56	28	0			0	13	0	0
MT SHASTA R							4.2	187	65	114	93	27	8	7	17	4	149	0
OAKLAND	4.8	30	2.4*	16	JAN 20		4.5	168	105	93	77	0	2	6	0	0	0	0
RED BLUFF	4.6	17	2.9		JAN 20	80	4.1	189	76	101	62	[illegible]	7	14	95	0	17	0
SACRAMENTO	4.3	22	1.9	SW	APR 22	82	3.7	214	64	88	65	0	1	30	81	0	19	0
SACRAMENTO U											63	0	0	0	57	0	3	0
SANDBERG R	6.8		2.8*	34	APR 11		3.6	209	65	92	41	12	3	74	20	8	96	0
SAN DIEGO	3.6	30	1.8	NW	MAR 2	68	4.6	160	119	87	39	0	3	16	3	0	0	0
SAN FRANCISCO	5.9	27	[illegible]	S	JAN 20		4.3	180	85	101	68	0	1	9	5	0	0	0
SAN FRANCISCO U	4.5	W	1.9	SW	APR 22	73					69	0	3	0	2	0	0	0
SANTA CATALINA							3.8	193	86	87	39	0	5	137	20	0	0	0
SANTA MARIA							2.7	201	105	60	54	[illegible]	3	79	6	[illegible]	51	0
STOCKTON	4.4	27	2.1*	16	JAN 20		3.9	204	62	[illegible]	61		2	34	79	[illegible]	37	0
COLORADO																		
ALAMOSA							4.1	172	133	61	78	15	47	32	3	50	235	77
COLORADO SPRINGS	5.6	36	2.2*	34	DEC 24		5.0	134	118	114	63	7	53	17	31	35	155	6
DENVER	4.4	18	2.2	SW	DEC 15+	75	5.1	126	[illegible]	[illegible]	78	15	31	8	50	26	164	7
GRAND JUNCTION	3.9	13	2.5	W	AUG 26	71	4.9	145	102	119	71	11	25	7	61	18	147	1
PUEBLO	5.7	[illegible]	3.8		JUL 28	77	4.5	160	113	93	[illegible]	7	41	8	77	11	163	7
CONNECTICUT																		
BRIDGEPORT	6.9	23	3.4*	34	JAN 21		5.6	125	[illegible]	141	[illegible]	6	14	35	3	14	[illegible]	0
HARTFORD	4.3	18	[illegible]	NW	JAN 21	[illegible]	[illegible]	92	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	21	37	[illegible]	7
NEW HAVEN	4.2		2.1	[illegible]	JAN [illegible]	64	5.8	117	[illegible]	149	[illegible]	8	13	24	1	[illegible]	[illegible]	0
DELAWARE																		
WILMINGTON	5.0	[illegible]	[illegible]	[illegible]	MAR 10		5.6	[illegible]	[illegible]	145	[illegible]	1	21	34	21	11	104	0
DIST OF COLUMBIA																		
WASH NATL AP	4.8	[illegible]	[illegible]	SW	MAR 1[illegible]	59	5.8	[illegible]	[illegible]	[illegible]	[illegible]	6	13	12	[illegible]	[illegible]	78	0
FLORIDA																		
APALACHICOLA U	[illegible]						5.5	[illegible]	[illegible]	[illegible]	114	0	[illegible]	41	[illegible]		6	0
DAYTONA BEACH	4.8	[illegible]	[illegible]	26	SEP 9		6.4	73	[illegible]	164	[illegible]		58	[illegible]	46	[illegible]	3	0
FORT MYERS	[illegible]		1.2*	29	FEB [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	0

See reference notes at end of table

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State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1.6 kilometers)					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am EST	7:00 am EST	1:00 pm EST	7:00 pm EST	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32.2 °C and above	0 °C and below	0 °C and below	-17.8 °C and below
	°C.	°C.	°C.	°C		°C		Base 18.3 °C.	Mm.	Mm.		Mm.	Mm.		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
FLORIDA																																				
JACKSONVILLE	25.8	15.3	20.6	37.2	JUN 17+	-5.6	JAN 15	668	1652	159	SEP 9-10	0	0		85	89	58	72	5.0	36	4.2	N	SEP 9	61	6.1	91	120	155	126	0	57	28	78	0	7	0
KEY WEST	28.2	22.9	25.6	32.8	SEP 15+	8.3	JAN 15	33	746	70	DEC 16-17	0	0		80	80	69	75	6.1	12	3.8	S	OCT 14	70	5.7	92	154	120	116	0	60	0	32	0	0	0
LAKELAND U	27.2	17.2	22.2	36.1	JUN 18	-2.8	JAN 14	339	1207	96	JAN 11-12	0	0						4.0					57	6.1	82	146	138	111	0	82	22	77	0	2	0
MIAMI BEACH	26.9	22.2	24.6	35.0	JUL 8	3.3	JAN 15+	71	1181	97	APR 29-30	0	0												5.9	67	185	114	116	0	0	0	11	0	0	0
MIAMI	28.2	21.2	24.7	33.9	AUG 19	2.2	JAN 15	79	1529	176	AUG 26-27	0	0		82	85	64	74	4.6	9	3.8*	36	AUG 27		6.6	40	179	147	127	0	72	9	39	0	0	0
ORLANDO	27.9	17.1	22.5	36.1	JUN 17+	-2.8	JAN 14	323	1382	136	SEP 9-10	0	0		87	90	57	70	4.9	18	2.4*	2	JUN 10		6.2	79	143	144	108	0	53	23	106	0	1	0
PENSACOLA	24.1	14.4	19.3	36.1	SEP 2+	-6.7	JAN 14	961	2107	191	APR 26-27	T	T	JAN 13					4.0	35	2.3		APR 27	59					134	0	69	0	49	0	16	0
TALLAHASSEE	25.4	13.3	19.3	36.7	JUN 20	-8.9	JAN 15	929	2646	235	DEC 3-4	T	T	FEB 22	87	90	57	70	4.5	36	2.5*	27	MAR 15		6.1	95	120	151	137	0	90	50	76	0	28	0
TAMPA	27.5	16.6	22.1	36.1	JUL 14+	-2.8	JAN 15	358	1471	104	JUL 25-26	0	0		85	88	59	71	5.9	6	3.4*	31	JUN 25	64	6.4	81	127	158	105	0	75	20	81	0	4	0
WEST PALM BEACH	28.2	19.6	23.9	34.4	AUG 14+	1.7	JAN 14	118	2014	180	OCT 11-12	0	0		84	86	65	77	5.1	12	4.4*	13	AUG 27		6.6	53	154	159	128	0	61	8	70	0	0	0
GEORGIA																																				
ATHENS	22.2	10.2	16.2	39.4	JUN 21	-10.0	JAN 15	1664	1814	119	OCT 4-5	T	T	FEB 25 +	81	79	58	66	4.0	5	1.6*	29	MAY 12		5.8	115	92	159	127	0	52	51	37	0	53	0
ATLANTA	21.1	10.4	15.8	36.7	JUN 22	-10.0	JAN 15	1738	1527	86	MAR 25-26	28	20	JAN 13	80	85	60	65	4.0	6	2.3		JUL 22	63	5.9	109	101	156	122	0	43	49	17	2	52	0
AUGUSTA	24.3	10.9	17.6	37.2	MAY 28	-10.0	JAN 15	1362	1677	152	AUG 28-29	T	T	JAN 13	83	86	53	67	3.8	24	2.1*	17	MAY 21		6.1	92	98	176	110	0	51	24	74	0	44	0
COLUMBUS	23.8	11.6	17.7	37.2	JUN 21	-10.6	JAN 15	1332	1860	143	OCT 4-5	T	T	JAN 13 +		87	57	68	3.8		1.9*	18	MAR 4		6.2	95	98	173	123	0	53	24	55	0	45	0
MACON	24.1	11.5	17.8	39.4	JUN 21	-8.9	JAN 15	1322	1342	90	APR 8	T	T	FEB 22 +	84	88	54	64	4.0	30	1.8	SW	DEC 26+	59	6.0	105	95	166	119	0	50	33	67	0	34	0
ROME	22.2	8.3	15.3	37.8	JUN 22	-13.9	JAN 15	1938	1741	149	MAR 25-26	48	8	FEB 25															122	1	58	20	58	2	82	0
SAVANNAH	24.6	12.6	18.6	37.8	JUN 16+	-7.8	JAN 15	1061	1859	149	JUL 17-18	T	T	JAN 13	85	87	56	72	4.9	18	2.0	N	JUL 9	66	6.0	105	105	156	122	0	63	34	62	0	26	0
HAWAII																																				
HILO	27.0	18.6	22.8	32.2	DEC 21	15.6	DEC 18+	0	4228	210	MAY 24-25	0	0		88	83	66	84	4.5	25	1.6*	16	DEC 9	33	7.4	37	113	216	307	0	18	0	1	0	0	0
HONOLULU	28.6	21.4	25.0	32.2	AUG 29	16.1	NOV 17	0	511	85	MAR 23-24	0	0		68	66	55	64	5.3	6	1.7	SW	DEC 19	63	5.9	79	167	120	137	0	12	0	1	0	0	0
KAHULUI	27.9	19.4	23.7	32.8	AUG 29	14.4	DEC 7+	0	255	22	DEC 9-10	0	0		84	79	61	78	6.2	6	2.3		DEC 16	73	5.0	131	145	90	100	0	7	0	3	0	0	0
LIHUE	27.1	20.9	24.0	30.0	JUN 17+	15.0	MAR 20	0	1314	126	MAR 8-9	0	0		80	77	67	77	6.2	6	1.9	SW	DEC 21		6.7	54	153	159	242	0	12	0	0	0	0	0
IDAHO																																				
BOISE	15.6	2.7	9.2	38.3	AUG 17+	-17.2	DEC 17+	3633	401	27	MAY 27-28	1181	165	NOV 25-26	75	57	47	67	4.1	13	2.1	SW	DEC 20	71	5.4	133	81	152	108	14	17	25	39	29	151	0
IDAHO FALLS 42NW R	12.3	-5.4	3.5	36.7	JUL 27	-35.6	DEC 17	5509	314	28	OCT 29-30																		77	0	0	0	28	96	231	72
IDAHO FALLS 46W R	12.3	-4.5	3.9	35.6	JUL 27	-36.1	DEC 17	5334	315	30	DEC 22-23	1308	168	APR 22-23					3.9		2.2A	WSW	SEP 25						82	14	17	14	19	89	224	64
LEWISTON	16.3	4.6	10.4	40.6	JUL 12	-23.9	DEC 17	3099	376	36	JUL 14-15	815	191	DEC 20	73	60	47								6.6	93	69	204	102	8	16	20	22	8	105	2
POCATELLO	14.1	-.6	6.8	37.2	JUL 17	-28.3	JAN 13	4389	296	21	DEC 22-23	1222	229	APR 22-23	73	55	47	63	5.6	24	2.2	SW	MAY 2+	63	5.8	123	87	156	104	15	21	35	34	60	179	22
ILLINOIS																																				
CAIRO U	20.7	10.5	15.6	39.4	AUG 4+	-13.3	DEC 18	2015	1113	167	MAR 8-9	99	61	JAN 11-12		80	56		4.4	SW	3.1	NW	MAR 4	63	5.4	129	98	139	95	2	44	8	63	7	73	0
CHICAGO MIDWAY	16.2	5.7	10.9	36.7	AUG 3	-16.7	DEC 18	3271	685	53	JUL 17-18	1052	180	MAR 29	70	77	57	61	5.6	21	2.4	SW	MAY 8	60	6.0	105	100	161	105	11	31	15	35	44	131	0
MOLINE	16.4	4.8	10.6	36.1	JUL 24	-20.0	DEC 27	3385	906	50	APR 19-20	978	135	MAR 20	77	81	58	62	5.1	18	2.7	SW	MAY 8	60	5.8	106	114	146	110	13	54	16	32	42	141	7
PEORIA	16.7	4.9	10.8	37.2	AUG 2	-19.4	JAN 1	3302	735	71	JUN 19-20	688	107	JAN 12	78	83	60	62	4.9	18	2.9	W	NOV 20	63	5.9	120	79	167	102	8	48	29	35	39	136	4
ROCKFORD	14.9	3.1	9.1	33.9	AUG 3+	-23.3	DEC 6	3736	997	64	APR 20-21	1125	185	MAR 4-5	81	84	60	65	5.5	18	1.9*	22	APR 13		5.7	119	98	149	107	13	47	28	14	50	150	5
SPRINGFIELD	18.3	6.1	12.2	39.4	AUG 3	-21.7	JAN 14	2976	788	72	APR 18-19	932	224	JAN 11-12	73	78	57	59	5.9	18	2.5	W	NOV 20+	67	5.5	135	76	155	97	11	46	21	55	33	130	3

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1.6 kilometers)					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32.2°C and above	0°C and below	0°C and below	-17.8°C and below
	°C.	°C.	°C.	°C		°C		Base 18.3°C.	Mm.	Mm.		Mm.	Mm.		%	%	%	%	M.p.s		M.p.s.			%	Tenths											
INDIANA																																				
EVANSVILLE	20.3	6.6	13.5	38.9	AUG 3	- 21.1	JAN 14	2508	975	143	MAR 8-9	234	89	JAN 12	80	84	56	60	3.8	18	2.2	SW	MAR 4	65	5.4	131	95	140	97	4	38	10	62	11	119	1
FORT WAYNE	16.3	4.3	10.3	36.7	AUG 2	- 20.6	DEC 9+	3379	725	42	JUL 7	1262	345	MAR 9-10	78	82	60	65	5.0	22	2.7	SW	MAR 5	63	6.1	97	113	156	113	15	44	18	32	40	134	8
INDIANAPOLIS	17.6	5.9	11.7	36.1	AUG 3	- 20.6	JAN 14	2951	923	73	MAR 8-9	759	203	JAN 12-13	77	83	59	62	4.9	23	2.6	SW	MAR 5	63	6.0	95	117	154	115	9	43	14	31	24	120	1
SOUTH BEND	15.6	4.6	10.1	36.1	AUG 2	- 22.2	JAN 1	3431	917	44	JUL 6-7	2017	137	DEC 2	75	78	58	58	5.6	23	2.4*	27	JUN 19		6.4	90	92	184	148	26	41	28	29	47	134	1
IOWA																																				
BURLINGTON	16.9	5.4	11.2	37.2	JUL 24	- 19.4	DEC 18	3199	750	67	APR 5	1034	165	DEC 3-4												116	99	151	109	13	52	17	35	36	137	2
DES MOINES	15.3	4.1	9.7	37.8	AUG 2	- 22.8	DEC 17	3627	722	58	JUN 14-15	602	89	JAN 8	79	84	63	63	6.2	18	4.3	SW	MAY 8	59	5.7	121	99	146	105	9	56	23	24	51	146	9
DUBUQUE	14.1	3.2	8.7	33.9	AUG 2+	- 22.2	DEC 18+	3878	918	68	MAY 7-8	909	122	MAR 25-26		80	59	62							6.0	101	104	161	99	13	46	27	12	59	154	8
SIOUX CITY	15.6	3.4	9.6	38.9	JUL 22	- 28.3	JAN 13	3709	693	49	AUG 6	686	130	MAR 19-20	76	82	60	59	5.9	32	2.9	SW	MAY 5	65	5.5	127	100	139	104	8	54	14	26	45	150	13
WATERLOO	14.8	2.1	8.4	36.1	AUG 2	- 23.9	DEC 27+	4007	913	71	AUG 20	584	130	MAR 25	82	85	[illegible]	65	5.5	18	2.2*	33	NOV 20		5.9	107	114	145	97	7	42	23	24	59	162	21
KANSAS																																				
CONCORDIA	18.9	5.4	12.2	42.2	JUL 6	- 22.8	JAN 13	2967	727	69	JUN 4	279	58	MAR 8	71	79	52	52	6.6	18	2.7	[illegible]	JUN 21	72	5.0	156	86	124	85	6	59	16	60	20	136	5
DODGE CITY	20.4	5.9	13.2	41.7	AUG 10	- 21.1	JAN 13	2773	540	83	JUL 28	361	104	DEC 2-3	67	76	48	45	7.4	18	2.3	[illegible]	JUL 4	75	5.1	134	108	124	71	6	50	30	81	17	136	2
GOODLAND	19.1	1.9	10.6	42.2	JUL 4	- 23.3	DEC 17	3402	275	45	JUL 8-9	683	135	APR 4	74	42	40	64	7.4	18	3.6*	27	MAY 8		4.5	167	104	95	60	7	40	18	70	23	166	5
TOPEKA	19.1	6.4	12.8	40.6	AUG 3+	- 20.6	JAN 13	2768	914	118	NOV 15	325	109	DEC 3	74	81	56	56	6.2	18	2.9	S	MAY 5+	62	5.4	129	95	142	84	5	65	10	42	14	131	3
WICHITA	20.5	7.9	14.2	43.3	AUG 6	- 18.3	JAN 13	2475	869	110	NOV 15-16	183	130	DEC 3	71	83	55	53	6.6	18	3.2	W	APR 27	66	5.1	143	103	120	78	2	55	20	74	12	122	1
KENTUCKY																																				
COVINGTON	18.9	5.7	12.3	38.3	AUG 3	- 26.1	JAN 14	2747	1115	132	MAR 9	658	193	JAN 1	78	82	56	61	4.3	21	1.9*	23	MAR 5		6.0	99	110	157	121	6	46	19	44	17	116	2
LEXINGTON	19.2	7.1	13.2	36.7	AUG 3	- 18.9	JAN 14	2541	1104	90	MAR 4	622	163	JAN 31-1	71	76	54	58	4.6	18	2.0*	22	AUG 11		5.4	129	103	134	118	8	41	15	37	15	101	1
LOUISVILLE	19.8	7.2	13.5	38.3	AUG 3	- 18.3	JAN 14	2452	1183	177	MAR 9	612	183	JAN 1	76	83	57	59	4.0	18	2.5	W	MAR 5	63	5.7	113	108	145	113	4	40	8	46	9	102	1
LOUISIANA																																				
ALEXANDRIA	24.2	11.3	17.8	38.3	AUG 5	- 11.7	JAN 14	1288	1433	157	DEC 10-11	T	T	FEB 21 +	90	92	59	69	2.8	18	2.1*	9	JUL 24		6.0	109	100	157	95	0	64	39	73	[illegible]	48	0
BATON ROUGE	25.3	14.1	19.7	36.1	AUG 5+	- 6.7	JAN 14	944	1621	213	OCT 3-4	0	0		83	87	59	65	3.9	17	2.1*	33	OCT 4+		6.1	94	123	149	107	[illegible]	72	34	80	3	23	0
LAKE CHARLES	24.5	14.3	19.4	36.1	AUG 5	- 6.7	JAN 14	968	1198	126	JUN 29-30	T	T	FEB 21 +	97	90	61	70	4.6	18	2.4*	11	AUG 5		6.2	85	129	152	98	0	53	56	49	[illegible]	14	0
NEW ORLEANS MOISANT	24.9	14.2	19.6	35.6	AUG 31	- 6.1	JAN 1	907	1475	101	JAN 6	0	0		90	92	62	74	3.4	6	2.1*	17	OCT 4		6.0	103	105	158	114		67	33	59	2	17	0
NEW ORLEANS AUDUBON	25.5	15.1	20.3	36.1	SEP 3+	- 3.3	JAN 14+	797	1595	99	MAR 19	+0	+0		87	[illegible]	65	72	2.4		1.2	W	OCT 4	+54	+6.0	+89	+132	+141	120	[illegible]	+82	+18	88		8	0
SHREVEPORT	24.8	13.1	19.0	40.6	AUG 5	- 9.4	JAN 14	1226	821	61	APR 24-25	36	36	JAN 15-16	77	86	56	57	5.2	18	2.1*	29	MAR 9	63	5.4	127	108	131	87	1	42	28	100	1	36	0
MAINE																																				
CARIBOU	8.9	- 1.6	3.7	33.9	JUL 18	- 27.2	JAN 18+	5263	781	51	OCT 21	2985	290	DEC 1		83	63	73							6.8	65	112	[illegible]	[illegible]	[illegible]	[illegible]	41	1	100	184	33
PORTLAND	12.9	.6	6.8	33.9	JUN 20	- 24.4	JAN 1	[illegible]	879	47	OCT 17-18	1996	292	MAR 10-11	91	[illegible]	56	72	4.5	18	[illegible]	NW	FEB [illegible]	[illegible]	[illegible]	104	107	155	115	[illegible]	[illegible]	[illegible]	4	43	179	10
MARYLAND																																				
BALTIMORE	18.7	6.9	12.8	36.7	JUN 15	- 18.3	JAN 15	2598	881	51	NOV 25	1090	292	MAR 21-22	73	76	51	59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.5	[illegible]	104	134	98	9	15	32	34	7	[illegible]	1
BALTIMORE [illegible]	19.2	9.9	14.6	36.7	JUL 1+	- 11.1	JAN 14	2212	945	62	NOV 25																		93	[illegible]	0	0	37	6	65	0
MASSACHUSETTS																																				
BLUE HILL OBS [illegible]	14.2	4.2	9.2	36.7	JUL 1	- 14.4	JAN 15+	3527	[illegible]	62	APR 14-15	1842	340	JAN 13-14	79	79	61	69											124	15	0	0	8	34	123	0
BOSTON	14.4	5.7	10.1	36.1	JUL 1	- 12.2	JAN 15+	[illegible]	926	53	DEC 27-28	1461	241	FEB 19-20	75	75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 1	61	5.7	126	[illegible]	154	127	[illegible]	20	36	9	27	104	0

See reference notes at end of table

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State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1 6 kilometers)					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1 00 am E S T	7 00 am E S T	1 00 pm E S T	7 00 pm E S T	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0 3	Partly cloudy, 0 4-0 7	Cloudy, 0 8-1 0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32 2 °C and above	0 °C and below	0 °C and below	-17 8 °C and below
	°C	°C	°C.	°C		°C		Base 18 3°C	Mm	Mm.		Mm.	Mm.		%	%	%	%	M.p s.		M.p s.			%	Tenths											
MASSACHUSETTS																																				
NANTUCKET	13.2	5.9	9.6	33.3	JUL 1	- 9.4	FEB 18+	3269	1082	65	SEP 13-14	1311	452	JAN 13-14	83	79	68	80	6.9	24	3.4	NW	FEB 16	56	6.4	105	77	184	120	11	14	98	1	15	99	0
PITTSFIELD	13.6	.9	7.3	33.3	JUL 19+	- 23.9	JAN 1	4151	726	39	AUG 22	2405	368	FEB 15-16															140	25	0	0	4	48	161	13
WORCESTER	13.4	3.2	8.3	34.4	JUL 1	- 16.1	FEB 25+	3792	956	59	JAN 20-21	1605	315	FEB 16	75	74	54	64	5.4	28	2.2*	29	JAN 1		5.8	116	100	150	119	15	17	92	2	45	144	0
MICHIGAN																																				
ALPENA	12.6	.2	6.4	36.1	JUN 30	- 24.4	JAN 13+	4496	686	44	AUG 2-3	1542	224	MAR 25-26		79	59	67	4.0	24	1.9	SW	APR 14	63	6.7	65	117	184	138	23	31	24	10	58	182	14
DETROIT	15.6	5.7	10.7	35.6	JUL 20	- 14.4	JAN 1	3240	710	52	AUG 11	843	89	DEC 2	74	77	56	61	5.6	18	2.9	W	JUN 19	56	6.3	82	123	161	132	12	31	9	26	41	119	0
DETROIT M WAYNE CO	14.8	3.1	8.9	36.1	AUG 2	- 18.9	JAN 1	3702	730	82	AUG 11	935	84	MAR 8	78	80	59	65	4.6	22					6.3	77	124	165	123	13	35	32	21	43	146	2
DETROIT WILLOW RUN	15.0	3.8	9.4	37.2	AUG 2	- 18.9	JAN 1	3574	670	52	AUG 11	820	81	MAR 8	84	87	60	67	5.3	21	2.3*	25	MAY 9+		6.3	79	120	167	110	13	30	36	27	43	138	1
FLINT	14.6	3.1	8.8	36.1	AUG 2	- 22.8	JAN 1	3757	625	50	JUN 15	998	94	DEC 4	77	78	59	65	5.2	22	2.0*	22	MAR 5		6.5	77	115	174	120	13	33	25	13	45	147	4
GRAND RAPIDS	14.8	3.6	9.2	37.8	AUG 3	- 26.1	JAN 1	3698	820	67	JUN 14-15	1704	307	JAN 25-26	84	87	63	69	5.3	25	3.0	W	JUN 9	55	6.7	75	112	179	124	27	39	30	20	53	149	3
LANSING	15.3	3.2	9.3	37.8	AUG 2	- 27.2	DEC 6	3686	671	40	JUN 14-15	1097	137	DEC 4	82	84	60	67	4.4	29	2.4	SW	NOV 12	57	6.3	78	119	169	130	19	38	25	22	50	156	4
MARQUETTE U	10.7	2.0	6.3	36.7	MAY 22	- 20.6	DEC 17	4482	800	49	JUL 24	2530	257	FEB 7-8		75	63	65	4.5	W*	2.6	SW	APR 13	56	7.1	62	97	207	161	36	25	21	8	83	155	4
MUSKEGON	14.4	4.4	9.4	37.2	AUG 3	- 22.8	JAN 1	3563	617	35	NOV 2	2677	231	NOV 20-21	79	83	64	68	6.0	22	2.2*	22	MAY 8+		6.8	78	95	193	131	33	49	27	11	46	136	1
SAULT STE MARIE	9.7	- .3	4.7	31.7	JUN 29	- 26.7	JAN 12	5016	831	35	NOV 27-28	3993	302	MAR 4-5	84	86	67	73	5.6	31	2.7*	21	APR 14	52	7.3	60	94	212	181	43	38	53	0	94	175	26
MINNESOTA																																				
DULUTH	9.3	- 1.8	3.8	34.4	JUL 17	- 31.7	DEC 27	5394	888	93	SEP 6-7	1768	229	DEC 22-23	75	78	60	62	5.6	30	2.9		JAN 23	58	6.6	73	116	177	128	21	43	53	3	102	179	52
INTERNATIONAL FALLS	9.1	- 3.8	2.7	35.6	JUL 16	- 37.2	JAN 12	5808	676	97	JUN 8-9	1181	94	DEC 22	82	86	64	67	5.6	27	1.9*	27	OCT 3+		6.6	81	103	182	127	16	36	18	9	109	196	78
MINNEAPOLIS	13.2	1.9	7.6	36.7	AUG 1	- 27.2	NOV 30	4321	660	63	SEP 7-8	856	114	MAR 3-4	75	80	60	61	5.4	13	3.1	NW	MAY 23	64	5.7	111	112	143	109	13	44	14	27	81	162	18
ROCHESTER	12.8	1.3	7.1	36.1	JUL 19+	- 26.1	DEC 17+	4424	506	68	SEP 7-8	815	102	NOV 20	78	82	62	63	7.0	18	2.7*	28	MAY 23+		5.9	103	109	154	106	9	45	28	23	75	161	23
ST CLOUD	12.1	.1	6.1	37.2	AUG 1	- 28.9	NOV 30	4782	538	51	AUG 29	937	191	MAR 19-20	76	81	58	60							5.9	110	102	154	99	11	39	18	23	89	171	41
MISSISSIPPI																																				
JACKSON	24.8	12.1	18.4	37.2	AUG 4+	- 9.4	JAN 15	1292	1815	177	OCT 4	38	38	JAN 16	80	85	56	63	4.4		2.0*	14	MAR 3		5.7	109	104	153	111	1	66	27	92	1	40	0
MERIDIAN	24.3	10.6	17.5	38.3	JUN 21	- 12.2	JAN 15	1438	1741	162	APR 5-6	25	T	JAN 16 +	88	91	57	67	3.4	18	2.1*	3	JUL 6		6.0	93	110	163	111	1	67	37	78	1	60	0
VICKSBURG U	23.4	13.4	18.4	36.1	AUG 4	- 7.8	JAN 13	1194	1483	88	MAR 1-2	T	T	DEC 17 +					4.2		2.1	W	APR 5	62	5.6	112	119	125	99	0	53	16	62	2	26	0
MISSOURI																																				
COLUMBIA	19.3	7.6	13.4	39.4	AUG 3	- 18.9	DEC 18	2584	853	64	APR 4-5	594	152	FEB 15	71	77	53	54	5.7	18	3.0	NW	MAR 29	64	5.4	133	90	143	97	7	59	15	45	18	110	1
KANSAS CITY	19.2	8.5	13.9	40.0	AUG 3+	- 17.2	DEC 18+	2476	986	94	NOV 15	752	185	JAN 11-12	66	73	55	52	5.0	18	2.4	N	JUL 1	67	5.4	130	92	144	100	8	64	4	44	15	95	0
ST JOSEPH	18.3	5.7	12.0	38.3	AUG 3	- 21.1	JAN 13	2944	928	148	JUN 20-21	419	86	DEC 3-4 +					4.9	18	2.2*	21	MAY 8		5.0	149	94	123	95	6	59	11	35	23	131	4
ST LOUIS	19.1	7.6	13.3	40.0	AUG 3	- 18.3	JAN 14	2617	817	71	JUL 11-12	732	155	MAR 9-10	73	81	55	57	5.4	18	3.1		JUN 29	64	5.4	142	91	133	103	10	35	9	47	19	108	1
SPRINGFIELD	20.2	7.3	13.8	38.9	AUG 4+	- 18.3	DEC 18	2412	879	72	APR 4-5	216	64	MAR 9	76	81	56	59	5.4	16	1.8	S	JAN 19	63	5.1	142	102	122	109	4	49	17	37	10	109	2
MONTANA																																				
BILLINGS	14.4	1.7	8.1	39.4	AUG 4	- 32.2	DEC 16	4042	477	48	JUN 8-9	1430	267	MAR 22	66	51	45	59	6.1	24	3.0	NW	JUL 14	62	5.9	95	134	137	89	17	19	10	27	44	160	13
GLASGOW	12.7	- .7	6.0	38.9	AUG 18+	- 35.0	DEC 17	4777	267	41	JUN 17-18	627	97	DEC 15	72	52	47	64							6.6	79	109	178	86	8	20	7	25	72	176	36
GREAT FALLS	13.2	.8	7.1	38.3	AUG 18	- 37.8	DEC 16	4327	455	70	JUN 7-8	1689	185	JAN 21	65	49	45	59	6.9	23	2.4	W	SEP 30	63	6.6	78	100	188	102	22	25	4	23	49	158	25
HAVRE	12.6	- 1.4	5.6	38.9	AUG 18	- 35.0	DEC 17	4801	308	23	AUG 19-20	861	114	DEC 21-22	75	54			5.0	SW*	2.7	SW	MAR 1	58	6.5	89	91	186	100	13	29	3	25	58	183	40
HELENA	13.1	- .9	6.1	35.0	AUG 18+	- 38.9	DEC 17	4563	346	52	MAY 2-3	1425	257	MAY 2-3	70	51	46	62	4.4	27	2.0	W	OCT 1+	67	6.4	88	105	173	85	18	26	5	15	45	185	20

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1.6 kilometers)					Sunrise to sunset							Max temp		Min temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am EST	7:00 am EST	1:00 pm EST	7:00 pm EST	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0–3	Partly cloudy, 0.4–0.7	Cloudy, 0.8–1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32.2°C and above	0°C and below	0°C and below	−17.8°C and below
	°C	°C	°C.	°C		°C		Base 18.3°C	Mm	Mm.		Mm.	Mm.		%	%	%	%	M.p.s		M.p.s			%	Tenths											
MONTANA																																				
KALISPELL	11.4	- 1.9	4.8	34.4	JUL 8	- 31.1	DEC 17	4935	568	37	MAY 1-2	2405	269	DEC 21-22		69			3.4						7.2	66	74	226	157	31	18	45	5	47	207	20
MILES CITY	14.0	.2	7.1	40.6	AUG 4+	- 33.9	DEC 17	4473	379	69	JUN 18	1379	203	NOV 14	74	52	49	65	5.1	15	3.[illegible]*	27	JUN 16						93	29	30	13	41	67	175	25
MISSOULA	11.7	- 1.8	4.9	35.6	JUL 12+	- 34.4	DEC 17	4896	387	41	JUN 7-8	1961	198	DEC 20-21	87	69	57	78	3.3	32	2.3	W	FEB 4	49	7.1	77	68	221	131	25	14	29	9	64	214	15
NEBRASKA																																				
GRAND ISLAND	17.4	3.0	10.2	41.1	AUG 2	- 28.9	JAN 13	3523	525	84	APR 25-26	386	109	FEB 14-15	72	78	52	51	6.3	18	2.9*	32	JUN 11		5.0	139	107	120	76	4	51	16	51	42	155	10
NORFOLK	15.7	2.6	9.1	40.0	JUL 22	- 30.6	JAN 13	3851	670	72	JUN 21-22	792	94	FEB 14-15		77	54	53							5.2	133	107	126	93	13	55	12	37	55	158	17
NORTH PLATTE	17.4	.9	9.2	38.9	JUL 30	- 25.0	DEC 17	3792	532	80	JUL 10	544	137	APR 4-5	69	78	48	45	5.6	34	3.3	W	JUN 22	69	5.1	143	107	116	69	8	47	15	44	27	182	13
OMAHA	17.4	4.7	11.1	41.7	AUG 2	- 25.0	JAN 13	3270	908	91	MAY 25-26	683	112	JAN 11-12	72	77	56	56	4.9	16	3.2	NW	MAY 25	64	5.4	132	99	135	105	11	51	12	41	34	139	8
SCOTTSBLUFF	17.1	.6	8.8	39.4	JUL 22	- 31.7	DEC 17	3854	196	24	APR 2-3	691	191	APR 3	74	45	41	65	6.3	[illegible]	2.8*	32	APR 27		5.4	126	103	137	69	7	34	6	51	29	181	9
VALENTINE	16.3	.7	8.5	42.8	JUL 23+	- 28.3	DEC 17	4032	339	50	JUL 29	480	76	APR 4-5	79	56	48	69	5.9	[illegible]				66	5.1	140	115	111	65	[illegible]	40	4	45	43	178	20
NEVADA																																				
ELKO	15.3	- 3.2	6.1	35.6	JUL 20	- 26.1	JAN 13	4569	308	23	DEC 23-24	1720	147	JAN 18					3.4		1.9*	24	NOV 1		5.3	132	101	133	104	27	13	4	37	42	228	25
ELY	14.9	- 3.5	5.7	33.3	AUG 9+	- 27.2	JAN 24+	4684	323	38	JUN 6-7	2573	295	JAN 21-22	71	46	41	61	4.4	19	2.5	SW	JAN 21	78	5.4	144	100	122	79	29	20	10	14	43	231	24
LAS VEGAS	25.7	10.7	18.2	43.3	JUL 29+	- 6.7	JAN 9	1627	28	16	NOV 15-16	102	102	NOV 15-16	35	24	17	29	5.0	[illegible]	2.8*	SW	DEC 27	87	3.1	227	88	51	16	[illegible]	10	0	143	0	67	0
RENO	19.2	- .3	9.4	38.3	JUL 11	- 17.8	DEC 31	3376	196	39	DEC 22-23	1240	193	MAY 5-6	70	45	32	54	3.6	[illegible]	[illegible]	SW	JAN 20	93	4.3	174	87	135	48	19	4	7	51	9	181	1
WINNEMUCCA	17.6	- .7	8.4	36.7	JUL 25	- 20.0	NOV 18	3752	266	28	JUN 8-9	1298	122	NOV 12-13+	65	43	33	53	4.3	14	2.7	W	DEC 23	65	5.2	150	77	139	77	21	11	11	48	9	203	6
NEW HAMPSHIRE																																				
CONCORD	14.3	.8	7.6	36.1	JUN 30+	- 26.7	JAN 1	4098	709	46	AUG 22	1819	302	JAN 13-14	83	80	51	63	3.8	32	2.4*	32	DEC 1	59	5.8	111	106	147	114	17	18	56	12	40	173	12
MT WASHINGTON OBS	1.0	- 6.9	- 2.9	19.4	JUL 18	- 30.6	JAN 12+	7735	1947	60	AUG 22-23	5906	338	OCT 20-21	84	82	82	84	17.4	W#	7.3Y	NW	FEB 3	35	7.5	45	93	228	213	66	20	318	0	168	260	66
NEW JERSEY																																				
ATLANTIC CITY	17.8	6.7	12.3	36.1	JUL 1+	- 16.1	JAN 15	2729	1042	78	SEP 29-30	800	366	JAN 12-13	80	8[illegible]	54	69	5.3	20	2.3*	30	MAR 26	61	5.7	119	90	157	99	6	20	44	23	[illegible]	106	0
NEWARK	17.3	7.8	12.6	37.2	JUL 1+	- 13.3	JAN 15	2692	849	52	JUL 8-9	925	307	JAN 13	69	72	51	58	5.6	23	2.7*	30	JAN 21		5.7	115	108	143	120	6	15	25	26	10	87	0
TRENTON U	17.2	7.3	12.3	36.7	JUN 30	- 13.3	JAN 14	2727	900	123	JUL 8-9	658	226	JAN 12-13					4.7	NW#	2.2	NW	JAN 21+	62	5.5	125	112	129	111	9	28	27	41	12	84	0
NEW MEXICO																																				
ALBUQUERQUE	19.9	5.1	12.5	37.2	JUL 4+	- 17.8	JAN 14	2865	189	22	JUL 27	262	61	FEB 2-3	57	37	29	47	3.9	18	2.7	SW	MAY 7+	72	3.7	195	98	73	63	4	44	6	73	14	130	1
CLAYTON	19.6	3.7	11.6	38.9	JUL 3	- 21.1	JAN 13	2977	227	37	AUG 7-8	478	127	FEB 3-4	64	35	35								4.2	188	77	101	64	5	65	4	57	13	145	1
RATON	18.1	- .1	9.[illegible]	35.6	JUL 6+	- 25.6	DEC 13	3642	[illegible]	26	APR 3-4	810	257	APR 3-4		34									4.5	159	115	[illegible]	78	11	55	3	31	21	182	16
ROSWELL	24.7	5.1	14.9	40.6	JUL 2	- 22.8	JAN 13	2204	177	28	JUN 13	386	140	FEB 22	64	35			4.4		[illegible]	W	JAN 19	75	3.6	210	97	53	42	4	24	6	116	2	138	4
SILVER CITY	21.4	5.0	13.2	37.8	JUL 4	- 15.6	JAN 13	2416	259	51	SEP 23-24	198	76	APR 3-4		31	27								3.3	2[illegible]7	114	55	[illegible]	[illegible]	42	3	48	0	127	0
NEW YORK																																				
ALBANY	14.7	2.9	9.8	36.7	JUN 30	- 26.1	JAN 15	3758	547	39	MAR 9-10	1717	391	JAN 13-14	77	77	52	62	4.5	17	[illegible]	W	JAN 10	53	6.5	80	168	178	115	14	14	20	27	46	145	4
BINGHAMTON	12.8	2.9	7.9	33.3	SEP 1 +	- 21.1	JAN 15	3998	745	51	MAR 9-10	2228	467	JAN 13	79	83	63	68	5.4	24	[illegible]	SW	MAR 5	53	7.1	58	107	[illegible]	156	21	20	64	3	78	146	6
BINGHAMTON I	15.4	4.7	10.1	35.6	JUN 30	- 23.3	JAN 15	3344	[illegible]	55	MAR 1[illegible]	1636	414	JAN 13															137	14			16	38	123	6
BUFFALO	13.7	4.2	8.9	33.9	JUL 28	- 17.2	FEB 11	3685	[illegible]	[illegible]	JUL 12-13	1551	208	JAN 1-2	71	79	63	7[illegible]	5.7	24	[illegible]	W	MAR 5	55	7.3	58	117	141	15[illegible]	[illegible]	[illegible]	17	6	[illegible]	131	0
NEW YORK CENT PK	17.1	8.0	12.6	37.2	JUL 1+	- 12.2	JAN 14	2655	[illegible]	54	JUL 8-9	927	318	JAN 12-13	66	69	4[illegible]	57	4.7	W#	[illegible]		JAN 13	60	4.9	158	97	111	113	[illegible]	11	0	[illegible]	[illegible]	75	0
J.F.KENNEDY AP	16.5	7.3	11.7	37.[illegible]	JUN 30	- 12.[illegible]	JAN 14	2816	[illegible]	41	SEP 4	770	330	JAN 13	72	71	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	DEC 31+		5.[illegible]	108	119	139	[illegible]		13	[illegible]	[illegible]	13	85	0

See reference notes at end of table

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State and Station	Temperature – Averages – Daily maximum	Temperature – Averages – Daily minimum	Temperature – Averages – Annual	Temperature – Extremes – Highest	Temperature – Extremes – Date	Temperature – Extremes – Lowest	Temperature – Extremes – Date	Heating degree days	Precipitation – Total	Precipitation – Greatest in 24 hours	Precipitation – Date (s)	Precipitation – Snow, Sleet – Total	Precipitation – Snow, Sleet – Greatest in 24 hours	Precipitation – Snow, Sleet – Date (s)	Relative humidity – 1:00am EST	Relative humidity – 7:00am EST	Relative humidity – 1:00pm EST	Relative humidity – 7:00pm EST	Wind – Average speed	Wind – Prevailing direction	Wind – Fastest mile (1.6 kilometers) – Speed	Wind – Fastest mile (1.6 kilometers) – Direction	Wind – Fastest mile (1.6 kilometers) – Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days – Sunrise to sunset – Clear, 0–0.3	Number of days – Sunrise to sunset – Partly cloudy, 0.4–0.7	Number of days – Sunrise to sunset – Cloudy, 0.8–1.0	Number of days – Precipitation 25mm or more	Number of days – Snow, Sleet 25.4mm or more	Number of days – Thunderstorms	Number of days – Heavy fog	Number of days – Max temp – 32.2 °C and above	Number of days – Max temp – 0°C and below	Number of days – Min temp – 0°C and below	Number of days – Min temp – −17.8 °C and below
	°C	°C	°C.	°C		°C		Base 18.3°C	Mm.	Mm.		Mm.	Mm.		%	%	%	%	M.p.s		M.p.s.			%	Tenths											
NEW YORK																																				
NEW YORK LAGUARDIA	16.4	8.8	12.6	36.1	JUL 1+	-12.2	JAN 14	2654	795	45	JUL 8-9	643	229	JAN 12-13	69	71	55	60	6.1	18	3.0		JAN 13		5.7	100	133	133	119	6	16	19	17	17	75	0
ROCHESTER	14.7	3.6	9.2	36.7	JUL 28	-21.1	JAN 1	3637	570	34	MAY 13-14	1770	257	MAR 10	76	77	57	65	5.1	25	2.9	SW	MAY 9	59	6.5	77	121	168	137	21	24	17	17	46	139	1
SYRACUSE	14.9	3.5	9.2	35.6	JUL 28	-21.1	JAN 12	3609	688	34	MAR 10	1880	262	MAR 10	78	77	56	67	5.2	27	2.7	S	JAN 25	54	6.6	65	140	161	156	22	28	10	18	47	139	6
NORTH CAROLINA																																				
ASHEVILLE U	19.3	7.4	13.4	34.4	JUN 22	-15.0	JAN 15	2281	1267	90	OCT 4	399	114	FEB 25															120	6			9	6	86	0
CAPE HATTERAS R	20.7	12.5	16.6	33.3	JUN 15	-7.2	JAN 15	1414	1452	104	OCT 4-5	T	T	FEB 22 +	83	82	66	79	5.6	24	2.3	S	AUG 31	64	6.1	98	100	168	138	0	40	19	1	0	25	0
CHARLOTTE	21.5	9.5	15.5	37.2	JUN 21	-11.1	JAN 15	1838	1185	85	OCT 15-16	20	15	JAN 12-13	76	85	55	62	3.9	22	1.8	SW	MAR 5	64	5.6	129	82	155	114	0	30	29	26	0	64	0
GREENSBORO	20.3	8.3	14.3	36.7	JUN 21	-13.9	JAN 15	2126	1148	104	OCT 4-5	130	61	FEB 28	81	85	56	66	3.9	22	2.2	NW	MAR 30	57	5.7	123	85	158	107	1	33	32	17	2	82	0
RALEIGH	21.2	8.6	14.9	37.2	JUN 21+	-12.8	JAN 15	1961	1090	77	AUG 30-31	99	25	FEB 28 +	84	88	54	67	4.2	22	2.1*	22	JAN 20	60	5.8	113	97	156	121	3	45	41	25	2	78	0
WILMINGTON	23.1	12.0	17.6	36.1	JUN 15	-6.7	JAN 15	1301	1469	110	OCT 4-5	T	T	NOV 30 +	84	84	57	74	4.3	22	2.6	W	JAN 20	62	6.0	108	97	161	124	0	41	21	25	0	33	0
WINSTON-SALEM	20.6	9.7	15.2	37.2	JUN 22+	-10.0	JAN 15	1948	1202	90	OCT 4-5	191	46	JAN 12-13	76	81	56	63	3.9	24	1.6*	16	DEC 6		5.6	123	94	149	108	5	34	29	25	2	63	[illegible]
NORTH DAKOTA																																				
BISMARCK	12.2	-2.3	5.0	40.0	AUG 5	-38.9	JAN 12	5072	392	50	APR 26-27	874	117	NOV 26-27	70	76	53	50	5.6	7	2.7		JUN 8	65	6.2	9[illegible]	105	163	82	15	45	10	19	78	189	53
FARGO	11.9	-1.0	5.5	36.7	JUN 28+	-31.1	DEC 26	4997	464	70	JUN 18-19	1189	137	DEC 22-23	76	81	60	60	5.7	16	3.5	NW	APR 13	63	6.2	98	104	164	89	15	35	13	20	88	172	53
WILLISTON	12.1	-2.3	4.9	39.4	AUG 4	-34.4	JAN 27	5138	399	56	JUN 7-8	1082	132	APR 5-6		78	54	52	5.6	SW#	3.6	NW	JAN 17	62	5.9	103	123	140	87	16	16	10	19	84	197	57
OHIO																																				
AKRON	15.9	4.1	10.0	33.9	SEP 10+	-20.6	JAN 14	3358	1037	84	MAR 8-9	1417	201	JAN 12-13	76	79	58	64	4.8	24	2.1*	22	MAR 5		6.4	79	125	162	143	16	43	29	19	38	132	2
CINCINNATI OBS	18.9	7.3	13.1	38.3	AUG 3	-16.1	DEC 18	2573	1125	118	MAR 9	584	211	JAN 12-13					3.1	S#	2.0	SW	MAR 5	57					119	4	44	0	46	18	102	0
CLEVELAND	14.9	4.9	9.9	33.9	SEP 10+	-16.1	FEB 22	3387	798	52	MAR 4-5	1303	206	JAN 12-13	78	82	63	67	5.2	18	2.5	SW	MAR 5	59	6.5	80	113	173	144	13	35	14	12	44	127	0
COLUMBUS	17.3	5.2	11.3	36.7	AUG 2	-25.6	JAN 14	3037	1047	86	MAR 9	780	168	JAN 12-13	77	81	58	63	4.5	18	2.8	NW	MAY 24	57	6.2	89	112	165	123	11	49	14	30	29	121	1
DAYTON	17.9	5.9	11.9	37.8	AUG 3	-18.9	JAN 14	2895	802	73	MAR 4	1016	249	JAN 1	74	79	57	62	5.4	20	2.2	S	MAR 5	64	5.9	108	104	154	119	10	45	26	37	23	116	1
MANSFIELD	15.4	4.4	9.9	35.0	AUG 2	-20.6	JAN 14	3404	883	62	MAR 4-5	1308	203	JAN 12-13		81	61								6.3	85	109	172	133	16	42	32	14	40	131	1
TOLEDO	15.7	3.4	9.6	36.7	AUG 2	-22.2	JAN 14	3574	617	40	MAR 25-26	1110	140	MAR 10	76	80	57	61	4.8	24	1.9	SW	JUN 12	63	6.2	87	122	157	127	15	34	17	33	46	144	4
YOUNGSTOWN	14.9	4.0	9.4	33.3	SEP 10	-21.1	JAN 14	3505	979	52	MAR 9-10	1664	277	JAN 12-13	75	78	59	65	5.2	24	1.9*	26	NOV 20		6.6	79	104	183	153	16	44	25	9	47	130	2
OKLAHOMA																																				
OKLAHOMA CITY	22.2	9.3	15.7	41.1	AUG 6+	-15.0	DEC 18	2043	740	66	MAY 9-10	53	20	MAR 9	71	79	52	51	6.9	16	2.9	W	APR 12	68	4.8	150	102	114	76	0	53	20	83	7	92	0
TULSA	22.7	9.6	16.2	43.3	AUG 5	-16.1	JAN 13	1942	1124	116	APR 3-4	251	178	MAR 4	71	79	52	51	5.9	18	2.2	S	APR 12	63	4.9	150	94	122	110	2	59	16	78	5	93	0
OREGON																																				
ASTORIA	13.9	5.7	9.8	30.0	AUG 24	-9.4	DEC 17+	3086	1867	110	JAN 24-25	483	183	DEC 28-29	89	80	73	87	4.6	24	2.3*	19	MAR 11		7.6	49	77	240	223	5	6	48	0	1	38	0
BURNS U	14.6	-.9	6.9	35.0	JUL 27+	-23.3	DEC 17	4239	407	55	DEC 22-23	1590	140	JAN 18-19	74	55	42	63							5.4	139	87	140	110	21	14	9	14	18	197	3
EUGENE	16.8	5.2	11.1	35.6	AUG 22	-12.2	DEC 17	2708	1472	96	JAN 19-20-	259	89	DEC 29-30+		76	60		3.6		1.9*	20	JAN 19		7.0	70	76	220	138	3	2	53	11	1	55	0
MEACHAM	10.1	.7	5.4	32.2	JUL 12	-30.0	DEC 16	4709	1010	43	NOV 23-24	5113	384	JAN 24-25		61									6.8	84	70	212	182	59	11	23	1	66	185	2
MEDFORD	18.6	3.4	11.1	39.4	AUG 22+	-8.3	NOV 19	2849	739	95	DEC 21-22	292	107	DEC 29-30	88	69	49	76	2.5	30	1.5*	23	DEC 22+		5.6	127	75	164	114	3	8	50	39	4	124	0
PENDLETON	17.1	5.1	11.1	38.9	JUL 12	-24.4	DEC 17+	2878	258	17	DEC 23-24	150	56	DEC 15-16	70	54	46	61	5.5	26	2.4*	25	DEC 14+		6.1	110	73	183	101	2	11	21	23	5	80	3
PORTLAND	15.2	4.9	10.1	34.4	AUG 24	-14.4	DEC 16	3042	962	53	DEC 21-22	279	203	DEC 19	86	76	62	79	4.3	12	2.5	S	JAN 17	45	7.3	66	74	226	178	2	2	41	2	4	64	0
PORTLAND U	16.4	7.6	12.0	33.9	AUG 24	-12.2	DEC 17+	2405	1249	55	DEC 21-22-	340	211	DEC 19															164	3	0	0	5	2	13	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
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State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1.6 kilometers)					Sunrise to sunset							Max temp		Min. temp	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00am EST	7:00am EST	1:00pm EST	7:00pm EST	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32.2°C and above	0°C and below	0°C and below	-17.8°C and below
	°C	°C	°C.	°C		°C		Base 18.3°C	Mm	Mm.		Mm	Mm		%	%	%	%	M.p.s		M.p.s			%	Tenths											
OREGON																																				
ROSEBURG	17.9	5.2	11.6	36.1	AUG 24+	- 8.3	DEC 17	2557	1095	81	JAN 18-19	160	102	DEC 30		72	55		2.3	NW	1.6	5	MAR 11	50	6.8	70	99	197	138	1	1	52	17	1	58	0
SALEM	16.4	4.6	10.6	36.1	JUL 11	- 12.8	DEC 17	2883	1079	69	DEC 21-22	145	51	DEC 18-19	92	76	62	84	4.0	18	1.8*	19	MAR 11+		7.0	68	79	219	164	3	2	27	10	3	65	0
SEXTON SUMMIT R	12.8	3.0	7.9	32.2	AUG 22+	- 7.2	DEC 31+	3871	1201	113	DEC 21-22	4387	348	JAN 17-18		72	62		5.8						5.5	141	68	157	126	41	0	144	2	32	134	0
PACIFIC AREA																																				
CANTON ISLAND	30.7	25.2	27.9	33.3	JAN 4	22.8	AUG 29+	0	519	94	JAN 12-13	0	0		78	77	64	75			1.5*	22	JAN 17		5.5	108	156	102	83	0	3	0	41	0	0	0
ENIWETOK	30.3	25.1	27.7	32.8	MAY 31	21.7	DEC 18+	0	1617	78	APR 22-23	0	0		79	80	73	75	6.9										234		11	0	5	0	0	0
TAGUAC GUAM R	29.4	22.5	25.9	32.2	OCT 11+	17.8	MAR 9+	0	2786	191	MAY 16-17	0	0											56					277		43	0	2	0	0	0
JOHNSTON	27.7	23.8	25.8	30.0	AUG 13	16.7	DEC 12	0	994	234	DEC 12-13	0	0		79	79	72	77	7.6	9	2.5		MAR 11	55	6.4	48	179	139	148	0	8	0	0	0	0	0
KOROR R	30.6	24.2	27.4	32.8	NOV 2+	22.2	NOV 22+	0	3316	130	MAY 10-11	0	0		94	82	80	91	3.6	6	3.0		NOV 17	60	9.9	0	2	364	266	0	40	0	44	0	0	0
KWAJALEIN	29.9	24.4	27.2	31.7	JUN 11+	21.7	JUN 22+	0	3540	116	MAY 5-6	0	0		86	87	78	82	6.8	6	2.1*	15	OCT 8		8.2	22	89	255	232	0	7	0	0	0	0	0
MAJURO	29.6	24.8	27.2	31.1	OCT 21+	21.7	JUN 12	0	4133	141	FEB 20-21	0	0		82	82	75	78	5.6	7	2.0		JUN 12	52	8.5	14	80	272	267	0	25	0	0	0	0	0
MARCUS	27.8	22.6	25.2	32.2	SEP 23+	14.4	FEB 8	0	1113	93	MAY 21-22	0	0		79	70	71	77	6.2	9	2.8		MAY 22	70	6.1	83	141	142	158	0	5	1	8	0	0	0
PONAPE R	30.4	23.2	26.8	32.8	OCT 30+	20.6	NOV 23+	0	4252	163	FEB 22	0	0		91	78	79	90	3.4	6	1.4		DEC 2	48	8.9	5	57	304	294	0	21	0	12	0	0	0
TRUK MOEN ISLAND	30.1	24.2	27.2	32.2	NOV 20+	22.2	DEC 26+	0	3562	115	DEC 9-10	0	0		86	76	75	84	4.8	4	1.8		MAY 14	55	9.1	2	51	313	256	0	23	0	6	0	0	0
WAKE ISLAND	29.2	23.8	26.6	32.2	JUN 23	18.9	DEC 28+	0	919	66	JUN 3	0	0		76	77	66	71	5.6	6	1.8*	35	NOV 30		6.0	90	148	128	168	0	14	0	1	0	0	0
YAP R	30.3	24.2	27.2	32.8	SEP 22	21.7	AUG 19+	0	2870	136	MAY 22-23	0	0		91	80	78	88	4.3	4	2.4		DEC 11	49	9.5	2	29	335	261	0	26	0	15	0	0	0
PENNSYLVANIA																																				
ALLENTOWN	16.5	4.6	10.6	36.1	JUN 30	- 16.7	JAN 15	3221	882	39	NOV 25	1166	330	JAN 12-13	78	80	54	63	5.3	29	4.2*	27	JUN 15		5.6	126	104	136	105	12	29	30	17	20	130	0
ERIE	14.3	5.2	9.8	33.9	SEP 10+	- 17.2	FEB 11	3420	926	71	AUG 2-3	2205	351	NOV 21-22	76	76	64	69	7.4	18	2.4*	22	MAR 5		6.5	84	111	171	150	[illegible]	41	16	9	48	120	0
HARRISBURG	17.3	5.5	11.4	36.1	SEP 11+	- 19.4	JAN 15	3031	875	44	AUG 31	1532	498	FEB 18-19	73	76	53	60	4.4	27	2.2	W	MAR 26	61	6.0	106	95	165	106	10	26	23	32	16	112	2
PHILADELPHIA	17.8	6.7	12.3	37.8	JUN 30	- 16.7	JAN 15	2748	759	58	JUL 8	699	183	JAN 12-13	75	77	53	61	4.8	23	[illegible]	SW	MAR 5	60	5.8	120	103	143	106	1	15	18	28	11	105	0
PITTSBURGH	16.3	4.9	10.6	34.4	SEP 10	- 21.1	JAN 14	3112	962	55	APR 28-29	1222	345	JAN 12-13	73	77	55	60	4.8	22	2.3*	26	JAN 25	60	6.8	61	116	189	143	12	49	10	5	33	117	1
READING U	17.4	6.9	12.2	36.7	JUN 30	- 12.2	JAN 14	2764	872	50	JUL 8-9	1080	318	JAN 12-13					5.4	NW	[illegible]		MAR 10	58	[illegible]	131	98	137	117	[illegible]	27	9	27	11	94	0
SCRANTON	15.2	4.3	9.8	36.1	JUN 30	- 22.8	JAN 15	3456	770	56	MAR 9-10	1641	511	JAN 12-13	73	77	64	61	4.1	23	2.2		JAN 5	54	6.3	94	104	168	119	[illegible]	20	25	17	44	132	2
WILLIAMSPORT	16.2	4.3	10.3	36.7	JUN 30	- 23.9	JAN 15	3314	887	64	MAR 9-10	1562	587	JAN 12-13	79	81	55	63	4.1	27	1.8*	23	MAR 6		6.4	81	115	170	129	11	28	37	21	26	135	4
RHODE ISLAND																																				
BLOCK ISLAND	13.1	6.3	9.7	29.4	JUL 1	- 11.1	JAN 14	3245	888	61	DEC 27-28	533	140	JAN 13-14		72	59								5.9	104	113	[illegible]	127	6	1	88	0	17	[illegible]	0
PROVIDENCE	15.4	4.6	10.0	36.1	JUL 1	- 17.8	JAN 1	3267	976	68	APR 14-15	932	269	JAN 13-14	75	74	55	56	5.6	[illegible]	2.1*	31	NOV 17	57	5.7	126	83	151	115	[illegible]	17	22	8	21	121	1
SOUTH CAROLINA																																				
CHARLESTON	24.2	12.6	18.4	36.1	AUG 3+	- 7.8	JAN 15	1101	1854	147	AUG 28-29	T	T	JAN 13	85	85	57	73	4.6	[illegible]	[illegible]	W	JAN 20	56	6.2	92	110	164	128	0	51	[illegible]	46	[illegible]	40	0
COLUMBIA	23.6	11.0	17.3	37.2	JUN 21+	- 10.0	JAN 15	1446	1791	139	OCT 15-16	0	0		82	86	5.	64	3.6	23	2.4*	28	JAN 10	60	5.6	119	[illegible]	15.	1.	[illegible]	35	2.	67	[illegible]	48	0
FLORENCE	23.2	11.2	17.2	38.3	JUN 30	- 7.8	JAN 15	1419	1478	135	SEP 30-1	T	T	NOV 30+	82	85	53	68	4.	[illegible]	1.7*	[illegible]	JAN [illegible]		5.7	120	89	157	1.6	[illegible]	40	37	51	[illegible]	42	0
GNVLE SPARTANBG	21.7	10.3	16.0	36.7	JUN 21	- 10.0	JAN 15	1734	1.66	139	OCT 15-16	43	30	FEB 25	76	81	54	61	3.9	4	[illegible]		DEC 25	51	5.5	131	87	148	11.	1	37	43	34	1	63	0
SOUTH DAKOTA																																				
HURON	15.6	- .2	7.7	42.2	JUL 23	- 32.2	DEC 26+	4366	476	32	APR 20-21	897	152	MAR 19-20	72	78	51	51	5.4	1.	[illegible]	NW	SEP 23	66	5.6	12.	10.	14.	8.	8	40	8	51	63	174	39
RAPID CITY	15.5	1.3	8.4	40.0	JUL 21	- 30.6	DEC 17	3985	385	5.	JUN [illegible]	831	104	FEB 19-20	68	47	47	63	5.	[illegible]	3.1	NW	SEP 26	66	5.4	122	121	123	48	8	36	1	40	37	159	15

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1.6 kilometers)					Sunrise to sunset							Max. temp.		Min temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 am E S T	7:00 am E S T	1:00 pm E S T	7:00 pm E S T	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0-0.3	Partly cloudy, 0.4-0.7	Cloudy, 0.8-1.0	Precipitation 25mm or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32.2 °C and above	0 °C and below	0 °C and below	-17.8 °C and below
	°C	°C.	°C.	°C		°C		Base 18.3 °C.	Mm.	Mm.		Mm.	Mm.		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
SOUTH DAKOTA																																				
SIOUX FALLS	14.8	1.3	8.1	38.3	JUL 31	- 28.9	DEC 26+	4204	573	43	JUL 10-11	602	124	DEC 24-25	76	83	59	58	5.9	18	2.3*	26	MAY 6		5.5	130	93	143	79	6	45	24	37	61	169	24
TENNESSEE																																				
BRISTOL	19.7	7.0	13.4	35.0	JUN 28	- 20.0	JAN 16+	2402	1017	93	OCT 16	536	226	JAN 12-13	79	84	56	61	2.6	27	2.1*	36	AUG 3		5.9	106	101	159	126	5	36	43	30	5	99	2
CHATTANOOGA	21.7	9.4	15.6	36.1	JUN 28+	- 12.2	JAN 2	1874	1632	104	MAR 14-15	89	3	FEB 28	86	90	59	65	3.1	18	2.8	SW	MAR 4	61	5.9	120	84	162	119	1	52	47	48	0	58	0
KNOXVILLE	20.1	8.6	14.3	35.6	JUN 28	- 13.9	JAN 15	2117	1167	75	AUG 15-16	348	152	JAN 1	79	84	57	61	3.7	24	2.9	SW	MAR 10	60	5.8	121	82	163	130	4	37	32	22	1	74	0
MEMPHIS	22.1	10.7	16.4	38.3	AUG 4	- 10.6	DEC 18	1748	1465	105	DEC 2-3	13	13	JAN 12	79	85	59	61	4.2	18	2.9	NW	JUL 11	69	5.2	139	99	128	105	0	53	17	60	3	68	0
NASHVILLE	21.4	9.0	15.2	38.3	AUG 4	- 13.3	DEC 18	2038	1143	57	AUG 15-16	234	107	FEB 28	80	86	58	62	4.3	18	2.4	NW	JUN 15	60	5.6	125	98	143	112	2	56	20	67	5	82	0
OAK RIDGE AREA STA	20.4	8.2	14.3	36.7	JUN 23	- 12.2	JAN 15	2122	1153	65	AUG 15-16								2.3	SW#									114				25	1	85	0
OAK RIDGE	20.3	7.9	14.2	36.1	JUN 22	- 13.3	JAN 15	2179	1268	64	MAR 14-15	86	64	FEB 28					2.5		2.7Y		AUG 12		5.6	136	72	158	126	1	40	33	28	1	81	0
TEXAS																																				
ABILENE	25.4	12.4	18.9	40.6	AUG 11+	- 11.1	JAN 14+	1285	644	80	AUG 15-16	160	109	FEB 20-21	58	66	43	37	5.8	18	2.4	NW	AUG 20	77	4.2	186	86	94	63	2	39	7	107	1	51	0
AMARILLO	21.9	6.8	14.4	40.0	AUG 6	- 17.8	JAN 13	2348	456	100	AUG 14-15	452	279	FEB 3-4	58	68	40	37	7.4	21	2.4	SW	JUN 11+	75	4.0	196	89	81	61	2	36	20	85	7	121	1
AUSTIN	26.1	14.4	20.3	39.4	JUL 25	- 8.3	JAN 14	939	837	165	JUN 15-16	117	102	FEB 21	75	84	55	52	4.9	18	2.0	NW	MAR 9	63	5.3	126	116	124	74	1	42	19	103	0	26	0
BROWNSVILLE	28.0	18.1	23.1	36.7	APR 26	.0	DEC 18+	392	399	62	DEC 8-9	T	T	DEC 18	85	90	59	68	6.7	14	2.1	NW	MAR 9	61	5.9	97	126	143	51	0	19	32	125	0	2	0
CORPUS CHRISTI	27.5	16.1	21.8	38.3	JUL 12	- 2.8	JAN 13	588	551	82	SEP 25	T	T	FEB 21	86	91	62	68	6.5	15	2.3	NW	MAR 9	55	6.0	102	117	147	75	0	29	29	117	0	10	0
DALLAS	24.8	13.4	19.1	41.7	AUG 5	- 11.7	JAN 14	1264	952	120	SEP 20-21	196	188	JAN 15-16	68	78	54	49	6.1	18	2.3		JAN 30	66	4.8	160	90	116	70	2	36	10	93	3	42	0
DEL RIO	27.6	14.4	21.1	41.7	AUG 6	- 7.2	JAN 14	881	639	114	SEP 21-22	T	T	DEC 18 +	60	74	50	41	5.5						5.0	130	118	118	50	0	45	8	131	0	26	0
EL PASO	24.6	9.7	17.1	40.6	JUL 3	- 12.2	JAN 10	1694	136	45	SEP 11-12	T	T	DEC 18 +	48	32	23	37	4.5	27	2.9	W	MAR 24	88	3.1	225	91	50	26	0	35	4	113	0	77	0
FORT WORTH	24.8	12.1	18.4	42.2	AUG 11	- 15.6	JAN 14	1393	871	121	SEP 20-21	323	307	JAN 15-16	72	82	54	51	5.3	18	2.1*	29	MAY 1+		4.7	160	93	113	75	2	42	16	92	2	60	0
GALVESTON U	23.1	18.0	20.6	35.0	AUG 5	- 3.9	JAN 13	746	988	138	DEC 9-10	T	T	FEB 21					5.5		2.4	E	AUG 5	64					85				8	0	3	0
HOUSTON U	25.7	17.2	21.4	39.4	AUG 5	- 4.4	JAN 13	680	839	77	DEC 9-10																		101				88	0	5	0
HOUSTON	25.6	15.1	20.4	38.3	JUL 25	- 6.1	JAN 14	831	994	112	DEC 9-10	T	T	FEB 21	84	88	61	66	5.3	16	2.1*	36	JUL 25	66	6.2	95	112	159	102	0	46	40	90	0	14	0
LAREDO	29.4	16.9	23.2	41.1	AUG 19+	- 3.3	JAN 13	517	340	78	AUG 23	T	T	NOV 22	67	79	47	41	5.7	14	1.9*	33	MAR 9		5.1	140	107	119	55	0	30	13	160	0	7	0
LUBBOCK	23.4	7.9	15.7	38.9	JUN 9	- 17.2	JAN 13	1958	361	53	JUN 21	91	58	FEB 20-21	59	72	44	38	7.2	18	3.0*	25	JUN 21		3.9	192	96	78	46	2	35	11	93	3	98	0
MIDLAND	26.7	10.9	18.8	41.7	AUG 6	- 13.9	JAN 13	1372	194	53	MAY 28	10	5	FEB 24 +	54	68	36	30	5.9	18	2.0*	24	JUN 4		4.0	184	101	81	38	0	23	10	134	1	70	0
PORT ARTHUR	25.4	14.6	20.0	36.7	AUG 5	- 7.2	JAN 14	898	1188	124	JUL 30-1	T	T	MAR 26 +	90	92	65	74	5.0	18	3.8	E	AUG 5	57	6.0	91	136	139	97	0	56	49	89	0	18	0
SAN ANGELO	26.6	12.2	19.4	41.7	AUG 6	- 10.0	JAN 13	1229	309	40	APR 20-21	20	20	FEB 20-21	60	72	42	37	4.9	16	2.1*	30	APR 20		4.1	186	94	86	49	0	29	6	127	2	59	0
SAN ANTONIO	26.8	14.1	20.5	40.0	AUG 5	- 9.4	JAN 14	910	810	101	AUG 22-23	56	51	FEB 21	74	82	54	48	4.9	16	2.3		AUG 6	71	5.1	134	120	112	74	1	34	25	121	0	23	0
VICTORIA	26.7	15.9	21.3	40.0	JUL 12	- 6.1	JAN 14	712	846	156	AUG 7-8	T	T	DEC 18 +		88	59	63	5.3		2.9Y		APR 3		6.1	96	114	156	88	0	44	36	107	0	12	0
WACO	25.8	13.4	19.6	41.1	AUG 5+	- 13.9	JAN 14	1166	745	101	JUN 15-16	168	142	JAN 15-16	71	80	55	52	6.0	18	2.1*	30	APR 5		4.7	157	92	117	70	3	40	10	103	1	44	0
WICHITA FALLS	24.9	10.7	17.8	45.0	AUG 6	- 13.9	JAN 13	1611	809	86	MAY 28-29	107	43	FEB 5	70	79	48	47	6.1	18	2.5*	23	MAY 1		4.1	186	90	90	64	3	46	15	106	3	71	0
UTAH																																				
MILFORD	17.7	- .5	8.6	38.9	JUL 29	- 23.3	NOV 17	3855	220	21	NOV 13	1575	211	NOV 13		40	32								4.5	170	90	106	72	21	21	9	57	28	183	14
SALT LAKE CITY	16.1	1.9	9.1	38.3	JUL 18	- 23.3	JAN 13	3782	454	36	DEC 23-24	2027	300	MAR 21-22	66	47	43	62	4.7	16	2.9	NW	APR 11	69	5.6	131	79	157	97	26	38	15	54	36	158	5
WENDOVER	16.0	4.8	10.4	38.3	JUL 21	- 16.1	DEC 18+	3415	182	34	JUN 6-7	239	79	MAR 23-24	51	41	33								4.4	179	84	103	59	5	25	2	42	21	140	0

See reference notes at end of table

METRIC UNITS

State and Station	Temperature							Heating degree days	Precipitation						Relative humidity				Wind					Possible sunshine	Average sky cover sunrise to sunset	Number of days										
	Averages			Extremes								Snow, Sleet									Fastest mile (1.6 kilometers)					Sunrise to sunset							Max. temp.		Min. temp.	
	Daily maximum	Daily minimum	Annual	Highest	Date	Lowest	Date		Total	Greatest in 24 hours	Date (s)	Total	Greatest in 24 hours	Date (s)	1:00 a.m. EST	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Average speed	Prevailing direction	Speed	Direction	Date			Clear, 0–0.3	Partly cloudy, 0.4–0.7	Cloudy, 0.8–1.0	Precipitation 25mm. or more	Snow, Sleet 25.4mm or more	Thunderstorms	Heavy fog	32.2 °C and above	0 °C and below	0 °C. and below	–17.8 °C. and below
	°C.	°C.	°C.	°C.		°C.		Base 18.3 °C.	Mm.	Mm.		Mm.	Mm.		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
VERMONT																																				
BURLINGTON	12.7	.7	6.7	35.6	JUL 28	- 22.8	FEB 10	4382	755	53	AUG 22-23	1562	320	MAR 10-11	78	76	57	66	4.7	18	2.4	NW	NOV 18	60	7.0	58	117	191	142	17	32	16	7	66	175	15
VIRGINIA																																				
LYNCHBURG	19.2	7.3	13.3	37.2	JUN 20	- 13.9	JAN 15+	2373	857	61	JUL 12	470	152	FEB 28		78	53	63	3.3		1.9		OCT 16	61	5.5	131	80	155	107	7	27	41	20	4	90	0
NORFOLK	20.1	10.1	15.1	38.3	JUN 10	- 6.7	JAN 15+	1909	1466	290	AUG 31-1	203	91	FEB 11-12	80	79	59	69	5.9	18	3.2		SEP 13		5.9	114	92	160	115	4	35	22	26	2	54	0
RICHMOND	20.2	7.3	13.8	36.7	JUN 10	- 17.8	JAN 15	2232	1144	58	AUG 30-31	622	185	FEB 28	82	84	54	69	4.1	18	2.8	W	AUG 12	62	5.7	118	93	155	121	7	24	35	25	3	90	1
ROANOKE	19.8	7.6	13.7	36.7	JUN 21	- 13.3	DEC 19	2319	962	66	AUG 30-31	1034	279	JAN 12-13	73	76	50	57	3.9	32	2.7*	30	JAN 21		5.5	128	96	142	116	9	30	31	37	4	90	0
WASHINGTON																																				
OLYMPIA	14.3	3.3	8.8	30.6	AUG 24	- 16.1	DEC 17	3449	1319	75	JAN 24-25	538	97	DEC 18-19	94	82	68	89	4.1	20	2.3*	22	JAN 19+		7.8	42	76	248	173	7	3	89	0	3	102	0
SEATTLE-TACOMA	14.0	6.0	10.0	32.2	MAY 31	- 12.2	DEC 16	3038	1050	57	NOV 23-24	290	84	DEC 19	83	76	65	78	4.8	20	2.0*	23	JAN 19		7.6	53	71	242	172	3	11	55	1	3	42	0
SEATTLE	14.7	8.1	11.4	30.0	AUG 11+	- 11.7	DEC 16	2551	941	49	JAN 31-1	244	97	DEC 19										47					165	4	0	0	0	2	6	0
SPOKANE	12.8	1.9	7.3	37.2	JUL 12	- 28.9	DEC 17	4088	546	53	JUN 7-8	2553	178	DEC 18-19+	78	64	53	69	5.1	21	2.2	SW	FEB 16	54	6.7	82	83	201	133	32	14	47	8	40	160	5
STAMPEDE PASS R	5.9	- .1	2.9	27.8	JUL 11	- 26.7	DEC 17	5605	2834	86	SEP 30-1	14562	495	JAN 5-6	92	84	80								7.8	63	37	266	228	106	0	263	0	121	201	3
TATOOSH ISLAND R	11.2	6.6	8.9	21.1	OCT 4+	- 10.0	DEC 16	3410	1817	56	SEP 29-30	579	178	DEC 18	88	83	81	87	7.7	27	3.7	SW	JAN 19	43	7.7	50	72	244	216	11	6	59	0	2	12	0
WALLA WALLA U	16.9	6.5	11.7	39.4	JUL 12	- 21.1	DEC 17	2702	388			312	86	DEC 20															101	4	12	15	22	6	51	2
YAKIMA	16.3	1.3	8.8	38.3	JUL 12	- 27.2	DEC 17	3551	192	36	DEC 21-22	1102	356	DEC 20-21	74	54	42	64	3.9	27	2.3*	28	FEB 17		6.0	97	114	155	51	12	8	29	15	14	167	4
WEST INDIES																																				
SAN JUAN P.R. U	29.0	23.1	26.1	34.4	JUN 10+	18.9	DEC 22	0	1318	93	JUN 3																		196	0	31	0	19	0	0	0
SAN JUAN P.R.	30.2	22.7	26.4	34.4	JUN 10+	17.2	DEC 22+	0	1208	56	AUG 30-31				84	81	66	77	4.5	7	1.6	E	MAY 23	67	5.8	57	213	96	209	0	32	0	36	0	0	0
WEST VIRGINIA																																				
BECKLEY	16.7	4.8	10.8	32.2	JUN 23	- 17.2	DEC 19	2987	1055	136	SEP 28-29	1369	150	FEB 10-11	79	82	56	65	4.8	24	1.6	25	MAR 10		6.6	87	86	193	142	17	44	26	1	21	118	0
CHARLESTON	19.8	6.8	13.3	35.6	SEP 9	- 16.1	JAN 15	2423	838	35	NOV 25-26	953	198	JAN 12-13	77	82	52	57	3.2	22	1.9*	25	MAR 10		6.2	89	121	156	137	11	32	96	41	12	104	0
ELKINS	17.0	2.6	9.8	32.2	SEP 10+	- 24.4	JAN 15	3260	1056	46	SEP 28-29	1554	163	JAN 12-13	88	90	57	69	3.4	30	1.9*	25	JAN 25		6.8	64	106	196	165	22	45	88	2	22	159	4
HUNTINGTON	19.3	6.5	12.9	37.8	AUG 3	- 17.8	JAN 14	2533	940	74	AUG 22	704	160	FEB 10-11	79	86	57	60	3.1	18	1.8*	26	MAR 17+		6.1	97	116	153	126	7	40	40	36	13	107	1
PARKERSBURG U	18.6	6.5	12.6	35.0	SEP 10+	- 14.4	JAN 15+	2618	978	47	JUN 14-15	597	254	JAN 12-13					3.4		1.9	W	MAR 17	55					132	8	42	8	29	16	105	0
WISCONSIN																																				
GREEN BAY	12.7	1.8	7.3	35.6	JUN 29	- 24.4	FEB 24	4291	714	76	SEP 3	704	257	MAR 25-26	81	85	64	68	5.3	22	3.0	SW	APR 13	54	6.1	93	124	149	124	8	49	29	14	77	158	12
LA CROSSE	14.3	3.4	8.8	38.3	AUG 2	- 28.3	DEC 27	3918	644	65	JUN 22-23	909	160	MAR 25-26	78	80	58	62	5.6	18	2.7*	25	APR 13						94	8	35	17	28	59	147	14
MADISON	14.7	1.9	8.3	36.1	JUL 24+	- 22.8	DEC 17	4023	600	43	AUG 20-21	775	132	MAR 8-9	76	79	56	61	4.8	18	2.9	NW	JUL 27	58	6.2	93	107	166	109	9	55	22	25	54	168	14
MILWAUKEE	13.7	3.3	8.5	35.0	AUG 2+	- 18.9	DEC 17+	3904	716	103	JUL 17-18	986	234	MAR 4-5	77	80	62	68	5.7	21	2.6	SW	APR 14+	63	5.7	112	122	132	114	10	47	32	20	59	153	5
WYOMING																																				
CASPER	13.4	- .7	6.4	35.0	JUL 30+	- 35.0	DEC 17+	4584	276	40	APR 2	2060	335	APR 2-3	65	45	41	60	6.9	23	2.5*	24	MAY 3		5.5	118	119	129	91	27	26	12	26	72	190	18
CHEYENNE	14.3	- .1	7.1	32.8	JUL 21+	- 31.1	DEC 17	4240	151	17	JUL 25-26	569	89	APR 2-3	59	38	39	56	7.7	29	3.1	NW	APR 27	64	5.2	127	117	122	79	7	36	9	8	43	176	7
LANDER	14.1	- .8	6.7	36.7	JUL 21	- 30.0	DEC 17	4493	325	70	MAY 29-30	2281	236	FEB 24-25	61	46	42	54	4.0	27	3.8	SW	DEC 22	73	5.3	129	123	114	66	25	22	6	26	49	183	15
SHERIDAN	14.2	- .7	6.8	38.3	JUL 21	- 33.9	DEC 17	4424	397	55	JUN 8-9	1753	264	NOV 13-14	74	52	50	65	5.1	30	3.2	NW	FEB 5	65	6.0	103	106	157	104	21	22	4	24	53	189	17

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
- * Value entered in column "Fastest Mile" is the highest observed 1-minute wind speed. This station is not equipped with a recording anemometer from which Fastest Mile data can be evaluated.
- + And also on an earlier date or dates.
- A Maximum hourly average.
- B Number of days maximum 21.1°C. or above for Alaskan Stations.

Data in this table are obtained by conversion from data in the English Units table.

- Y Peak gust.
- # Wind direction to 8 compass points only
- F Computed as of 8:00 a.m. local time.
- K Computed as of noon local time
- V Sun below horizon November 19 - January 23.
- X Sun below horizon November 24 - January 17.
- † From the Loyola Avenue site.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1931-1960)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m p h)			Sunshine (percent of possible)		Annual mean number of days									
		NORMAL (1931-1960)					Extremes					NORMAL (1931-1960)			Extremes			Snow, sleet														Sunrise to sunset							Temperature		
		January		July														Mean total		Extreme	January			July			Mean hourly												Max	Min	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length, yrs	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:00 a m EST	1 00 p m EST	7 00 p m EST	7 00 a m EST	1 00 p m EST	7 00 p m EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 and above	32 and below	Zero and below
ALABAMA							81	112	-8							0.00	20.33																								
Birmingham	620	56.6	36.3	92.5	70.7	64.1	19	106	1	592	2551	6.00	2.95	53.05	17.67	T	6.57	0.5	1.5	8.4	84	62	69	86	56	65	9.0	6.2	65	40	60	100	117	148	117	1	56	8	68	52	0
Huntsville	600	52.4	34.8	92.4	69.8	62.0	6	101	-4	694	3070	5.57	2.72	48.67	12.55	T	5.84	1.6	7.8	17.1	80	62	68	87	55	59	8.2	5.5	---	---	---	110	101	154	114	2	53	12	71	71	1
Mobile	211	62.3	43.7	92.0	73.1	68.2	3	100	8	415	1560	9.67	3.03	68.13	19.29	.05	13.36	.2	.5	3.5	78	64	68	91	65	74	11.4	7.4	---	---	---	104	119	142	124	*	84	34	83	28	0
Montgomery	194	58.5	37.7	91.9	71.7	65.0	4	100	5	543	2291	6.16	2.28	50.69	21.32	.02	8.81	.2	.3	2.5	78	60	65	89	59	66	7.9	6.0	60	48	64	108	107	150	109	*	63	21	90	43	0
ALASKA							81	100	-76							.00	37.67																								
Anchorage	85	20.5	4.3	64.6	49.5	35.2	11	81	-30	1631	10864	2.57	.42	14.71	5.43	.01	2.06	10.3	79.9	17.7	77	78	75	86	75	65	5.5	6.8	---	36	44	65	67	233	111	22	1	29	# 13	203	41
Annette	110	38.4	30.3	63.2	51.4	45.6	4	90	1	949	7069	16.88	5.67	118.36	34.87	.71	7.59	11.6	48.7	14.2	82	83	78	86	77	68	12.9	8.3	---	---	---	39	57	269	224	15	2	17	# 26	71	0
Barrow	22	-9.4	-23.0	44.9	33.3	9.6	44	78	-56	2517	20174	.90	.11	4.26	2.81	.00	1.00	2.3	28.4	15.0	63	64	63	94	91	88	11.2	11.7	---	---	---	x61	x51	x187	72	7	*	66	*	323	169
Barter Island	39	-9.9	-23.6	47.5	35.0	10.4	15	72	-59	2536	19862	1.05	.17	6.28	4.91	T	2.25	7.2	47.1	17.0	68	68	67	93	89	86	14.1	12.9	---	---	---	v47	v71	v192	99	13	*	72	*	309	167
Bethel	125	10.8	-3.7	61.8	47.5	28.7	6	86	-39	1903	13196	4.20	.58	18.42	5.81	.02	1.31	4.7	51.4	6.5	73	74	74	94	85	65	14.7	12.2	---	---	---	65	60	240	143	18	1	68	# 13	223	84
Cold Bay	94	32.6	22.9	54.3	45.0	37.9	20	78	-9	1153	9880	4.59	1.46	34.30	9.97	.02	2.75	6.7	44.2	9.7	85	86	83	93	91	83	18.1	15.7	---	---	---	12	49	304	204	13	0	27	*	162	1
Fairbanks	436	-.8	-21.4	71.7	47.6	25.8	12	93	-62	2359	14279	2.20	.25	11.29	4.35	T	1.63	11.5	59.5	12.6	67	67	67	87	71	53	2.9	6.0	---	---	---	69	81	215	100	20	5	19	# 49	231	122
Cordova (1963)	41	31.6	14.5	60.3	46.1	38.2	20	84	-33	1299	9764	12.51	3.48	80.98	27.72	.08	7.92	25.0	124.7	22.9	83	82	81	92	86	80	4.6	4.1	---	---	---	51	52	262	215	35	2	12	# 8	189	18
Juneau	12	30.1	20.0	62.7	47.8	40.1	21	84	-21	1237	9075	8.33	2.87	54.62	13.29	.27	4.66	18.1	96.7	31.0	80	80	78	88	79	68	8.4	7.7	---	28	29	43	36	286	223	27	*	20	# 20	145	8
King Salmon	43	20.8	5.9	63.0	46.8	33.8	21	88	-40	1600	11343	3.43	.64	19.18	7.30	.00	2.00	6.3	44.1	9.5	77	78	76	92	85	65	11.2	9.9	---	---	---	57	65	243	150	15	1	33	# 13	204	53
Kotzebue	10	1.3	-12.7	58.6	46.8	20.7	22	85	-52	2192	16105	2.16	.28	8.18	5.18	T	1.78	5.5	44.3	8.6	72	72	71	88	86	78	14.5	12.7	---	---	---	88	71	206	112	14	*	21	# 4	252	120
McGrath	334	.8	-18.7	68.6	48.7	25.8	22	88	-67	2294	14283	3.79	.47	18.58	6.26	T	2.39	15.5	87.4	15.2	69	68	70	87	75	56	2.7	5.9	---	---	---	68	63	234	138	27	6	13	# 29	232	114
Nome	13	11.5	-2.7	54.6	44.4	26.1	18	81	-42	1879	14171	3.80	.69	17.88	7.82	T	2.38	11.0	58.1	8.4	78	77	77	90	86	82	12.0	10.0	---	38	31	81	66	218	129	19	*	24	# 2	239	89
Northway (1956)	1713	-8.5	-25.7	69.8	48.5	22.4	14	88	-72	2545	15506	2.89	.22	11.35	6.42	T	3.91	7.7	40.1	11.5	68	67	65	87	67	50	3.0	5.9	---	---	---	45	84	236	102	11	12	17	# 37	247	138
St. Paul Island	22	29.7	21.1	49.4	41.6	34.3	47	64	-26	1228	11199	3.15	.96	23.60	9.32	.08	1.93	12.9	55.9	13.8	87	87	86	96	96	91	19.1	12.7	---	---	---	23	64	278	201	19	*	47	# 0	190	5
Shemya	122	33.9	28.6	49.2	43.6	38.4	19	63	16	1045	9687	2.76	1.32	27.27	8.59	.14	5.26	11.8	60.9	15.3	85	84	84	95	97	93	20.2	13.3	n139	---	---	3	61	301	210	21	0	81	# 0	123	0
Yakutat	28	34.4	20.2	60.5	47.7	40.0	17	86	-22	1169	9092	19.59	5.06	131.81	43.88	.52	7.13	36.2	212.5	32.4	82	83	81	96	85	79	8.5	7.2	---	---	---	41	44	280	226	50	2	31	# 5	168	9
ARIZONA							70	127	-37							.00	13.09																								
Flagstaff	6993	40.4	14.1	81.4	49.6	45.6	15	94	-20	1169	7152	2.84	.51	18.31	6.60	T	3.11	17.7	72.0	22.0	77	53	49	69	32	33	8.7	6.3	---	---	---	173	93	99	70	18	47	6	1	211	9
Phoenix	1117	64.0	35.3	104.6	75.0	69.0	4	114	20	474	1765	1.12	.09	7.20	5.56	.00	3.07	T	T	.6	58	40	27	46	28	20	4.6	6.4	75	77	84	211	85	69	34	0	22	2	163	16	0
Prescott	5014	51.0	23.1	90.8	61.1	55.7	22	103	-5	865	4362	2.66	.24	12.23	9.61	.00	3.08	5.9	16.7	12.4	71	49	44	59	30	31	7.1	8.3	72	73	74	184	99	82	60	6	46	4	48	130	*
Tucson	2584	62.6	37.0	98.5	74.1	67.7	24	111	16	471	1800	2.88	.13	11.00	7.93	.00	3.93	.4	1.3	6.4	62	40	34	56	32	28	7.6	7.9	59	80	76	195	90	80	49	1	40	1	145	21	0
Winslow	4895	45.2	16.8	95.7	64.6	55.7	5	105	-13	1054	4782	1.43	.26	7.23	4.80	.00	2.12	2.6	9.3	7.8	77	60	50	52	25	24	7.6	9.2	---	---	---	181	96	88	53	4	36	5	78	137	4
Yuma	194	69.3	41.5	108.2	80.3	74.3	14	120	28	307	974	.50	.01	3.03	2.68	.00	2.42	.0	.0	.0	52	34	25	47	29	20	7.2	9.6	54	86	92	253	66	46	14	0	7	1	185	3	0
ARKANSAS							74	120	-29							.00	12.00																								
Fort Smith	447	50.2	29.4	94.7	71.2	61.8	4	106	-3	781	3292	5.26	2.66	42.22	14.01	T	7.13	1.9	5.0	5.6	80	61	63	92	58	56	8.4	6.6	58	46	69	131	93	141	92	2	58	13	84	72	1
Little Rock	257	50.6	30.5	92.7	71.1	61.7	5	108	-4	756	3219	5.28	2.82	48.66	12.53	T	7.71	2.3	5.0	11.3	81	57	59	85	88	59	8.9	7.1	65	44	68	123	98	144	102	2	57	16	84	68	1
Texarkana	372	54.9	35.2	93.3	71.9	64.3	22	106	-3	626	2533	5.30	2.98	49.19	15.33	T	6.55	1.4	2.2	7.5	84	67	70	90	58	59	7.9	6.4	---	---	---	---	---	---	99	1	63	18	83	40	*
CALIFORNIA							80	134	-45							.00	26.12																								
Bakersfield	494	57.4	37.4	100.3	68.2	65.1	26	115	20	546	2122	1.17	.01	6.36	4.61	.00	1.68	T	T	T	86	72	58	48	30	19	4.9	7.1	---	---	---	200	82	83	37	0	3	21	108	16	0
Bishop	4108	53.7	19.8	98.0	55.2	96.2	17	109	-6	874	4227	1.18	.09	5.84	5.03	.00	3.32	3.6	6.6	9.0	--	45	34	--	18	13	---	---	---	---	---	205	86	74	28	2	13	*	99	145	*
Blue Canyon	5280	43.6	30.5	77.0	59.0	50.7	21	93	5	865	5507	11.70	.06	60.37	45.12	.00	9.33	50.1	241.3	38.5	--	60	--	--	47	--	---	---	---	---	---	175	64	126	88	40	12	68	1	100	0
Burbank	724	64.9	42.3	86.2	61.4	63.6	31	111	21	366	1646	3.22	T	14.53	13.84	.00	7.76	.2	.2	4.7	70	53	46	82	51	75	4.5	5.9	---	---	---	189	101	75	38	*	4	29	46	3	0
Eureka (U)	43	53.6	41.1	60.5	52.0	52.3	54	85	22	546	4643	6.71	.10	38.43	13.97	.00	5.83	.2	.2	3.0	--	--	--	--	--	--	6.9	6.8	56	41	52	82	100	183	118	*	5	49	0	4	0
Fresno	328	55.4	36.7	100.0	62.6	63.0	13	111	21	586	2492	2.19	T	11.14	6.73	.00	1.91	.2	.2	1.5	94	83	68	62	38	20	5.4	7.1	43	53	98	205	68	92	43	*	5	41	99	26	0
Long Beach	34	65.3	40.8	82.0	61.1	62.8	5	111	25	375	1711	2.31	T	9.84	9.05	.00	6.86	T	T	T	65	49	44	87	67	57	5.6	6.7	---	---	---	158	127	80	27	0	3	65	13	1	0
Los Angeles (U)	270	65.0	46.6	83.3	62.6	64.4	24	110	28	310	1349	3.33	T	14.68	12.42	.00	6.11	T	T	.3	63	45	50	84	49	53	6.8	5.4	49	72	82	186	105	74	35	0	6	17	17	*	0
Los Angeles	97	63.8	45.0	75.9	62.3	61.9	6	110	30	347	1799	2.88	.01	12.63	11.07	.00	6.19	T	T	T	62	48	54	86	68	69	6.4	7.0	62	---	---	144	112	109	35	0	3	50	4	*	0
Mount Shasta (R)	3544	41.4	25.1	85.3	50.7	49.9	22	103	-2	983	5722	6.36	.18	36.72	17.60	.00	5.90	32.4	106.1	37.4	--	74	70	--	41	30	---	---	---	---	---	163	85	117	89	19	13	7	20	135	*
Oakland	6	55.4	40.6	72.7	55.9	57.5	34	107	23	527	2870	3.83	T	17.93	11.29	.00	5.45	T	T	1.0	85	74	67	87	69	61	6.2	9.1	---	---	---	145	116	104	63	*	2	18	5	7	0
Point Arguello (1963)	364	59.0	40.3	65.5	51.5	55.2	4	97	24	474	3595	2.35	.02	11.27	8.36	T	2.28	T	T	T	--	--	--	--	--	--	7.3	6.9	---	---	---	116	89	160	68	0	2	140	1	9	0
Red Bluff	342	53.4	37.5	99.6	67.9	63.5	20	114	21	605	2515	4.29	.04	22.05	11.38	.00	4.00	1.1	1.7	9.9	80	71	58	48	29	17	9.0	8.2	68	54	96	177	69	119	70	1	11	17	97	23	0
Sacramento (U)	19	54.4	38.3	90.0	58.0	60.7	31	112	22	577	2587	3.58	T	18.02	12.20	.00	5.07	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	58	--	--	--	66	10	0
Sacramento	17	53.2	37.2	93.4	57.4	60.4	4	115	23	614	2773	3.24	T	16.29	12.64	.00	5.59	T	T	T	92	90	73	77	47	27	8.7	9.7	70	44	98	196	66	103	57	0	5	36	80	23	0
Sandberg (R)	4517	46.0	33.8	85.6	63.2	55.5	32	102	3	778	4209	2.58	.02	12.10	11.12	.00	4.87	9.1	26.2	38.5	--	56	--	--	25	--	17.3	12.9	---	---	---	211	79	75	40	7	4	79	21	56	0
San Diego	13	64.6	45.4	76.8	63.4	63.2	4	111	31	313	1439	2.15	.01	10.40	7.60	.00	3.07	T	T	T	65	48	51	83	69	66	5.5	6.8	51	69	68	153	121	91	42	0	3	30	3	*	0
San Francisco (U)	52	55.8	45.5	64.3	53.3	56.8	28	101	30	443	3001	4.55	.01	20.78	11.47	.00	3.65	T	T	T	--	c82	c68	--	c85	c75	6.7	11.2	47	56	65	---	---	---	67	0	2	--	1	*	0
San Francisco	8	55.4	41.7	71.9	53.5	56.9	35	106	20	508	3012	4.09	.01	18.69	12.30	.00	3.74	T	T	1.5	87	78	69	90	69	66	7.0	13.7	62	---	---	162	105	98	62	*	2	20	3	6	0
Santa Catalina	1568	59.7	47.4	77.9	59.4	60.9	2	101	36	353	2052	3.16	.02	14.36	2.51	.00	1.92	.0	T	T	--	--	--	--	--	--	---	---	---	---	---	193	85	87	42	0	4	142	16	0	0
Santa Maria	236	62.3	38.1	71.6	52.8	57.0	20	104	21	459	2967	2.84	.03	13.37	9.69	.00	3.07	T	T	T	81	60	61	93	66	64	6.7	6.5	---	---	---	177	111	77	46	0	2	87	4	15	0
Stockton	22	52.4	37.0	95.4	60.9	61.3	5	113	19	629	2676	2.66	T	13.37	8.05	.00	3.01	.0	.0	.0	90	88	69	63	39	23	6.2	7.6	---	---	---	194	72	99	47	0	3	41	83	27	0
COLORADO							77	118	-60							.00	8.05																								
Alamosa	7536	35.6	-.8	82.5	47.2	41.9	19	91	-50	1476	8529	1.07	.17	6.56	2.45	T	1.82	4.6	31.7	14.7	75	58	57	83	38	36	---	---	---	---	---	150	139	76	65	12	44	15	1	226	48
Colorado Springs	6173	41.9	15.2	84.2	56.7	48.5	4	99	-21	1128	6423	2.37	.24	13.19	5.90	T	3.09	4.4	38.4	18.0	55	36	45	69	34	39	10.2	9.8	---	---	---	137	119	109	85	11	59	22	23	158	10
Denver	5283	42.1	14.8	88.4	57.4	49.5	5	100	-25	1132	6283	2.70	.47	14.81	7.31	T	3.43	8.7	59.0	19.4	59	44	49	67	30	30	9.8	8.9	56	72	72	114	137	114	86	18	41	10	41	161	13
Grand Junction	4855	34.8	17.1	92.5	63.8	52.5	18	102	-23	1209	5641	1.07	.42	8.29	3.48	.00	1.24	8.3	27.6	9.1	75	63	61	44	26	19	5.6	9.5	66	59	78	140	109	116	70	9	37	8	56	138	4
Pueblo	4684	45.3	14.7	92.1	60.8	52.7	23	105	-31	1085	5462	1.85	.30	11.84	6.17	T	3.77	6.1	32.5	16.8	69	46	49	73	35	34	7.7	8.2	80	75	77	142	120	103	71	10	44	8	56	156	9
CONNECTICUT							77	105	-32							.00	12.12																								
Bridgeport	7	37.4	22.9	82.6	64.8	51.5	3	97	-5	1079	5617	4.45	2.96	44.89	13.29	.07	4.67	6.5	25.3	15.0	74	62	68	82	61	72	11.9	9.3	---	---	---	106	104	155	116	7	22	28	4	108	1
Hartford (Bradley Fld.)	169	34.7	17.3	85.0	61.8	49.8	5	101	-26	1209	6172	4.01	2.94	42.92	21.87	.35	12.12	11.4	52.7	14.3	76	59	65	82	53	65	10.2	7.8	51	55	60	87	110	168	126	14	23	33	15	143	9
New Haven	6	37.1	22.0	80.5	63.2	50.2	21	100	-8	1097	5897	4.62	3.19	46.02	10.95	.12	5.55	9.1	36.5	17.2	76	64	--	81	67	--	8.3	6.3	57	54	67	102	106	157	129	10	27	28	3	113	1

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1931-1960)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m p h)			Sunshine (percent of possible)		Annual mean number of days									
		NORMAL (1931-1960)					Extremes					NORMAL (1931-1960)			Extremes			Snow, sleet			January			July			Mean hourly					Sunrise to sunset							Temperature		
		January		July														Mean total		Ex treme																			Max	Min	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length, yrs	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7 00 a m EST	1 00 p m EST	7 00 p m EST	7 00 a m EST	1 00 p m EST	7 00 p m EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	90 and above	32 and below	Zero and below
DELAWARE							72	110	-17							0.00	7.83																								
Wilmington	78	41.3	25.5	86.2	65.8	54.1	17	102	-4	980	4930	5.59	2.91	44.56	12.09	.16	6.24	5.7	21.9	15.6	76	61	70	80	53	67	9.6	7.5	---	---	---	99	106	160	119	6	30	42	20	103	*
DIST. OF COLUMBIA																																									
Washington (U)(1958)	72	44.0	28.9	87.1	68.4	56.8	87	100	-15	884	4258	4.49	2.64	41.44	17.45	.14	7.31	5.9	19.4	25.0	73	56	64	78	52	67	7.7	5.7	62	46	64	125	116	124	124	6	33	12	28	81	*
Washington Nat'l. AP	14	44.3	29.5	87.0	69.3	57.0	4	100	3	871	4224	4.90	2.47	40.78	14.31	T	6.39	4.7	16.9	14.4	69	54	59	76	51	59	10.3	8.4	78	49	64	106	103	156	113	5	29	15	34	80	0
FLORIDA							75	109	-2							.00	38.70																								
Apalachicola (U)	13	62.3	47.9	87.6	75.4	68.8	35	102	13	347	1308	8.53	2.44	56.23	22.55	.01	11.71	T	T	1.2	87	69	80	85	72	76	8.4	6.6	67	60	64	134	112	119	106	*	72	25	17	4	0
Daytona Beach	31	69.6	48.7	88.2	72.0	70.3	21	102	21	248	879	7.00	1.95	49.90	19.89	.06	9.29	.0	T	T	90	60	80	90	67	81	9.4	7.8	---	---	---	97	134	134	116	0	83	33	59	6	0
Fort Myers	13	74.8	52.2	91.0	73.3	73.7	5	98	26	146	442	9.08	1.20	53.34	16.32	.00	10.85	.0	.0	.0	87	60	75	82	57	71	8.5	7.0	---	---	---	104	158	103	116	0	99	22	134	1	0
Jacksonville(U)(1956)	18	65.9	48.7	89.6	73.7	69.8	86	104	10	303	1113	7.89	1.57	52.40	23.32	T	9.86	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	122	*	--	--	61	5	0
Jacksonville	24	66.8	45.0	92.0	73.2	69.5	23	105	12	332	1239	7.68	1.69	53.36	19.36	.04	10.17	T	.1	1.5	88	56	74	86	57	75	8.5	8.0	82	58	59	99	126	140	116	*	61	34	88	11	0
Key West (U) (1957)	9	75.8	65.8	89.1	78.3	77.6	90	97	41	28	77	6.78	1.54	39.57	23.56	T	19.88	.0	.0	.0	84	69	79	77	68	74	10.3	8.2	91	68	69	140	157	68	112	0	59	*	33	0	0
Key West (Int'l. AP)	4	73.7	65.4	87.4	79.1	76.8	12	95	46	40	108	6.73	1.53	39.99	18.45	.00	8.89	.0	.0	.0	84	69	78	76	66	72	12.3	10.4	122	70	70	105	166	94	112	0	59	1	59	0	0
Lakeland (U)	214	71.2	52.2	90.5	72.6	72.3	24	101	20	195	661	8.30	1.59	51.37	15.67	T	10.12	T	T	T	--	--	--	--	--	--	7.3	5.7	---	60	60	99	155	111	121	0	100	19	86	1	0
Miami (U) (1961)	8	74.4	62.6	86.8	76.4	75.3	49	95	27	57	173	7.88	1.73	47.26	25.34	T	15.10	.0	.0	.0	--	--	--	--	--	--	---	---	122	70	61	155	96	---	---	--	--	--	--	--	---
Miami Beach	9	74.2	63.9	87.0	77.6	76.2	24	98	35	56	141	7.36	1.65	46.26	18.02	.01	8.35	.0	.0	.0	--	--	--	--	--	--	11.7	10.9	122	67	63	147	121	97	123	0	--	--	14	0	0
Miami (Int'l. AP)	7	75.8	57.9	88.8	74.7	75.1	22	98	32	74	214	9.47	1.67	59.76	24.40	.01	9.95	.0	.0	.0	86	56	74	84	64	75	9.2	7.9	---	---	---	82	172	111	126	0	78	8	63	*	0
Orlando	108	70.7	50.0	92.0	73.0	72.0	4	100	20	220	766	8.00	1.57	51.37	19.57	T	9.67	T	T	T	89	57	68	91	53	72	9.0	7.7	---	---	---	98	147	120	116	0	80	28	123	2	0
Pensacola (U) (1961)	13	61.1	46.9	86.9	75.0	68.0	22	103	13	383	1435	7.59	3.84	61.60	18.80	T	9.16	T	.2	2.1	86	64	79	85	64	74	8.1	6.7	91	56	66	---	---	---	112	*	65	--	39	9	0
Pensacola 1/	112	61.9	46.3	88.4	75.2	68.3	23	103	10	381	1451	7.59	3.40	63.39	18.80	T	9.16	T	.2	2.1	86	64	79	85	64	74	8.1	6.7	91	56	66	---	---	---	112	*	65	--	39	9	0
Tallahassee	55	65.1	42.7	90.5	72.0	68.0	4	99	10	375	1485	8.05	2.43	56.86	20.12	T	9.26	.0	T	T	87	61	74	93	61	74	---	---	---	---	---	97	130	138	123	0	90	53	89	32	0
Tampa	19	71.3	51.0	89.7	73.4	72.2	16	98	18	202	683	8.62	1.46	51.57	20.59	T	12.11	T	T	T	88	57	74	87	62	77	9.2	7.8	---	67	60	97	146	122	112	0	91	26	85	2	0
West Palm Beach	15	75.5	58.3	90.8	74.3	75.3	11	98	30	87	253	9.66	2.35	61.70	24.86	.12	15.23	.0	.0	.0	86	58	73	84	62	75	9.9	7.6	---	---	---	73	157	135	132	0	78	8	88	*	0
GEORGIA							73	112	-17							.00	18.00																								
Athens	802	54.6	34.5	90.2	69.2	61.9	21	105	2	642	2929	5.10	2.86	48.53	14.98	T	5.54	.4	1.4	5.0	81	58	66	91	59	70	9.5	6.9	---	---	---	110	109	146	111	1	50	32	56	51	0
Atlanta	1010	54.0	35.5	88.4	69.2	61.6	4	98	-3	636	2961	5.37	2.44	47.14	15.72	T	5.67	.8	1.7	8.3	76	58	61	91	66	72	11.1	7.6	70	47	62	111	109	145	115	*	50	28	19	57	*
Augusta	143	59.4	35.7	91.3	70.0	64.0	13	106	6	549	2397	4.50	2.01	39.18	9.91	T	5.98	.1	.4	1.3	85	55	70	88	54	68	6.8	5.8	---	---	---	110	101	154	103	*	56	24	84	55	0
Columbus	385	59.0	36.6	91.5	70.6	64.4	19	104	3	552	2383	6.01	1.77	48.67	12.53	.00	5.63	T	T	T	85	60	73	87	59	70	8.6	6.0	---	---	---	114	101	150	110	0	59	19	79	45	0
Macon	354	60.2	38.2	92.8	71.0	65.6	15	106	5	505	2136	5.64	2.01	44.08	11.77	.00	4.60	.3	.3	3.7	83	53	63	87	53	65	8.8	7.4	70	56	64	118	102	145	111	*	58	24	96	36	0
Rome	637	52.8	31.3	90.6	67.4	60.4	19	106	-5	710	3326	5.87	2.93	52.56	17.37	T	7.53	.5	1.9	8.2	81	58	73	88	54	67	---	---	---	---	---	105	117	143	122	1	61	26	66	80	*
Savannah	46	62.5	40.9	91.2	71.4	66.4	13	104	9	437	1819	6.62	2.05	48.91	20.10	.02	6.36	T	.1	1.0	86	56	70	88	58	75	9.3	7.6	66	55	66	107	114	144	109	*	65	37	71	31	0
Thomasville (U)(1963)	283	63.4	44.0	92.0	72.0	68.2	41	106	8	394	1529	6.81	2.08	51.01	18.83	T	9.00	T	T	2.0	85	60	70	85	60	78	5.3	4.1	---	54	57	122	119	124	116	*	72	13	77	15	0
HAWAII							60	100	18							.00	51.35																								
Hilo	31	78.7	62.8	82.4	67.4	73.1	18	93	53	----	----	15.18	6.79	136.62	50.82	.36	15.59	.0	.0	.0	84	80	66	88	82	66	7.7	7.3	---	47	42	28	123	214	285	0	7	0	*	0	0
Honolulu (U)	12	----	----	----	----	75.1	42	88	57	----	----	3.86	.62	23.96	18.70	.06	17.41	.0	.0	.0	--	--	--	--	--	--	---	---	---	---	---	---	---	---	147	0	--	--	0	0	0
Honolulu	7	79.1	65.8	84.6	73.0	75.9	16	92	54	----	----	3.76	.33	21.89	20.79	T	17.07	.0	.0	.0	80	80	61	74	69	56	10.3	13.5	67	65	76	96	170	99	98	0	6	0	1	0	0
Kahului	48	80.8	63.4	86.4	70.1	75.2	2	91	53	----	----	3.14	.18	16.33	9.46	.00	5.82	.0	.0	.0	83	83	63	80	73	57	15.3	20.2	---	69	80	109	173	83	87	0	5	0	3	0	0
Lihue	115	78.2	63.5	83.1	72.0	74.5	14	90	51	----	----	5.51	1.46	43.00	18.45	.30	11.20	.0	.0	.0	83	83	67	79	75	64	10.5	12.8	73	52	62	57	166	142	206	0	9	0	*	0	0
IDAHO							72	118	-60							.00	7.17																								
Boise	2838	36.1	22.1	91.4	59.0	51.0	25	111	-17	1113	5809	1.33	.16	11.43	4.00	.00	2.24	8.0	21.5	13.0	82	75	72	53	34	22	8.6	8.6	61	43	89	125	90	150	91	8	16	20	41	128	2
Idaho Falls 46W (R)	4933	27.5	3.2	87.9	50.1	42.4	15	101	-40	1538	8475	1.10	.26	7.57	4.42	.00	1.73	6.6	27.5	8.5	--	--	--	--	--	--	5.6	8.0	51	---	---	---	---	--	68	10	13	14	26	211	34
Idaho Falls 42NW (R)	4790	26.5	.2	89.0	49.2	41.7	14	103	-43	1600	8760	1.24	.33	7.02	5.04	.00	1.78	----	----	----	--	--	--	--	--	--	4.7	8.1	50	---	---	---	---	---	67	--	--	--	31	217	43
Lewiston	1413	37.7	23.7	89.8	57.8	51.6	18	115	-22	1063	5542	1.73	.43	13.24	4.80	T	1.73	7.0	18.5	11.9	79	74	71	61	36	23	---	---	---	---	---	94	77	194	103	6	16	21	36	99	3
Pocatello	4454	31.6	13.0	89.6	55.1	47.0	14	101	-30	1324	7033	1.21	.51	10.85	3.30	.00	1.30	11.8	38.1	10.1	82	75	73	57	30	21	10.5	9.8	72	37	84	114	97	154	89	13	25	15	33	162	9
Salmon (1960)	3949	28.2	4.1	89.6	46.8	44.0	48	---	---	1513	7922	1.28	.42	8.64	3.88	.00	1.50	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	--	--	--	--	---	---
ILLINOIS							75	117	-35							.00	16.17																								
Cairo (U)	314	44.6	30.2	90.3	71.8	59.6	22	104	-5	856	3821	4.79	2.88	45.23	14.95	T	7.56	2.8	8.8	7.3	80	67	--	84	59	--	9.8	6.5	60	46	77	112	104	149	115	3	53	7	54	65	*
Chicago (Midway)	607	33.0	19.0	84.1	67.1	50.8	20	104	-15	1209	6155	4.07	1.60	33.18	14.17	.20	6.24	8.4	37.1	12.5	80	70	75	78	52	55	11.3	7.9	60	43	69	95	103	167	119	11	36	15	26	123	7
Moline	582	31.6	13.6	88.0	63.2	50.1	5	99	-26	1314	6408	4.37	1.35	32.79	11.00	.01	6.29	7.0	27.4	9.6	74	64	67	88	59	61	10.4	7.4	77	47	72	104	99	162	109	9	47	20	27	137	22
Peoria	652	33.7	17.6	87.0	65.0	51.4	5	99	-20	1218	6025	4.27	1.71	34.84	13.09	.03	5.06	5.3	23.1	9.0	77	69	70	88	60	61	11.2	8.2	75	45	69	104	100	161	108	8	47	20	20	136	16
Rockford	724	30.2	13.7	86.3	62.1	48.6	12	103	-20	1333	6830	4.30	1.44	35.62	11.81	.01	5.56	8.5	33.5	10.9	82	73	78	87	56	59	9.4	7.9	---	---	---	95	104	166	112	12	41	24	19	150	14
Springfield	588	36.3	20.5	89.6	66.4	53.6	5	103	-22	1135	5429	4.45	1.82	34.83	9.91	.15	5.12	4.1	20.4	8.8	76	67	70	85	59	60	13.2	8.6	75	43	73	110	94	161	112	7	50	17	30	124	11
INDIANA							78	116	-35							.00	10.50																								
Evansville	381	42.7	25.6	90.3	67.2	57.0	4	102	18	955	4435	4.31	2.57	41.45	13.50	.01	6.05	3.4	11.3	10.6	79	63	69	88	56	58	9.7	6.5	59	41	77	105	101	159	114	4	47	14	54	111	7
Fort Wayne	791	34.4	19.6	85.1	63.2	50.3	4	101	-18	1178	6205	4.17	2.09	35.31	9.72	.14	4.60	6.8	29.9	13.6	79	71	75	83	55	58	11.2	8.1	65	39	71	80	110	175	128	9	43	20	20	135	16
Indianapolis(U)(1955)	781	38.7	23.4	88.3	67.7	54.5	--	---	---	1051	5134	4.18	2.08	39.24	- --	----	----	----	----	----	--	--	--	--	--	--	---	---	- -	-	-	-	---	-	- -	-	--	-	--	-	---
Indianapolis	792	37.1	21.0	86.0	64.3	52.1	6	97	-18	1113	5699	4.62	2.28	39.25	12.69	.17	3.90	4.3	19.3	8.0	79	67	70	91	62	64	11.7	7.7	90	40	72	92	103	170	122	7	46	21	15	126	11
South Bend	773	33.0	18.1	84.5	62.6	49.4	23	101	-22	1221	6439	3.62	1.88	35.70	9.75	.02	3.31	14.2	60.3	15.0	83	75	80	85	55	59	11.9	8.4	---	---	---	77	103	185	137	21	43	24	17	139	7
IOWA							92	118	-47							.00	12.99																								
Burlington	694	32.7	16.1	87.6	65.6	51.2	67	111	-27	1259	6114	5.01	1.39	34.60	15.10	.06	6.28	7.2	26.0	13.0	80	69	74	85	57	59	11.2	8.0	73	53	77	104	103	158	104	10	53	18	34	128	11
Des Moines	938	30.1	12.5	88.3	65.6	50.1	4	100	22	1355	6542	4.71	1.10	30.37	14.19	.03	5.50	8.7	33.4	19.8	79	70	72	85	61	60	11.9	9.2	76	50	70	103	96	166	103	11	49	17	17	141	25
Dubuque	1065	27.3	11.1	83.7	61.5	46.6	14	99	26	1420	7376	4.22	1.40	35.71	13.13	T	6.28	8.8	43.0	15.5	81	70	76	85	58	62	- -	---	---	---	---	95	97	173	109	14	45	28	8	154	19
Sioux City	1095	27.9	9.5	89.5	65.2	49.1	5	104	-26	1435	6951	4.33	.74	24.77	8.67	T	4.28	6.2	32.0	11.4	77	67	70	88	59	56	11.0	8.9	91	58	76	110	102	153	98	11	46	18	17	151	28
Waterloo	868	26.8	8.9	85.7	61.8	47.2	5	98	-34	1460	7320	4.83	.92	31.48	8.73	T	4.33	7.1	32.0	12.2	81	72	75	88	61	62	10.6	8.2	---	---	---	99	105	161	90	10	40	23	16	155	30

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1931-1960)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m p h)			Sunshine (percent of possible)		Annual mean number of days									
		NORMAL (1931-1960)					Extremes					NORMAL (1931-1960)			Extremes			Snow, sleet			January			July			Mean hourly					Sunrise to sunset							Temperature		
		January		July														Mean total		Extreme																			Max	Min	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length yrs	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:00 a m EST	1:00 p m EST	7:00 p m EST	7:00 a m EST	1:00 p m EST	7:00 p m EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precip'n .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	90 and above	32 and below	Zero and below
KANSAS							78	121	-40							0.00	12.59																								
Concordia (U)(1961)	1375	37.6	18.6	91.2	68.7	54.5	77	116	-25	1144	5323	4.23	0.59	25.40	13.74	T	6.46	4.5	21.4	17.2	78	63	68	67	47	48	7.7	7.0	65	60	78	142	126	97	86	7	45	10	48	118	6
Concordia	1470	37.3	17.6	92.1	68.4	54.1	3	108	-13	1163	5479	4.20	.70	25.39	8.51	.03	2.72	5.0	12.6	3.8	75	59	59	77	49	46	13.1	11.9	63	65	73	154	86	125	88	6	66	17	63	129	12
Dodge City	2582	42.4	19.7	92.8	67.5	55.4	21	107	-15	1051	4986	3.22	.47	19.25	9.13	T	4.17	4.2	18.6	9.3	79	59	62	79	47	43	14.2	13.5	78	70	77	142	106	117	77	6	55	24	61	127	3
Goodland	3645	40.9	13.9	91.8	61.3	50.8	44	111	-26	1166	6141	2.67	.39	16.50	8.09	.00	2.95	5.5	32.9	15.2	76	54	61	78	43	41	12.3	12.0	--	--	--	144	125	96	75	11	52	29	59	157	8
Topeka	876	38.5	19.0	91.6	68.1	54.9	17	109	-13	1122	5182	4.51	1.02	32.36	12.02	T	4.66	5.9	21.2	9.3	78	64	67	87	57	56	11.0	9.7	81	54	66	118	96	151	94	7	59	14	51	127	5
Wichita	1321	41.6	22.3	92.4	69.4	57.1	12	113	-12	1023	4620	4.21	.81	28.41	10.46	T	4.70	4.8	15.7	13.0	80	63	65	80	50	46	12.9	11.4	66	61	74	130	97	138	83	5	57	18	67	112	2
KENTUCKY							76	114	-34							.00	10.40																								
Lexington	966	42.9	26.1	88.2	66.5	55.6	18	103	-15	946	4683	4.94	2.28	44.73	16.65	.24	5.88	5.1	14.2	9.5	84	71	77	85	56	66	12.4	7.7	--	--	--	102	105	158	129	5	49	18	28	98	2
Louisville(U)(1955)	457	43.2	27.9	87.9	69.3	57.3	f	f	f	911	4279	4.67	2.48	41.60	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
Louisville	477	43.5	26.5	88.5	66.6	55.7	4	101	-20	930	4660	4.59	2.25	41.32	14.91	.23	6.97	5.0	15.9	9.5	79	63	64	91	61	63	9.7	6.5	61	38	66	101	102	162	122	5	45	10	28	101	4
LOUISIANA							74	114	-16							.00	22.00																								
Alexandria	92	60.7	39.9	91.8	72.6	66.4	5	104	5	471	1921	5.73	3.13	56.69	12.06	.35	6.18	.4	.5	7.3	87	64	70	97	64	72	6.6	4.5	--	--	--	115	105	145	102	*	74	38	77	51	0
Baton Rouge	64	63.5	42.3	92.0	73.4	68.1	6	102	10	409	1560	6.27	2.45	54.46	13.23	.09	8.38	T	.2	1.0	86	66	67	92	63	71	9.8	6.2	--	--	--	100	122	143	105	*	74	37	88	28	0
Lake Charles	9	62.3	45.0	90.5	74.0	68.6	2	103	15	381	1459	7.29	3.06	56.04	17.36	T	14.10	T	T	T	84	68	74	95	60	69	11.9	6.8	--	--	--	95	133	137	84	0	66	52	82	20	0
New Orleans(U)(1961)	9	63.5	48.3	90.3	75.8	70.4	47	102	17	341	1175	7.09	3.66	63.54	25.11	T	14.01	T	.1	1.3	†85	†67	†73	†84	†63	†71	7.5	5.6	98	49	61	110	135	120	119	*	74	15	68	4	0
New Orleans(Audubon)	6	64.8	46.2	91.4	73.7	69.5	2	97	17	344	1254	8.12	3.15	62.96	10.15	.00	4.03	.0	2.3	4.5	80	68	72	96	72	80	5.4	3.2	26	37	47	99	129	137	115	1	79	18	84	14	0
New Orleans(Int'l.AP)	3	64.4	44.8	90.6	72.6	68.6	18	100	14	363	1385	6.72	2.84	53.90	19.09	.00	9.86	T	.3	2.7	87	67	73	92	66	74	9.8	6.5	--	--	--	114	123	128	112	*	73	32	72	10	0
Shreveport	252	56.7	38.3	94.2	73.2	66.1	12	107	3	552	2184	4.94	2.28	46.28	12.39	.00	7.17	.5	1.1	3.5	82	63	64	90	55	56	10.7	8.4	--	52	76	127	99	139	95	*	55	20	96	33	0
MAINE							77	105	-48							.00	7.72																								
Caribou	624	19.8	1.1	75.1	53.9	38.4	25	96	-41	1690	9767	4.07	2.02	36.31	8.45	.12	6.23	22.2	107.9	18.2	74	68	73	83	58	72	12.4	9.8	--	--	--	57	103	205	161	30	20	27	2	191	43
Portland	61	31.8	11.7	79.5	56.7	45.0	24	100	-39	1339	7511	4.37	2.42	42.85	12.27	.26	7.71	19.0	72.1	21.0	80	64	73	80	59	76	9.5	7.7	76	55	67	111	98	156	126	18	19	53	6	162	15
MARYLAND							69	109	-40							.00	14.75																								
Baltimore (U)	14	44.1	30.4	87.4	70.7	57.6	94	107	-7	859	4111	4.60	2.98	44.21	17.69	.05	7.82	6.1	22.7	24.5	72	58	66	71	52	65	10.3	8.8	66	48	65	121	123	121	122	6	32	15	26	71	*
Baltimore (Int'l.AP)	148	44.2	25.3	87.2	66.4	55.2	14	102	-7	936	4654	5.19	2.89	43.05	18.35	T	7.82	5.5	23.6	15.5	74	58	65	81	53	65	10.5	8.9	80	51	68	111	112	142	113	9	28	31	30	101	1
Frederick (1961)	294	41.4	24.0	87.9	65.4	54.7	12	102	-11	1001	4854	4.03	2.58	40.23	11.26	.15	5.56	5.2	22.0	16.0	--	64	--	--	57	--	---	---	--	--	--	---	---	---	123	8	--	9	28	119	1
MASSACHUSETTS							77	106	-34							.00	11.14																								
Blue Hill Obs.	629	34.4	19.5	80.2	61.6	48.7	79	101	-21	1178	6368	4.54	3.27	47.50	18.78	.06	9.93	15.4	59.7	27.2	77	63	69	81	57	75	17.4	13.0	121	44	57	---	---	---	136	16	--	---	5	132	4
Boston	15	36.8	23.0	81.9	65.4	51.4	12	100	-12	1088	5634	4.22	2.88	42.77	17.09	.35	8.40	12.4	41.1	19.4	69	58	63	72	54	65	14.7	11.0	65	52	65	99	107	159	130	11	20	24	14	96	1
Nantucket	43	39.2	26.8	74.3	61.7	49.5	18	95	-3	992	5891	4.54	2.71	43.66	12.92	.01	4.48	8.1	34.9	20.1	80	72	76	86	74	89	14.7	11.3	73	41	62	87	91	187	126	8	21	99	*	94	*
Pittsfield	1170	30.5	13.1	79.2	56.4	44.9	26	95	-25	1339	7578	4.89	2.51	44.42	10.32	.42	4.25	18.3	76.2	14.5	--	--	--	--	--	--	---	---	--	--	--	57	127	181	152	23	28	45	3	162	14
Worcester	986	31.2	16.8	79.0	60.5	46.8	9	94	-19	1271	6969	4.26	2.92	45.41	8.56	.83	4.79	16.4	79.5	24.0	73	60	67	75	58	69	13.4	9.2	--	--	--	92	112	161	129	19	20	84	2	147	7
MICHIGAN							78	112	-51							.00	9.91																								
Alpena (U) (1959)	587	28.1	14.2	76.8	57.9	43.5	45	104	-28	1358	8073	3.20	1.45	26.63	7.43	.16	4.40	16.0	64.4	16.7	80	70	76	77	61	68	11.7	9.2	61	29	70	82	119	164	144	19	29	20	3	155	10
Alpena	689	28.9	10.4	80.4	51.4	42.1	6	97	-28	1404	8506	3.61	1.61	29.92	5.99	.16	2.54	15.8	70.9	11.5	78	68	72	83	51	60	7.6	6.4	43	45	72	76	107	182	139	21	32	19	6	187	31
Detroit (City AP)	619	33.0	20.7	83.9	64.8	50.1	31	105	-16	1181	6232	3.53	2.05	30.95	8.05	.23	3.72	7.9	31.7	9.8	80	70	75	75	51	55	11.5	8.2	77	32	70	81	108	176	132	11	33	11	15	126	2
Detroit (Metro. AP)	633	33.9	19.1	84.7	61.1	49.7	6	97	-13	1194	6293	3.54	1.92	30.80	7.70	.27	3.21	7.0	34.0	6.3	79	69	73	83	51	57	10.8	8.2	--	--	--	78	109	178	131	13	36	26	14	143	8
Detroit (Willow Run)	711	33.4	19.8	86.0	62.4	50.0	4	99	-13	1190	6258	3.48	1.94	30.67	8.71	.25	4.78	7.5	32.0	8.0	82	73	76	86	50	53	11.7	8.7	--	--	--	77	108	180	121	11	34	29	21	136	7
Escanaba (U) (1961)	594	25.0	10.0	75.3	58.4	41.9	52	100	-31	1473	8657	3.22	1.37	28.08	9.93	.07	5.05	13.5	55.7	14.5	78	70	74	80	65	69	10.2	9.0	68	41	66	102	108	155	129	18	33	19	*	163	20
Flint	766	30.0	14.2	82.8	57.3	46.0	7	97	-22	1330	7377	3.39	1.70	30.14	8.68	.07	6.04	9.8	38.9	13.4	83	73	79	86	50	54	11.9	8.1	--	--	--	68	108	189	129	13	33	20	5	153	18
Grand Rapids(U)(1956)	638	31.8	19.7	84.0	63.2	49.3	f	f	f	1215	6474	3.47	1.73	31.35	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
Grand Rapids	784	31.5	17.3	83.6	60.1	47.8	24	102	-22	1259	6894	3.46	1.75	31.19	9.15	.03	4.26	21.3	72.1	12.0	86	77	81	83	51	55	10.9	8.1	65	28	69	72	95	198	136	25	36	18	13	148	6
Lansing	841	31.1	17.4	83.4	59.9	47.6	5	94	-15	1262	6909	3.73	1.95	31.18	6.09	.35	4.35	9.6	43.4	11.0	79	68	73	82	53	53	12.8	9.3	63	31	72	88	99	178	137	14	34	24	5	158	18
Marquette (U)	677	25.7	13.2	75.7	57.6	42.6	28	102	-21	1411	8393	3.46	1.65	31.61	10.20	.21	4.65	19.1	103.2	16.1	75	68	72	76	63	66	8.9	7.1	59	33	66	62	104	199	156	31	28	17	5	159	10
Muskegon	627	32.3	19.7	81.9	60.6	48.2	5	99	-12	1209	6696	3.06	1.80	30.07	8.54	.19	3.51	25.3	84.3	20.1	82	77	78	85	59	59	12.0	8.4	--	--	--	81	91	193	139	28	37	24	5	139	6
Sault Ste. Marie	721	23.1	8.4	75.6	53.5	40.6	24	98	-25	1525	9048	3.81	1.50	31.22	6.93	.16	3.58	21.7	101.5	14.3	84	77	82	88	61	67	10.2	8.4	--	33	63	66	94	205	161	33	30	47	2	177	27
MINNESOTA							78	114	-59							.00	10.75																								
Duluth (U) (1959)	1162	18.7	1.9	75.8	55.8	39.2	84	106	-41	1696	9574	3.72	1.00	26.67	11.52	.07	5.35	11.1	56.0	23.0	78	74	74	87	61	66	12.3	10.5	75	46	67	110	119	136	126	16	31	37	2	173	41
Duluth	1428	17.9	-.6	77.1	53.9	37.9	4	95	-33	1745	10000	4.27	.96	28.97	8.48	.13	4.05	14.7	73.3	25.4	74	65	67	85	58	59	12.5	10.3	75	51	67	79	101	185	132	22	35	52	2	180	52
International Falls	1179	14.2	-8.1	78.4	52.8	36.2	25	98	-41	1919	10606	3.87	.71	24.69	11.26	.10	4.82	9.7	57.1	13.9	73	68	70	88	57	58	9.2	7.5	--	--	--	83	104	178	134	17	31	14	4	198	67
Minneapolis	834	22.4	2.3	83.9	60.7	43.7	5	99	-32	1631	8382	4.00	.70	24.78	8.03	T	4.12	6.1	41.3	16.2	76	67	69	87	57	57	10.5	9.3	92	51	69	103	101	161	111	12	35	11	15	159	34
Rochester	1297	23.0	4.2	84.0	60.5	44.0	5	97	-31	1593	8295	4.46	.80	28.46	5.99	.04	3.28	5.5	46.4	8.4	78	73	75	86	61	61	13.5	9.6	--	--	--	94	98	173	112	14	46	36	8	165	34
St. Cloud	1034	20.4	-.2	83.1	58.9	42.0	25	103	-40	1702	8879	4.49	.72	25.92	9.34	.01	4.62	6.4	40.8	12.2	77	70	72	87	55	56	8.2	7.0	--	--	--	97	105	163	107	13	36	20	11	178	44
MISSISSIPPI							76	115	-16							.00	12.35																								
Jackson	310	58.3	37.6	91.9	71.2	65.1	7	100	-1	546	2239	5.57	1.94	49.33	11.16	.04	5.29	.6	2.3	9.1	83	61	67	90	57	63	7.7	4.9	57	44	67	107	110	148	116	1	72	15	83	43	*
Meridian	290	59.4	36.8	92.6	70.3	64.8	18	104	0	543	2289	6.32	2.22	53.13	16.82	T	6.95	.6	1.8	15.0	89	64	71	93	57	69	7.4	5.4	--	--	--	124	109	132	104	*	58	21	92	50	*
Vicksburg (U)	234	57.4	40.5	90.4	73.2	65.9	27	101	2	512	2041	5.73	2.04	49.50	16.58	T	9.97	1.0	1.7	10.0	83	62	70	93	62	71	9.3	6.7	56	44	66	109	117	139	104	1	62	12	66	22	0
MISSOURI							77	118	-40							.00	12.25																								
Columbia	778	39.3	21.3	89.7	67.6	55.0	26	113	-18	1076	5046	4.70	1.71	36.96	13.30	.09	4.05	4.5	19.5	10.3	79	65	69	85	55	56	11.1	8.0	63	50	74	118	99	148	106	6	55	15	42	109	4
Kansas City	742	39.9	23.4	91.9	71.0	56.8	5	104	-9	1032	4711	4.57	1.24	34.07	11.94	.04	5.96	6.0	20.6	12.8	71	58	57	79	59	54	9.9	8.9	72	52	76	120	103	142	99	6	50	13	45	96	5
St. Joseph	811	37.2	17.1	91.0	67.8	53.8	18	107	-13	1172	5484	5.93	1.09	34.18	13.73	.03	7.12	6.2	21.5	11.3	79	66	70	88	59	59	11.6	8.4	--	46	62	128	96	141	96	6	58	19	44	128	8
St. Louis (U)(1958)	465	41.0	25.6	89.6	71.6	57.3	23	112	-12	983	4469	4.10	1.88	37.86	20.45	.03	8.78	3.8	14.6	12.4	b77	b65	b68	b73	b50	b55	12.6	9.5	82	45	72	128	106	131	110	6	51	8	46	83	2
St. Louis	535	40.2	23.5	89.2	66.9	55.3	4	105	-11	1026	4900	4.29	1.97	35.31	7.97	.25	3.29	4.4	17.7	11.2	77	60	64	85	60	58	10.2	7.5	60	53	70	107	102	156	103	8	41	10	36	107	6
Springfield	1268	43.4	23.8	90.3	67.2	56.5	5	102	-10	973	4561	5.28	1.96	41.08	18.75	.08	6.85	3.1	12.6	12.5	75	56	61	89	60	60	12.9	9.8	66	49	71	114	101	150	106	5	58	20	41	106	4

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1931-1960) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length, yrs	Record highest	Record lowest	Normal degree days (1931-1960) January	Seasonal	Precipitation (inches) Normal (1931-1960) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 a m EST	1:00 p m EST	7:00 p m EST	July 7:00 a m EST	1:00 p m EST	7:00 p m EST	Wind Speed (m p h) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, hail 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Zero and below
MONTANA							98	117	-70							0.00	10.10																								
Billings	3567	33.2	13.1	88.5	60.8	47.5	6	105	-26	1296	7049	2.55	0.54	13.23	7.64	T	2.83	8.2	54.5	23.7	63	58	53	60	38	29	13.0	9.8	73	52	79	92	121	152	93	19	30	18	32	144	18
Butte (1961)	5530	28.0	.4	79.8	45.0	38.3	29	100	-52	1575	9760	2.28	.55	12.69	5.40	T	2.02	7.1	51.0	13.0	--	--	--	--	--	--	6.9	8.0	--	--	--	79	107	179	105	19	41	6	4	228	43
Glasgow	2277	19.6	-.1	85.3	56.1	41.4	8	104	-37	1711	8996	2.98	.41	12.27	5.36	.03	3.98	3.9	22.1	5.0	83	78	80	70	39	30	---	---	--	--	--	89	106	170	82	8	28	11	23	179	41
Great Falls	3662	31.6	12.5	84.7	54.1	44.7	4	106	-36	1349	7750	2.90	.60	14.07	8.13	T	3.20	8.7	53.8	11.0	65	59	60	67	36	27	16.8	10.7	82	52	80	87	106	172	98	19	28	13	16	143	30
Havre (U) (1961)	2852	26.3	6.1	85.9	56.6	43.6	57	107	-57	1513	8213	2.98	.39	12.31	7.09	T	2.94	7.3	37.4	22.9	82	71	--	74	38	--	8.8	7.2	70	49	78	121	124	120	90	13	25	5	22	172	38
Havre	2582	24.2	3.6	85.3	54.6	42.1	4	111	-35	1584	8700	2.73	.43	11.89	3.36	.05	1.66	4.0	22.2	4.5	72	66	--	71	36	--	10.8	8.3	71	54	81	99	93	173	84	9	24	5	28	176	36
Helena	3828	28.8	8.4	84.4	52.3	43.4	22	103	-42	1438	8129	2.23	.43	10.85	4.74	.02	2.06	8.1	47.8	21.5	72	68	66	71	41	32	6.8	8.0	73	52	79	84	107	174	97	14	38	8	14	181	26
Kalispell	2965	27.6	12.0	83.7	47.6	42.8	5	105	-29	1401	8191	2.21	.96	15.42	4.44	T	1.99	18.9	68.1	15.4	--	82	--	--	40	--	6.2	6.0	--	--	--	76	82	207	133	23	24	32	16	193	18
Miles City	2629	27.4	5.6	90.2	60.4	45.8	27	110	-37	1504	7723	2.71	.37	12.17	9.78	T	2.71	5.9	29.4	10.5	72	66	64	68	37	30	9.2	9.7	--	--	--	101	108	156	88	12	30	9	39	172	31
Missoula	3190	28.0	10.3	85.0	49.0	43.2	5	105	-30	1420	8125	1.91	.72	12.83	4.19	.02	1.82	12.3	47.6	11.2	83	81	76	81	45	32	5.0	6.6	72	30	80	75	81	209	124	15	26	27	20	197	15
NEBRASKA							89	118	-47							.00	13.15																								
Grand Island	1841	34.1	11.0	90.7	63.7	50.1	4	106	-28	1314	6530	3.85	.56	21.85	9.60	.00	5.41	5.9	28.2	8.7	76	58	63	86	54	51	11.6	11.1	--	--	--	124	105	136	84	9	49	16	39	151	20
Lincoln (U)	1150	34.0	16.2	92.3	67.9	52.8	5	107	-15	1237	5864	4.50	.90	27.43	11.40	.05	5.38	6.8	28.5	10.4	--	--	--	--	--	--	9.8	9.4	64	61	75	119	104	142	95	9	49	8	41	131	15
Norfolk	1544	30.1	8.6	89.2	64.7	48.9	19	113	-26	1414	6979	4.26	.73	23.95	9.11	T	3.46	5.5	29.4	8.3	77	63	68	84	54	51	---	---	--	--	--	119	104	142	88	10	50	11	35	157	21
North Platte	2775	37.3	10.7	90.0	62.2	49.2	12	112	-23	1271	6684	3.25	.40	18.27	8.01	T	3.61	4.3	32.4	9.7	80	62	65	85	49	44	9.7	10.2	72	63	75	123	109	133	81	10	49	17	42	174	15
Omaha	978	31.7	12.9	89.7	67.3	51.5	9	107	-15	1324	6218	4.53	.80	27.56	10.81	T	3.62	8.4	32.5	13.7	78	66	68	85	54	46	11.4	9.4	73	55	76	116	106	143	97	10	50	15	36	140	14
Scottsbluff	3957	38.7	11.9	89.2	60.1	48.7	21	107	-32	1231	6673	3.10	.29	14.38	8.33	T	3.74	6.1	37.6	12.1	72	55	58	78	45	39	10.6	9.7	--	--	--	121	112	132	83	12	45	10	39	177	15
Valentine	2587	33.3	6.7	90.6	60.2	46.9	10	109	-29	1395	7425	3.11	.34	17.30	8.96	T	3.19	3.6	23.5	8.2	81	68	66	84	50	42	10.1	10.1	72	71	77	124	108	133	78	9	45	5	41	178	26
NEVADA							76	122	-50							.00	7.13																								
Elko	5050	35.1	10.0	90.8	48.3	45.4	33	104	-43	1314	7433	1.16	.30	9.05	3.35	.00	1.62	10.8	37.6	16.7	78	72	63	54	24	18	5.4	6.3	--	--	--	137	100	128	77	14	21	6	43	213	18
Ely	6257	36.8	8.7	86.8	48.1	44.3	26	99	-27	1308	7733	.95	.49	8.33	3.53	.00	1.50	8.8	45.8	13.1	72	59	55	47	21	20	11.0	10.7	74	64	81	137	106	122	70	15	31	2	15	217	19
Las Vegas	2162	54.2	32.0	103.5	75.8	65.7	5	113	8	688	2709	.53	.04	3.90	2.59	.00	2.59	1.2	1.5	5.0	46	33	23	24	15	11	6.8	10.2	--	78	86	221	79	65	22	1	14	1	135	46	0
Reno	4404	44.6	16.2	89.4	45.9	48.4	22	104	-16	1073	6332	1.19	.17	7.15	5.25	.00	2.37	6.3	24.8	16.9	81	67	52	72	26	19	6.0	6.5	59	66	92	169	92	104	48	9	13	9	46	189	3
Winnemucca	4299	39.7	14.7	92.0	49.9	47.4	15	105	-24	1172	6761	1.05	.15	8.63	2.86	.00	1.79	7.0	24.2	9.9	78	66	58	44	20	14	7.7	8.2	66	47	86	143	84	138	66	9	14	3	52	194	9
NEW HAMPSHIRE							88	106	†-46							.00	8.00																								
Concord	339	31.7	10.6	82.8	56.4	45.6	23	100	-37	1358	7383	3.75	2.48	38.80	10.10	.41	4.47	18.0	61.8	19.0	78	59	70	80	50	67	7.3	5.5	72	49	61	99	105	161	125	17	22	54	13	169	18
Mt. Washington Obs.	6262	14.7	-2.2	54.9	43.3	27.0	32	71	-47	1820	13817	7.00	5.21	74.09	18.23	.75	7.03	29.5	198.6	32.0	82	83	82	91	87	91	46.5	25.1	231	34	31	52	78	235	204	59	16	307	0	243	64
NEW JERSEY							80	110	-34							.00	14.81																								
Atlantic City(U)(1958)	8	42.4	29.1	79.3	67.9	54.1	85	104	-9	905	4741	4.72	2.98	41.77	14.87	.01	9.21	4.2	14.6	18.0	79	68	74	81	72	82	16.2	13.3	91	51	67	118	122	125	122	5	23	21	3	75	*
Atlantic City(NAFExp.)	64	42.9	26.6	83.8	66.3	54.1	20	102	-8	936	4812	4.90	2.83	42.36	13.09	.10	6.46	4.9	15.3	14.4	77	58	69	83	55	68	12.8	9.5	--	60	64	107	98	160	113	4	24	44	13	93	*
Newark	11	40.5	26.0	87.1	67.5	54.6	23	105	-7	983	4859	4.43	2.80	42.38	11.84	.21	4.17	7.1	29.8	26.0	72	58	64	74	51	63	11.2	8.8	--	--	--	100	111	154	123	8	26	23	25	94	*
Trenton (U)	56	40.0	26.2	85.2	66.7	53.9	32	106	-14	989	4980	4.77	2.59	41.28	14.10	.05	4.85	5.3	22.7	16.6	--	--	--	--	--	--	9.8	7.8	64	50	67	101	116	148	122	7	33	--	18	90	*
NEW MEXICO							73	116	-50							.00	11.28																								
Albuquerque	5311	46.4	23.5	91.2	65.8	56.6	5	103	-7	930	4348	1.33	.38	8.13	3.25	.00	1.92	2.0	10.1	14.2	66	48	37	60	35	27	7.9	9.0	90	71	76	175	112	78	58	4	44	4	66	119	2
Clayton	4969	46.2	20.2	88.4	60.6	53.1	20	102	-21	986	5158	2.74	.33	14.51	7.77	.00	4.67	3.5	19.1	12.7	63	42	49	76	41	42	---	---	--	--	--	172	95	98	66	6	54	11	41	143	3
Raton	6379	45.3	12.6	86.6	52.9	48.9	20	98	-31	1116	6228	2.63	.26	14.75	7.61	.00	3.97	4.9	24.9	10.1	--	45	--	--	37	--	---	---	--	--	--	136	133	96	78	9	75	8	18	182	9
Roswell	3617	55.1	20.6	95.4	61.7	58.5	5	107	-24	840	3793	1.82	.34	11.62	5.64	.00	3.37	3.2	10.2	15.3	73	46	39	74	39	33	8.5	9.5	75	86	80	185	100	80	49	4	41	9	112	131	4
Silver City	5371	52.6	26.4	90.3	63.9	58.2	4	102	-9	791	3705	2.40	.28	10.76	4.47	.00	2.08	2.5	7.2	6.0	--	43	39	--	36	36	---	---	--	--	--	198	98	69	59	2	55	1	48	110	*
NEW YORK							75	108	-52							.00	11.17																								
Albany	277	31.0	14.4	83.7	60.5	47.6	18	100	-26	1311	6875	3.58	2.20	35.08	8.96	.20	4.08	16.2	62.3	17.9	78	65	73	77	50	62	9.7	7.3	71	45	64	75	113	177	131	15	29	23	13	146	12
Binghampton (U)	858	34.2	18.9	83.1	60.4	48.8	74	103	-28	1190	6451	3.81	2.38	36.68	9.59	.16	4.55	12.6	51.8	21.0	--	--	--	--	--	--	---	---	--	--	--	---	---	---	151	15	--	--	9	134	7
Binghampton	1590	30.1	17.4	78.3	58.5	45.8	13	96	-20	1277	7286	3.85	2.18	36.24	9.46	.26	3.88	20.9	90.1	23.0	82	74	76	85	57	65	12.0	8.5	72	35	66	51	103	211	162	26	32	50	3	150	8
Buffalo	705	30.8	18.2	80.1	59.4	46.7	4	94	-20	1256	7062	3.60	2.54	35.65	9.13	.11	3.88	25.6	100.0	19.9	74	70	74	80	56	63	14.8	10.9	91	34	70	61	110	194	165	29	29	21	4	142	5
New York (U) (1960)	10	39.9	25.8	82.3	66.9	53.4	90	102	-14	995	5050	4.34	3.04	42.03	14.51	.11	9.40	7.3	30.1	25.8	72	a62	66	76	a58	67	16.4	14.5	113	51	65	104	131	130	124	8	30	20	7	91	*
New York Central Pk.	132	39.5	26.9	85.3	68.2	54.5	96	106	-15	986	4871	4.44	2.84	42.37	16.85	.02	11.17	7.7	29.9	26.4	68	61	61	76	56	64	11.0	7.8	70	50	66	107	124	134	121	8	16	--	16	82	1
New York(LaGuardia)	11	39.6	27.5	84.8	68.8	54.7	3	97	-2	973	4811	5.08	3.09	44.22	16.05	.03	7.11	6.8	30.4	22.8	67	59	61	75	54	63	14.7	10.5	70	--	--	97	115	153	121	8	24	15	15	78	1
New York(J.F.Kendy.AP)	12	38.0	25.6	84.7	67.1	53.2	4	102	-2	1029	5219	4.97	2.93	43.93	17.41	T	6.59	7.3	29.5	18.0	69	57	66	71	55	68	13.4	10.9	--	--	--	101	114	150	121	9	27	35	10	92	*
Rochester	543	32.6	17.8	82.5	60.7	48.0	22	100	-16	1234	6748	3.01	2.38	31.50	9.70	.22	3.13	19.2	82.1	18.7	82	73	79	81	51	60	11.6	7.9	73	36	71	65	113	187	154	25	30	13	13	137	5
Syracuse	410	31.5	16.5	82.4	62.0	48.0	13	98	-24	1271	6756	3.60	2.84	37.60	8.41	.21	4.27	25.0	108.5	21.4	77	69	74	77	52	60	10.7	8.5	63	36	68	69	106	190	168	32	29	9	10	136	8
NORTH CAROLINA							78	109	-23							.00	22.22																								
Asheville (U)	2203	49.0	30.4	85.0	63.7	56.5	34	99	-7	784	4042	4.31	2.22	37.88	13.75	T	6.78	2.5	12.2	15.8	81	59	66	89	57	70	9.4	5.6	52	48	60	105	124	136	128	3	50	47	13	84	*
Cape Hatteras (R)	7	53.2	39.9	83.8	72.2	62.2	7	94	14	580	2612	6.42	2.99	54.47	14.63	.45	8.11	.5	2.5	7.0	80	67	77	85	70	83	12.1	10.3	72	63	70	105	103	157	123	1	44	17	3	33	0
Charlotte	735	51.4	34.0	88.8	69.5	60.8	4	100	2	691	3191	4.88	2.53	43.38	10.89	T	4.84	1.7	19.3	8.0	78	52	59	90	58	68	8.2	6.7	59	55	69	115	105	145	111	1	43	24	41	72	0
Greensboro	897	49.6	29.8	87.7	66.9	58.2	34	102	-7	784	3805	4.79	2.68	42.16	13.26	.13	7.49	2.8	8.0	14.3	82	58	70	86	57	72	8.3	6.7	63	51	64	114	107	144	119	2	48	31	37	86	*
Raleigh	434	51.9	31.3	88.1	67.6	59.5	19	105	4	725	3393	5.49	2.71	43.58	12.94	.44	5.20	2.5	6.7	9.1	81	56	68	87	56	72	8.3	6.6	--	58	64	116	107	142	116	2	46	35	46	75	0
Wilmington	28	58.4	37.3	89.0	70.9	63.8	11	104	10	546	2347	7.68	2.85	51.29	15.51	.17	8.24	.1	1.3	5.3	84	58	75	88	62	78	10.3	9.1	88	58	63	119	112	134	115	1	45	20	47	42	0
Winston-Salem	963	49.8	31.5	88.2	67.8	59.1	10	100	1	753	3595	4.63	2.78	44.13	10.86	.12	3.60	3.2	9.2	10.9	72	52	59	84	57	67	9.3	7.4	--	--	--	121	102	142	115	3	42	32	34	76	0
NORTH DAKOTA							73	121	-60							.00	7.70																								
Bismarck	1647	19.6	.1	85.7	57.7	42.2	5	108	-38	1708	8851	3.40	.36	15.15	8.29	T	3.25	6.5	35.9	13.5	71	64	65	80	48	42	10.2	9.8	72	55	76	97	106	162	96	12	35	12	26	183	47
Devils Lake(U)(1961)	1471	14.2	-4.7	81.7	56.9	38.7	58	112	-46	1866	9940	3.18	.40	17.61	8.55	T	4.82	6.2	35.4	13.4	76	72	76	86	53	52	9.7	8.4	57	53	71	112	109	144	101	11	30	9	10	189	60
Fargo	896	17.3	-2.8	83.8	59.0	41.1	5	100	-34	1789	9226	3.04	.51	18.45	8.52	.02	4.72	5.8	32.0	11.2	70	67	69	86	55	54	13.5	11.0	88	50	69	91	110	164	99	10	33	12	18	176	53
Williston (U) (1961)	1877	19.8	.2	83.5	58.2	41.3	46	110	-50	1705	9068	3.59	.46	14.66	7.88	T	3.06	5.5	32.9	10.6	74	67	69	77	45	41	6.8	6.9	60	52	78	122	116	127	89	12	27	7	18	178	43
Williston	1899	19.4	-2.9	85.9	56.7	40.9	3	103	-41	1758	9243	3.31	.48	13.70	6.20	T	5.03	4.4	34.0	5.7	74	66	67	85	49	43	10.3	9.3	70	53	73	88	117	160	92	12	19	9	19	181	53

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1931-1960)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (mph)			Sunshine (percent of possible)		Annual mean number of days									
		NORMAL (1931-1960)					Extremes					NORMAL (1931-1960)			Extremes			Snow, sleet														Sunrise to sunset							Temperature		
		January		July														Mean total		Extreme	January			July			Mean hourly												Max	Min	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length yrs	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:00 am EST	1:00 pm EST	7:00 pm EST	7:00 am EST	1:00 pm EST	7:00 pm EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 and above	32 and below	Zero and below
OHIO							91	113	-39							0.00	8.70																								
Akron	1208	35.6	20.9	83.2	61.9	50.3	14	100	-11	1138	6037	4.26	2.25	36.43	11.43	.20	4.18	9.3	48.2	8.5	84	74	80	83	55	65	11.9	7.6	--	--	--	76	101	188	149	15	40	28	10	136	4
Cincinnati (1961)	869	39.7	23.8	85.9	64.3	53.6	17	---	---	1021	5195	4.04	2.17	39.16	----	----	-----	----	----	----	82	70	74	84	52	60	---	---	--	--	--	108	115	142	---	--	--	--	--	---	--
Cincinnati Abbe Obs.	761	41.3	26.1	87.5	66.3	55.2	49	109	-17	970	4806	4.18	2.24	39.51	13.68	.10	4.77	5.3	18.8	11.0	--	--	--	--	--	--	8.3	5.2	49	41	71	---	---	---	133	7	50	--	29	98	2
Cincinnati(Grt.Cin.AP)	869	40.5	22.7	87.4	63.3	53.4	3	102	-19	1035	5265	3.89	2.26	38.02	12.18	.18	5.21	7.1	24.0	8.3	78	63	69	88	56	61	10.8	7.2	--	--	--	83	99	183	128	8	46	19	29	119	10
Cleveland	777	34.8	20.3	82.8	60.2	49.2	4	93	-19	1159	6351	3.52	2.33	35.35	9.50	.36	3.73	10.1	51.2	15.0	77	69	73	84	57	61	12.5	8.9	74	30	68	73	105	187	153	18	37	14	10	131	8
Columbus	812	37.8	22.0	86.6	62.9	52.0	5	98	-15	1088	5660	4.16	2.11	36.67	9.75	.11	4.81	6.7	27.3	8.7	77	67	70	87	56	60	9.8	6.1	63	39	69	79	108	178	134	9	42	20	19	127	7
Dayton	1002	36.9	22.2	85.3	65.1	52.3	19	102	-16	1097	5622	4.10	2.23	36.04	10.89	.10	4.30	6.6	26.6	10.0	82	72	77	83	54	59	12.1	8.1	78	39	69	82	104	179	128	8	42	22	17	117	4
Mansfield	1297	34.8	19.8	82.6	60.8	49.1	5	95	-20	1169	6403	4.23	2.27	38.16	7.04	.43	2.79	8.8	45.3	8.0	82	74	--	83	55	--	---	---	--	--	--	75	106	184	135	15	39	28	5	135	10
Portsmouth(R)(1955)	670	42.7	23.4	87.7	61.6	54.1	34	107	-25	989	4965	4.26	2.28	38.56	9.92	.51	3.43	8.8	32.9	10.1	b71	b59	b59	b88	b47	b54	7.7	3.4	60	--	--	39	75	142	106	9	63	64	36	113	0
Sandusky (U)(1961)	603	35.7	21.8	83.7	65.5	51.3	34	105	-12	1122	5859	3.73	1.92	33.16	12.51	.19	5.95	6.2	26.9	12.3	--	--	--	--	--	--	10.1	6.9	75	35	75	93	115	157	137	10	37	8	19	111	2
Toledo	676	34.1	18.4	85.1	60.2	49.0	9	98	-17	1200	6494	3.79	1.88	30.50	6.71	.27	2.50	8.8	34.8	9.8	81	70	75	87	54	60	10.6	7.6	72	45	70	79	110	176	128	11	41	20	16	144	9
Youngstown	1178	34.4	20.2	81.7	59.3	48.8	21	100	-18	1169	6417	4.32	2.50	39.27	9.87	.27	4.31	12.2	56.8	20.7	83	73	78	83	53	64	11.8	7.9	--	--	--	75	97	193	161	18	36	29	9	136	5
OKLAHOMA							73	120	-27							.00	19.75																								
Oklahoma City	1280	45.9	28.1	92.8	72.2	60.3	11	107	-4	868	3725	5.19	1.31	30.82	10.78	T	4.82	3.4	9.2	8.4	80	62	62	84	54	49	14.6	12.1	56	59	77	147	96	122	82	3	51	19	70	85	1
Tulsa	650	45.9	26.5	92.9	71.4	59.7	5	110	-3	893	3860	5.26	1.62	37.08	18.00	T	7.54	3.7	9.4	9.0	78	55	55	81	55	51	11.4	9.2	75	52	70	125	104	136	91	4	55	9	75	90	2
OREGON							75	119	-54							.00	31.10																								
Astoria	8	46.5	34.8	68.6	52.5	50.8	11	100	14	753	5186	13.65	1.27	80.44	21.89	.01	4.32	1.3	5.1	7.2	87	84	78	91	75	69	8.9	8.5	--	--	--	48	72	245	201	2	9	43	1	37	0
Burns (U)	4151	35.2	14.3	86.8	52.1	46.7	14	103	-26	1246	6957	1.62	.29	10.96	5.47	.00	2.15	15.9	49.9	10.9	82	76	68	53	34	20	---	---	--	--	--	129	83	153	91	17	14	12	21	183	5
Eugene	359	45.3	32.8	82.2	51.0	52.5	20	105	-4	803	4726	6.61	.27	39.56	20.99	T	4.82	4.2	6.8	7.2	--	86	81	--	54	37	8.4	8.2	--	--	--	78	84	203	140	3	6	58	14	59	*
Meacham	4050	32.7	19.3	77.6	49.2	43.5	20	105	-23	1209	7874	4.53	.50	33.87	9.29	.00	3.00	32.3	151.5	22.9	--	80	--	--	40	--	---	---	--	--	--	91	71	203	154	46	16	31	3	170	4
Medford	1298	42.4	28.4	88.3	55.7	52.6	4	109	0	918	5008	3.38	.18	19.78	12.72	.00	3.75	3.7	7.9	7.9	94	90	73	80	48	29	4.2	5.7	--	--	--	117	81	167	102	3	9	47	42	108	*
Pendleton	1482	39.3	25.1	89.3	57.8	52.8	29	113	-22	1017	5127	1.49	.22	12.38	3.23	.00	1.49	8.0	17.4	13.3	82	77	77	54	34	23	8.0	9.8	--	--	--	107	90	168	101	6	11	30	31	85	3
Portland (U)	30	44.9	35.5	79.2	57.9	54.6	62	107	3	769	4109	7.42	.39	42.37	17.45	.00	5.01	5.1	9.1	16.0	--	--	--	--	--	--	---	---	--	--	--	---	---	---	152	3	--	--	8	21	0
Portland	21	43.7	33.0	78.6	55.7	52.9	24	105	-3	825	4635	6.38	.41	37.18	12.83	T	2.60	5.1	8.3	10.6	86	81	76	84	62	47	10.1	7.4	88	24	67	66	69	230	155	3	7	32	8	6	*
Roseburg	505	47.2	33.4	84.0	51.8	53.4	11	106	-1	766	4491	5.69	.21	33.11	15.74	T	4.80	3.2	6.5	9.4	--	86	73	--	54	34	3.9	5.9	50	26	79	75	89	201	135	2	5	59	21	56	*
Salem	196	45.5	31.5	81.7	50.4	52.4	24	108	-10	822	4754	7.37	.35	41.75	15.40	.00	3.16	3.7	6.3	10.8	88	84	79	87	55	39	8.8	6.6	--	--	--	76	85	204	151	2	6	40	16	60	*
Sexton Summit (R)	3836	39.3	28.9	75.5	51.6	48.0	20	100	-2	958	6254	5.59	.25	33.12	20.03	.00	5.20	24.0	98.8	22.6	--	80	67	--	61	48	12.8	11.8	--	--	--	123	67	175	131	30	6	160	2	111	*
PACIFIC AREA																																									
Canton Island	8	88.4	77.8	89.4	77.7	83.5	18	98	70	0	0	4.35	1.10	29.43	16.39	T	5.21	.0	.0	.0	79	79	65	80	80	65	15.1	13.1	--	--	--	76	147	142	99	0	4	0	164	0	0
Eniwetok	13	84.6	77.8	86.5	79.1	82.3	11	93	71	0	0	9.09	1.02	51.46	18.07	.12	4.04	.0	.0	.0	76	76	68	81	83	75	17.0	11.5	--	--	--	---	---	---	204	0	5	0	11	0	0
Guam (R)	361	83.9	72.4	86.7	72.3	79.3	8	95	59	0	0	13.36	2.64	88.53	21.86	.67	7.50	.0	.0	.0	--	--	--	--	--	--	8.1	4.9	80	53	46	---	---	---	270	0	28	*	5	0	0
Johnston Is.	7	80.7	73.4	85.0	77.1	79.3	9	88	62	0	0	3.89	.84	26.11	15.80	.22	9.51	.0	.0	.0	75	76	68	78	77	69	13.3	15.2	49	73	77	45	203	117	167	0	2	0	0	0	0
Koror (R)	94	86.0	74.6	86.6	75.1	80.9	15	93	69	0	0	15.76	7.13	147.49	34.82	1.65	11.57	.0	.0	.0	88	91	82	90	92	82	7.9	5.3	59	50	56	*	47	318	274	0	40	0	45	0	0
Kwajalein, Marshall Is.	8	82.2	78.0	85.2	77.9	81.1	12	97	69	0	0	12.13	2.15	94.76	30.38	.61	6.68	.0	.0	.0	79	79	70	85	86	78	18.2	10.5	--	--	--	30	97	238	243	0	12	0	26	0	0
Majuro, Marshall Is.	10	84.1	76.3	84.6	75.7	80.4	9	91	69	0	0	15.92	6.98	143.63	24.26	.86	10.01	.0	.0	.0	81	81	75	83	84	77	13.0	8.6	38	64	53	10	69	286	261	0	19	0	*	0	0
Marcus Is.	20	----	----	----	----	----	1	93	58	0	0	----	----	-----	13.51	.64	5.66	.0	.0	.0	73	73	70	71	79	71	14.0	11.7	114	75	82	83	141	142	158	0	5	1	8	0	0
Ponape (R)	123	85.6	75.3	86.6	72.7	80.1	14	96	67	0	0	20.31	9.74	191.92	38.65	2.40	22.48	.0	.0	.0	84	86	77	94	95	79	7.7	3.7	36	50	55	3	57	305	301	0	32	0	35	0	0
Truk, Moen Is.	5	84.9	76.5	86.1	74.8	80.7	14	94	70	0	0	14.12	6.29	137.52	34.89	.84	14.92	.0	.0	.0	81	83	77	89	92	80	7.9	5.6	45	58	50	1	56	308	272	0	22	0	5	0	0
Wake	11	81.5	73.3	86.6	77.4	80.0	17	92	64	0	0	7.08	1.14	36.86	ø17.66	.27	ø15.00	.0	.0	.0	74	75	66	81	82	72	13.1	12.3	--	--	--	118	155	92	181	0	7	0	6	0	0
Yap (R)	53	85.3	75.6	87.6	75.1	81.3	16	97	69	0	0	14.70	4.64	121.50	29.44	1.08	10.45	.0	.0	.0	86	88	79	90	91	80	10.3	5.5	72	59	52	7	47	311	262	0	15	0	52	0	0
PENNSYLVANIA							77	111	-42							.00	34.50																								
Allentown	376	36.7	21.3	85.2	63.0	51.1	21	102	-12	1116	5810	4.82	2.64	44.12	12.10	.09	4.79	7.9	32.8	17.5	78	62	70	82	52	62	11.1	7.3	--	--	--	96	116	153	124	9	34	30	17	129	3
Avoca(W-B Scranton AP)	930	33.6	21.7	81.6	63.2	49.4	9	97	-11	1156	6254	4.79	1.99	38.48	7.78	.03	3.09	11.3	52.1	20.1	75	62	67	82	54	62	9.0	7.5	60	41	57	74	111	180	135	14	32	28	8	138	5
Erie	732	34.0	20.5	80.1	62.0	48.7	5	94	-15	1169	6451	3.67	2.32	37.50	9.87	.58	4.84	18.6	78.6	23.0	77	70	75	76	60	61	12.6	8.8	--	--	--	71	100	194	152	26	39	16	4	124	5
Harrisburg	335	38.9	23.6	87.0	65.3	53.3	26	102	-8	1045	5251	3.90	2.31	37.65	9.07	.04	4.36	9.6	35.4	21.0	72	58	64	78	51	61	8.2	6.2	68	47	69	87	105	173	124	124	9	34	22	107	1
Philadelphia	5	40.3	24.3	85.9	65.2	53.5	5	100	-5	1014	5101	4.63	2.78	42.48	9.70	.09	5.45	5.3	20.4	14.6	76	60	68	79	54	62	10.2	8.1	73	50	63	92	114	159	118	6	27	29	15	112	1
Pittsburgh (U)	749	40.4	26.2	85.4	66.1	53.9	30	103	-13	983	5053	3.95	2.31	36.87	8.84	.16	3.57	7.6	30.7	20.1	--	--	--	--	--	--	---	---	--	25	53	---	---	---	146	9	--	--	19	95	1
Pittsburgh (Gr. AP)	1137	36.5	21.2	83.3	60.9	50.3	5	95	-18	1119	5987	3.91	2.19	36.14	8.20	.16	3.56	10.3	44.4	14.7	76	65	67	84	53	60	10.7	7.6	--	41	67	62	106	197	148	13	36	17	6	130	7
Reading (U)	266	39.1	26.3	86.4	67.3	54.3	24	102	-2	1001	4945	4.26	2.64	41.43	14.85	.17	6.08	8.3	30.1	18.7	71	--	--	75	--	--	11.4	8.5	80	46	63	95	109	161	123	8	32	8	23	92	*
Scranton (U)(1955)	746	35.4	21.0	83.2	61.9	50.1	f	f	f	1141	6047	4.43	2.02	36.61	f	f	f	f	f	f	f	f	--	f	f	--	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
Shippingport (1957)	736	33.8	20.7	80.5	60.0	51.0	2	92	-3	1163	5647	5.17	1.40	38.96	7.01	.71	3.30	3.6	17.4	9.0	g76	g64	--	g80	g55	--	3.3	2.0	63	--	--	---	---	---	144	5	40	21	10	126	1
Williamsport	527	36.1	21.4	85.3	61.8	50.7	20	102	-15	1122	5934	4.18	2.51	40.65	9.45	.19	4.38	9.9	43.1	23.1	76	62	69	85	52	64	9.2	6.9	--	--	--	69	117	179	142	12	33	40	18	131	4
RHODE ISLAND							77	102	-23							.00	12.13																								
Block Island	110	37.9	26.3	75.9	63.2	50.1	14	91	-4	1020	5804	4.07	2.56	40.45	11.51	T	8.52	4.7	22.7	16.9	73	65	--	87	72	--	---	---	--	--	--	101	108	156	113	7	17	82	*	87	*
Providence	51	37.3	21.0	81.4	62.7	50.1	9	97	-9	1110	5954	4.14	2.76	42.13	11.89	.39	6.63	9.3	39.1	18.3	70	57	64	80	57	70	11.9	10.0	--	56	60	109	103	153	126	10	22	29	6	120	2
SOUTH CAROLINA							80	111	-13							.00	13.25																								
Charleston	41	61.2	38.3	89.2	72.0	65.2	22	103	8	487	2033	7.71	2.09	49.16	18.46	.08	8.84	T	.1	2.1	86	56	74	90	65	81	9.5	8.0	--	59	63	99	115	151	116	*	58	28	49	34	0
Charleston(U)(1961)	9	61.4	39.2	89.4	70.8	65.2	18	103	14	472	1973	8.04	1.92	46.11	17.31	.08	8.84	T	.1	2.1	87	56	75	90	65	82	9.9	8.3	--	65	80	96	116	153	121	*	60	31	48	31	0
Columbia	217	58.2	35.6	92.5	70.7	64.0	17	107	4	570	2484	6.09	2.36	46.82	16.72	T	7.66	.2	1.2	8.8	85	54	69	86	52	66	7.1	6.7	--	61	65	124	103	138	110	*	54	26	86	54	0
Florence	146	58.3	36.7	90.9	70.4	64.0	17	108	8	552	2387	6.24	2.18	42.69	13.68	.00	6.36	.1	1.0	4.8	82	52	66	88	57	73	8.2	7.2	--	--	--	121	107	137	110	*	53	29	71	46	0
Greenville (1961)	1018	51.6	35.0	87.9	68.8	61.0	2	98	8	673	3060	4.81	3.00	47.65	10.10	.52	5.79	.5	4.1	6.4	70	41	50	85	56	70	9.4	7.7	70	58	63	107	104	154	116	1	50	23	48	54	0
Spartanburg (1961)	801	52.1	34.7	88.7	69.1	61.2	18	104	3	670	3044	4.70	2.97	46.66	10.33	.13	6.85	.8	3.6	7.1	73	44	51	89	56	70	8.6	6.8	--	--	--	127	87	151	114	1	47	23	48	52	0
Greenville-Spartanburg	957	53.3	34.7	90.0	69.7	61.8	1	98	9	660	2980	4.75	2.84	46.42	11.30	.24	4.45	.3	3.8	2.1	71	49	58	86	60	69	7.4	6.8	47	60	59	137	86	142	107	2	36	36	40	64	0

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1931-1960)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (mph)			Sunshine (percent of possible)		Annual mean number of days									
		NORMAL (1931-1960)					Extremes					NORMAL (1931-1960)			Extremes			Snow, sleet			January			July			Mean hourly					Sunrise to sunset							Temperature		
		January		July														Mean total		Ex treme																			Max	Min	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length yrs	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:00 a m EST	1:00 p m EST	7:00 p m EST	7:00 a m EST	1:00 p m EST	7:00 p m EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	90 and above	32 and below	Zero and below
SOUTH DAKOTA							75	120	-58							0.00	13.52																								
Huron	1282	23.1	1.9	90.3	59.6	44.7	5	108	-39	1628	8223	3.14	0.48	17.33	7.69	T	4.20	6.1	37.3	17.5	77	70	74	88	53	50	11.8	10.9	77	54	77	105	112	148	93	12	43	15	33	177	44
Rapid City	3165	34.1	9.8	87.7	59.9	46.8	15	109	-26	1333	7345	3.08	.30	14.71	7.05	T	4.01	5.5	35.8	14.7	70	59	65	70	45	40	10.3	9.9	66	55	71	112	113	140	94	12	45	15	33	166	21
Sioux Falls	1418	25.1	5.2	86.0	62.5	45.7	17	108	-31	1544	7839	4.35	.62	25.16	7.94	T	4.32	5.8	41.4	26.0	71	63	68	84	52	50	10.9	9.5	--	--	--	106	105	154	91	11	45	21	26	168	31
TENNESSEE							82	113	-32							.00	11.00																								
Bristol	1507	46.8	29.7	86.4	65.4	56.8	19	102	-9	828	4143	5.55	2.15	41.06	9.73	.07	3.65	3.9	14.5	16.2	83	63	70	89	57	66	6.7	4.2	--	--	--	90	112	163	133	4	46	41	21	95	1
Chattanooga	665	49.9	33.4	90.0	71.4	61.2	25	106	-7	722	3254	5.64	3.02	51.96	13.68	.20	5.40	1.3	3.8	8.9	82	62	68	88	56	64	7.3	5.1	82	41	63	108	110	147	120	2	56	34	58	73	*
Knoxville	980	50.1	32.6	88.5	68.2	59.6	4	96	-6	732	3494	4.88	2.54	45.85	11.74	T	5.08	3.3	11.9	18.2	79	62	63	89	61	65	8.6	6.5	73	37	59	102	108	155	127	3	48	28	21	75	1
Memphis	263	50.6	32.4	91.1	71.5	61.5	23	106	-13	729	3232	6.07	2.72	49.73	12.29	T	4.94	2.0	5.2	14.3	81	65	71	86	57	60	10.9	7.6	56	47	74	120	102	143	104	1	52	11	69	59	*
Nashville	577	48.8	30.9	90.7	69.6	60.0	25	107	-15	778	3578	5.49	2.32	45.14	13.92	T	5.34	3.6	10.7	10.2	83	67	72	86	55	61	8.9	6.1	73	39	64	105	109	151	118	4	56	15	59	75	1
Oak Ridge (R)	905	49.2	30.6	88.7	66.7	58.2	17	105	-8	778	3817	5.95	2.67	54.71	13.27	T	7.48	2.3	9.0	12.0	--	--	--	--	--	--	4.8	3.9	--	--	--	115	92	158	126	3	53	34	37	81	*
Oak Ridge Area	886	48.9	31.2	88.0	66.7	58.5	20	103	-8	772	3742	5.44	2.82	51.52	12.84	.00	7.75	---	---	---	--	--	--	--	--	--	5.7	3.8	--	--	--	---	---	---	119	--	--	--	35	79	*
TEXAS							84	120	-24							.00	38.20																								
Abilene	1762	56.4	32.8	94.3	72.1	64.3	11	107	5	642	2624	4.33	.88	23.32	13.19	.00	6.70	1.5	3.9	5.7	73	44	44	82	51	44	12.4	10.9	73	62	77	153	97	115	65	2	41	6	108	46	*
Amarillo	3604	49.8	23.5	94.2	67.0	58.7	4	104	-9	877	3985	3.37	.62	19.67	10.16	.00	6.75	3.8	13.8	12.2	63	40	36	71	40	36	13.1	12.3	84	d69	d77	161	107	97	67	4	49	24	83	105	4
Austin	597	60.3	40.5	95.1	73.9	68.3	4	105	12	468	1711	3.71	1.94	32.58	12.31	.00	7.22	.6	.9	7.0	74	53	51	88	47	40	9.9	8.7	57	48	78	120	113	132	80	*	40	23	118	26	0
Brownsville	16	70.5	52.2	92.5	75.5	73.7	27	104	19	205	600	4.99	1.04	26.75	17.12	T	8.18	T	T	T	89	65	74	93	55	65	12.0	11.9	57	46	81	100	138	127	70	0	23	25	115	2	0
Corpus Christi	41	67.4	47.4	93.5	74.6	71.8	5	103	14	291	914	4.40	1.44	28.34	14.54	.00	7.68	.1	.1	1.1	81	64	64	90	55	62	11.9	11.7	70	48	85	108	119	138	74	*	32	26	112	10	0
Dallas	481	55.8	36.0	94.5	75.3	65.8	6	107	8	601	2363	4.83	1.93	34.55	13.85	T	9.18	1.5	2.3	7.4	75	57	55	79	50	43	10.4	10.2	65	50	78	145	93	127	79	1	41	8	101	41	0
Del Rio (1956) e	1091	62.2	41.6	93.3	76.1	69.8	51	111	11	419	1407	2.51	.80	18.62	13.71	.00	8.88	.4	.7	4.7	81	58	53	80	50	41	7.8	9.7	62	53	75	153	118	94	61	*	24	6	118	14	0
Del Rio	1026	----	----	----	----	----	2	107	19	----	----	----	----	-----	15.79	T	4.50	T	T	T	62	41	31	69	43	33	10.3	11.4	--	--	--	130	118	118	50	0	45	8	131	26	0
El Paso	3918	56.3	29.5	94.9	68.9	63.3	5	106	-8	685	2700	1.29	.29	7.89	6.29	.00	2.89	1.4	4.3	7.8	60	41	32	55	43	30	10.0	9.6	70	77	78	197	99	69	44	1	37	2	113	63	1
Ft.Worth(Gtr.Int'l.AP)	537	56.0	34.9	95.9	74.9	65.8	11	109	7	614	2405	4.59	1.68	31.33	12.64	.02	5.91	2.2	3.6	12.1	81	62	63	79	47	43	12.5	11.1	--	--	--	149	92	124	77	1	44	11	106	41	0
Galveston (1961)	7	60.4	48.2	88.7	77.9	70.1	11	97	18	362	1233	5.82	3.14	47.98	25.06	T	11.34	T	.2	2.0	84	73	78	82	69	71	13.0	11.3	--	--	--	111	118	136	90	*	52	32	32	2	0
Galveston (U)	7	60.5	49.3	87.3	78.9	69.9	94	101	8	350	1235	4.79	2.59	41.81	26.01	.00	14.35	T	.2	15.4	--	--	--	--	--	--	11.6	9.8	91	49	73	---	---	---	97	*	--	--	12	4	0
Houston (U)	41	62.6	46.6	92.0	75.8	70.0	27	106	10	363	1278	4.43	2.40	45.26	17.64	.01	10.83	.2	.3	3.0	--	--	--	--	--	--	---	---	--	--	--	---	---	---	103	*	--	--	91	7	0
Houston	50	63.6	43.6	92.1	73.8	69.2	5	106	17	384	1396	4.36	2.67	45.95	22.31	T	15.65	.2	.4	4.4	84	66	68	70	59	65	12.2	9.0	--	46	83	90	125	150	102	*	60	43	103	15	0
Laredo	496	68.4	47.0	99.0	76.0	73.9	20	110	18	267	797	2.86	.62	18.63	8.62	.00	5.55	.1	.1	2.0	81	58	53	83	44	39	9.6	14.8	--	--	--	130	116	119	58	*	31	14	174	6	0
Lubbock	3243	53.0	25.4	92.4	66.5	59.7	19	107	-16	800	3578	3.18	.54	18.08	7.80	.00	5.14	1.9	8.7	12.1	73	49	49	77	47	40	13.2	12.4	--	--	--	173	101	91	60	3	43	14	87	101	1
Midland	2851	57.1	30.9	94.5	71.2	64.3	3	106	-8	651	2591	2.08	.36	14.24	6.73	.00	5.99	1.4	3.0	5.9	79	55	47	79	47	39	9.4	9.8	--	--	--	169	97	99	48	2	36	14	109	64	*
Port Arthur	16	63.5	43.7	91.0	72.7	68.5	4	107	14	384	1447	6.00	2.88	53.09	18.71	.00	13.17	T	.7	4.4	87	68	76	94	63	71	11.9	8.3	73	43	64	93	128	144	103	*	65	40	99	22	0
San Angelo	1903	59.4	34.3	96.9	72.7	66.4	5	111	6	567	2255	3.20	.78	18.63	9.20	.00	6.03	.9	2.4	5.1	69	44	40	73	42	35	10.5	9.8	--	--	--	165	94	106	53	1	36	6	132	56	0
San Antonio(Int'l.AP)	788	62.3	41.6	94.0	73.9	68.7	23	106	0	428	1546	3.49	1.37	27.84	15.78	.00	6.97	.3	.5	4.7	80	60	58	88	49	43	9.1	9.1	74	48	77	114	117	134	77	*	36	23	120	19	*
Victoria	104	64.8	46.0	91.7	74.6	70.2	4	107	16	344	1173	4.23	2.32	36.20	7.64	.22	6.14	.0	T	T	82	60	65	93	54	58	11.6	9.0	99	--	--	95	131	139	75	0	42	28	120	15	0
Waco	500	58.2	37.8	96.0	74.6	67.2	20	108	-5	536	2030	4.57	1.68	32.08	13.37	.00	7.18	1.1	1.5	7.0	83	64	64	84	51	47	12.9	11.7	--	--	--	135	102	128	76	1	47	13	110	28	*
Wichita Falls	994	53.9	31.6	97.9	73.3	64.5	5	113	-1	698	2832	4.60	1.12	26.20	12.03	.00	5.61	1.8	5.4	5.2	74	49	48	75	42	38	11.0	10.5	--	--	--	163	95	107	69	2	48	12	112	65	*
UTAH							74	116	-50							.00	5.08																								
Milford	5028	37.1	12.1	92.1	55.5	48.9	16	104	-28	1252	6497	1.03	.43	8.00	2.10	.00	1.20	9.7	39.0	16.3	--	65	60	--	23	20	---	---	--	--	--	152	104	109	58	13	32	7	60	178	14
Salt Lake City	4220	36.8	17.5	94.1	59.6	50.9	5	107	-18	1172	6052	1.76	.53	13.90	4.90	.00	2.41	13.2	52.8	15.4	81	73	70	47	22	16	7.5	9.5	71	48	83	132	106	127	86	17	35	10	64	142	5
Wendover	4237	35.9	18.0	92.0	66.8	52.3	27	112	-19	1178	5778	.66	.29	4.67	3.01	.00	1.33	2.5	7.0	5.5	65	57	57	27	18	12	---	---	--	--	--	158	92	115	45	3	29	5	53	129	1
VERMONT							77	105	-50							.00	8.77																								
Burlington	331	25.4	6.9	81.9	56.0	43.2	20	101	-30	1513	8269	3.85	1.79	33.21	11.54	.50	3.59	17.0	68.9	14.5	79	67	75	77	54	66	9.9	7.8	72	38	62	62	105	198	148	20	24	15	9	159	24
VIRGINIA							74	110	-29							.00	12.50																								
Lynchburg	916	46.2	29.0	86.6	65.9	56.7	18	103	2	849	4166	4.41	2.58	40.30	11.36	.61	4.98	4.8	16.9	12.8	75	57	65	84	56	70	8.8	6.8	56	50	62	109	108	148	123	5	41	40	27	82	0
Norfolk	26	50.2	32.2	87.9	69.6	59.7	16	103	11	738	3421	5.97	2.74	44.94	12.83	.36	11.40	2.6	6.5	11.4	77	60	70	82	59	72	11.6	8.5	78	59	64	109	107	149	117	2	39	25	34	53	0
Richmond	162	48.3	29.0	89.4	66.7	58.1	35	104	-12	815	3865	5.61	2.90	44.21	18.87	.30	8.79	4.9	13.6	21.6	81	57	70	84	56	72	8.1	7.0	68	51	67	105	106	154	115	4	39	29	44	84	1
Roanoke	1149	47.0	29.1	88.0	65.2	56.9	16	104	-4	834	4150	4.63	2.70	41.23	9.12	.27	4.95	5.9	22.3	17.4	71	54	61	82	51	64	10.0	6.6	--	--	--	101	119	145	121	7	41	26	40	87	*
WASHINGTON							98	118	-42							.00	32.27																								
Olympia	195	45.1	31.1	79.7	48.0	50.8	5	100	3	834	5236	9.05	.76	52.37	19.84	.00	4.93	6.9	15.5	13.7	90	87	78	89	64	49	7.2	5.9	--	--	--	50	90	225	163	5	4	93	6	87	0
Seattle (U)	14	45.6	36.8	75.1	56.1	53.2	31	100	11	738	4424	5.42	.63	34.10	10.93	T	3.31	4.3	8.1	11.5	--	--	--	--	--	--	---	---	65	28	63	71	93	201	152	3	6	--	2	15	0
Seattle-Tacoma	400	43.6	33.0	75.6	54.1	51.1	5	99	10	828	5145	6.29	.81	38.94	12.92	T	3.41	6.1	14.0	21.4	80	79	74	86	66	50	10.8	9.3	--	--	--	54	82	229	164	3	8	54	3	40	0
Spokane	2357	31.4	19.2	85.6	55.4	47.8	5	108	-20	1231	6655	2.44	.38	17.19	5.71	T	2.07	19.4	57.9	13.0	82	80	74	59	37	23	8.0	7.9	56	28	82	86	88	191	118	19	12	47	20	138	6
Stampede Pass (R)	3958	27.5	19.5	65.4	47.0	39.5	21	90	-16	1287	9283	16.19	1.46	92.19	29.06	.19	7.94	78.5	450.5	36.2	93	92	91	87	67	60	---	---	--	--	--	70	54	241	206	85	7	252	*	190	3
Tatoosh Is. (R)	101	45.2	38.8	59.5	51.5	49.3	62	88	14	713	5719	12.16	1.98	77.69	22.57	.02	5.91	3.4	7.6	12.0	84	82	82	94	89	87	20.0	10.1	94	26	47	58	76	231	197	3	5	59	0	8	0
Walla Walla (U)	949	39.0	27.4	89.2	62.7	54.2	50	113	-16	986	4805	1.89	.21	15.50	4.52	.00	2.02	7.8	19.9	14.0	--	76	--	--	34	--	5.1	5.4	67	25	86	120	88	157	106	7	11	14	36	66	2
Yakima	1052	36.5	18.5	88.9	53.1	49.8	18	108	-25	1163	5941	1.19	.13	7.86	4.19	.00	1.40	9.6	24.5	14.0	84	76	71	69	35	25	5.4	7.6	--	-	--	112	87	166	70	8	8	20	34	153	5
WEST INDIES							64	103	40							.00																									
San Juan (U)	47	79.9	70.3	84.2	76.0	78.3	66	96	62	0	0	7.16	2.07	60.36	16.88	.05	10.55	.0	.0	.0	--	--	--	--	--	--	---	---	--	--	--	---	---	---	208	0	49	0	10	0	0
San Juan	15	81.3	67.4	87.1	73.7	78.0	10	94	60	0	0	7.13	2.20	64.21	13.59	.68	5.08	.0	.0	.0	87	66	79	81	67	79	8.4	9.5	80	67	63	53	206	106	209	0	37	0	37	0	0
WEST VIRGINIA							74	112	-37							.00	19.00																								
Beckley	2504	41.9	21.0	81.5	57.1	50.7	13	97	-18	1032	5548	4.75	2.33	43.48	8.66	.14	3.37	10.9	45.8	----	--		--	--	--	--	---	---	-	--	--	---	---	---	---	--	--	-	5	136	5
Charleston	939	45.2	27.9	85.6	64.2	55.6	16	102	-12	880	4476	5.67	2.58	44.43	13.54	.09	5.60	7.6	26.8	15.1	77	62	66	89	62	67	7.7	5.2	--	--	--	61	117	187	149	8	43	109	24	99	1
Elkins	1970	43.0	22.0	82.3	57.9	50.7	20	97	-21	1008	5675	5.49	2.75	45.92	9.30	.31	2.94	12.8	60.9	6.4	79	60	68	97	59	74	7.3	4.2		--	-	54	110	201	164	22	46	85	3	142	5
Huntington	827	45.3	27.9	86.0	64.3	55.8	4	100	15	880	4446	4.50	1.85	39.53	8.57	T	4.27	6.8	23.8	6.3	80	61	62	91	59	65	7.1	5.0	--	--	--	82	114	169	129	8	39	53	18	108	6
Parkersburg (U)	615	42.9	26.3	86.3	65.2	55.0	76	106	-27	942	4754	4.27	2.05	38.77	12.05	.07	4.81	6.8	24.3	18.3	82	66	74	80	52	67	7.2	5.1	66	31	63	109	103	153	143	8	44	12	23	97	2

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F)								Normal degree days (1931-1960)		Precipitation (inches)									Relative humidity (percent)						Wind Speed (m p h)			Sunshine (percent of possible)		Annual mean number of days									
		NORMAL (1931-1960)					Extremes					NORMAL (1931-1960)			Extremes			Snow sleet			January			July			Mean hourly					Sunrise to sunset							Temperature		
		January		July														Mean total		Ex-treme																			Max	Min	
		Daily maximum	Daily minimum	Daily maximum	Daily minimum	Annual	Length, yrs	Record highest	Record lowest	January	Seasonal	Wettest month	Driest month	Annual	Wettest month	Driest month	Maximum in 24 hours	January	Seasonal	Maximum in 24 hours	7:00 a m EST	1:00 p m EST	7:00 p m EST	7:00 a m EST	1:00 p m EST	7:00 p m EST	January	July	Fastest mile	January	July	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow sleet hail 1.0 inch or more	Thunderstorms	Heavy fog	90 and above	32 and below	Zero and below
WISCONSIN							74	114	-54							0.00	11.72																								
Green Bay	682	25.1	8.5	82.0	59.0	44.3	4	96	-29	1494	8029	3.36	1.08	25.83	7.75	T	3.68	7.9	39.7	10.1	74	69	71	90	61	63	10.9	8.1	73	44	64	97	100	168	117	14	38	29	7	156	35
La Crosse	651	25.6	7.4	84.6	63.0	46.3	14	103	-37	1504	7589	4.20	1.05	31.16	9.16	.02	3.92	7.3	43.0	15.7	76	65	70	86	57	58	9.4	8.0	--	--	--	92	101	172	108	12	43	23	14	152	24
Madison	858	25.9	9.1	82.2	60.0	45.0	5	101	-30	1473	7863	3.95	1.13	30.16	10.93	.06	5.25	8.4	38.4	10.8	76	67	70	89	58	60	10.5	8.3	77	49	70	95	99	171	113	12	40	23	11	164	29
Milwaukee	672	28.3	12.8	78.9	58.4	45.1	5	98	-24	1376	7635	3.64	1.40	29.51	9.87	.15	5.28	12.4	42.8	16.7	75	67	70	83	61	64	13.0	9.7	73	43	70	97	101	167	119	13	37	27	10	150	21
WYOMING							105	114	-63							.00	5.50																								
Casper	5338	32.8	13.9	87.1	56.3	46.0	13	104	-30	1290	7410	2.03	.48	11.80	3.93	T	2.49	9.0	67.2	14.6	65	55	58	63	29	23	16.9	10.3	--	--	--	118	105	142	89	21	37	9	26	174	15
Cheyenne	6126	37.2	13.6	85.2	54.8	45.9	5	96	-27	1228	7278	2.52	.45	15.06	5.35	T	2.68	6.3	54.3	16.5	55	46	51	69	33	37	14.7	9.9	69	63	69	104	133	128	101	17	53	24	15	171	13
Lander	5563	30.8	7.7	85.8	55.4	44.4	18	101	-37	1417	7870	2.65	.42	13.58	6.88	T	3.56	8.9	91.9	23.1	66	58	58	56	33	28	6.1	7.5	77	68	78	124	127	114	69	22	32	3	21	185	20
Sheridan	3964	34.0	8.6	87.1	55.5	45.2	23	106	-35	1355	7683	2.57	.62	15.91	9.54	.06	3.84	9.1	65.4	26.7	73	63	66	72	36	34	7.7	7.4	84	58	76	104	111	150	106	22	37	6	27	181	22

Data from airport or from airport and Urban site records combined.
U indicates Urban, R indicates Rural sites.
Data for this table are based on records through 1964 except as indicated in notes.
Date in Parenthesis after station name indicates last year included in summarization of data.
Normal values are based on the period, 1931-1960, and are means adjusted to represent observations taken at the present standard location.
Degree days are based on a daily average of 65°F.

Fastest mile is the speed of the wind recorded in the shortest time on an automatic recording wind instrument.
Clear Day averages 0-3 tenths sky cover, Partly Cloudy 4-7 tenths and Cloudy 8-10 tenths.
Heavy Fog includes data formerly referred to as "Dense" or "Thick." The upper visibility limit for heavy fog is 1/4 mile.

*	Less than one-half.
-	No record.
#	Number of days Maximum 70° or above (Alaskan stations).
†	Relative humidity means for period of record through 1960.
‡	Mt. Washington excluded.
ø	Estimated amounts during typhoon.
1/	Means and extremes are from post office location through 1962.
a	Relative Humidity readings NOON Local Time.
b	Relative Humidity readings reported 30 minutes later.
c	Relative Humidity readings 8:00 a.m. and NOON Local Time.
d	Estimated
e	Reopened 1963.
f	Combined Records, city office and airport.
g	8:00 a.m., and 2:00 p.m., EST.
n	Estimated, recorder pen against stop at 128 m.p.h.
T	Trace, an amount too small to measure.
x	Sun below horizon continuously Nov. 18 - Jan. 24.
v	Sun below horizon continuously Nov. 26 - Jan. 16.

(x and v)-Yearly totals for period sun above horizon.

ELEVATIONS FROM WHICH STATION PRESSURES ARE REDUCED

State and station	Ft.	Mtrs.
ALABAMA		
Birmingham	700	213
Huntsville	644	196
Mobile	57	17
Montgomery	218	66
ALASKA		
Anchorage	132	40
Annette	110	34
Barrow	13	4
Barter Island	50	15
Bethel	38	12
Cold Bay	103	31
Cordova	40	12
Fairbanks	454	138
Juneau	24	7
King Salmon	49	15
Kotzebue	16	5
McGrath	338	103
Nome	22	7
Shemya	102	31
St. Paul Island	28	9
Yakutat	31	9
ARIZONA		
Flagstaff	6907	2104
Phoenix	1107	336
Prescott	5022	1531
Tucson	2555	779
Winslow	4883	1488
Yuma	141	43
ARKANSAS		
Fort Smith	463	141
Little Rock	357	109
Texarkana	368	112
CALIFORNIA		
Bakersfield	492	150
Bishop	4145	1263
Blue Canyon	5283	1610
Burbank	725	221
Eureka (U)	60	18
Fresno	327	100
Long Beach	40	12
Los Angeles (U)	512	156
Los Angeles	104	32
Mt Shasta (R)	3587	1094
Oakland	7	2
Point Arguello (R)	367	112
Red Bluff	353	108
Sacramento	30	9
Sandberg (R)	4523	1378
San Diego	87	27
San Francisco	18	5
Santa Catalina	1580	482
Santa Maria	238	73
Stockton	27	[illegible]
COLORADO		
Alamosa	7541	2298
Colorado Springs	6170	1881
Denver	5292	1613
Grand Junction	4602	1403
Pueblo	4690	1430
CONNECTICUT		
Bridgeport	17	5
Hartford	159	48
New Haven	13	4
DELAWARE		
Wilmington	80	24
DISTRICT OF COLUMBIA		
Washington (U)	112	34
Wash. Nat'l AP	112	34
FLORIDA		
Apalachicola (U)	35	11
Daytona Beach	41	12
Fort Myers	12	4
Jacksonville	43	13
Key West	21	6
Lakeland (U)	236	72
Miami	25	7
Orlando	119	36
Pensacola	56	17
Tallahassee	68	21
Tampa	35	11
West Palm Beach	21	6
GEORGIA		
Athens	811	247
Atlanta	1173	358
Augusta	182	55
Columbus	394	120
Macon	370	113
Rome	643	196
Savannah	65	20
HAWAII		
Hilo	36	11
Honolulu	15	5
Kahului	67	20
Lihue	148	45
IDAHO		
Boise	2739	835
Idaho Falls 46W (R)	4939	1505
IDAHO (Cont'd.)		
Lewiston	1436	438
Pocatello	4478	1365
ILLINOIS		
Cairo (U)	357	109
Chicago (O'Hare)	674	205
Chicago (Midway)	623	190
Moline	606	185
Peoria	609	186
Rockford	743	226
Springfield	636	194
INDIANA		
Evansville	431	131
Fort Wayne	857	261
Indianapolis	823	251
South Bend	773	236
IOWA		
Burlington	702	214
Des Moines	860	262
Dubuque	699	213
Sioux City	1138	347
Waterloo	878	268
KANSAS		
Concordia	1392	424
Dodge City	2509	765
Goodland	3688	1124
Topeka	986	299
Wichita	1358	414
KENTUCKY		
Covington	877	265
Lexington	989	301
Louisville	525	160
LOUISIANA		
Alexandria	118	36
Baton Rouge	76	23
Lake Charles	32	10
New Orleans (Audubon)	177	54
New Orleans	53	16
Shreveport	249	76
MAINE		
Caribou	628	191
Portland	103	31
MARYLAND		
Baltimore	123	37
Baltimore (U)	123	37
MASSACHUSETTS		
Blue Hill Obs. (R)	640	195
Boston	124	38
Nantucket	12	4
Pittsfield	1169	354
Worcester	997	302
MICHIGAN		
Alpena	609	210
Detroit (City AP)	730	223
Detroit (M. Wayne Co.)	664	202
Detroit (Willow Run)	777	237
Flint	766	233
Grand Rapids	707	215
Lansing	878	271
Marquette (U)	734	224
Muskegon	633	193
Sault Ste. Marie	614	187
MINNESOTA		
Duluth	1133	345
International Falls	1126	343
Minneapolis	919	280
Rochester	1021	311
St. Cloud	1043	318
MISSISSIPPI		
Jackson	331	101
Meridian	375	113
Vicksburg (U)	247	75
MISSOURI		
Columbia	784	239
Kansas City	963	294
St. Joseph	966	294
St. Louis (Lambert)	568	173
Springfield	1324	404
MONTANA		
Billings	3570	1088
Glasgow	2086	636
Great Falls	3657	1115
Havre	2507	764
Helena	4123	1257
Kalispell	2973	906
Miles City	2634	803
Missoula	3263	995
NEBRASKA		
Grand Island	1856	566
Lincoln (U)	1889	576
Norfolk	1551	473
North Platte	2821	860
Omaha (Eppley AP)	1105	337
Omaha (N. Omaha AP)	1330	405
Scottsbluff	3958	1206
Valentine	2598	792
NEVADA		
Elko	5077	1547
Ely	6262	1909
Las Vegas	1869	570
Reno	4527	1380
Winnemucca	4399	1341
NEW HAMPSHIRE		
Concord	289	88
Mt. Washington Obs.	6267	2010
NEW JERSEY		
Atlantic City (Exp. Cntr.)	52	16
Atlantic City (U)	52	16
Newark	30	9
Trenton (U)	190	58
NEW MEXICO		
Albuquerque	4972	1515
Clayton	5052	1525
Raton	6376	1943
Roswell	3566	1087
Silver City	5376	1638
NEW YORK		
Albany	97	30
Binghamton	1638	499
Buffalo	768	234
New York Central Park	314	96
New York (U)	314	96
New York (Kennedy AP)	22	7
New York (LaGuardia)	52	16
Rochester	523	159
Schenectady	217	66
Syracuse	596	182
NORTH CAROLINA		
Asheville (U)	2253	687
Cape Hatteras (R)	11	3
Charlotte	779	237
Greensboro	886	270
Raleigh	376	115
Wilmington	72	22
Winston-Salem	978	298
NORTH DAKOTA		
Bismarck	1677	511
Fargo	940	287
Williston	1878	571
OHIO		
Akron	1052	321
Cincinnati (U)	627	191
Cleveland	762	232
Columbus	822	251
Dayton	900	274
Mansfield	1312	400
Sandusky (U)	632	193
Toledo	628	191
Youngstown	1186	361
OKLAHOMA		
Oklahoma City	1214	370
Tulsa	676	206
OREGON		
Astoria	22	7
Burns (U)	4170	1271
Eugene	373	114
Meacham	4056	1236
Medford	1329	405
Pendleton	1495	456
Portland	154	47
Roseburg	510	155
Salem	201	61
Sexton Summit (R)	3841	1171
PACIFIC AREA		
Canton Island	11	3
Eniwetok	21	6
Johnston Island	10	3
Koror (R)	109	33
Kwajalein	26	8
Ponape (R)	151	46
Truk (Moen Island)	8	2
Wake Island	12	4
Yap (R)	56	17
Taguac, Guam (R)	365	111
PENNSYLVANIA		
Allentown	385	117
Erie	714	218
Harrisburg	378	115
Philadelphia	114	15
Pittsburgh	842	257
Reading (U)	323	98
Scranton	948	289
Williamsport	525	160
RHODE ISLAND		
Block Island	118	36
Providence	159	48
SOUTH CAROLINA		
Charleston	48	15
Columbia	347	106
Florence	151	46
Grnvl-Spartanburg	971	296
SOUTH DAKOTA		
Huron	1301	397
Rapid City	3259	993
SOUTH DAKOTA (Cont'd)		
Sioux Falls	1427	435
TENNESSEE		
Bristol	1525	465
Chattanooga	762	232
Knoxville	980	299
Memphis	399	122
Nashville	546	166
Oak Ridge	914	279
TEXAS		
Abilene	1738	530
Amarillo	3676	1120
Austin	605	184
Brownsville	57	17
Corpus Christi	20	6
Dallas	512	156
Del Rio	960	293
El Paso	3778	1152
Fort Worth	576	176
Galveston	9	3
Galveston (U)	54	16
Houston	62	19
Houston (U)	138	40
Laredo	418	127
Lubbock	3241	988
Midland	2862	872
Port Arthur	34	10
San Angelo	1908	582
San Antonio	693	211
Victoria	117	36
Waco	578	176
Wichita Falls	1030	314
UTAH		
Milford	5097	1526
Salt Lake City	4357	1328
Wendover	4239	1292
VERMONT		
Burlington	403	123
VIRGINIA		
Lynchburg	686	209
Norfolk	30	9
Richmond	164	50
Roanoke	1176	358
WASHINGTON		
Olympia	200	61
Seattle-Tacoma	388	118
Spokane	1929	588
Stampede Pass (R)	3967	1209
Tatoosh Island (R)	86	26
Walla Walla (U)	991	302
Yakima	1076	307
WEST INDIES		
San Juan, P. R.	82	25
Swan Island	35	11
WEST VIRGINIA		
Beckley	2514	766
Charleston	989	301
Elkins	1947	593
Huntington	838	255
WISCONSIN		
Green Bay	617	188
La Crosse	714	218
Madison	974	297
Milwaukee	681	208
Parkersburg (U)	637	194
WYOMING		
Casper	5290	1612
Cheyenne	6094	1830
Lander	5352	1631
Sheridan	3790	1155

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
These are the elevations of the barometer (in feet and meters above mean sea level) to which station pressure values pertain in the "Climatological Data" table in the monthly publication CLIMATOLOGICAL DATA NATIONAL SUMMARY. When an elevation differs from the present station elevation this level was selected to permit comparison of data for a longer period of homogeneous record.

GENERAL SUMMARY OF TORNADOES, 1964

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A total of 713 tornadoes were reported in 1964. They killed 73 persons, injured 1,085 others, and caused extensive damage to property and crops. Tornadoes occurred on 156 days. Almost three-fourths of these days (72%) were in the 5-month period April to August, when tornadoes occurred somewhere in the United States on an average of 3 days in 4. These statistics are listed by states in Table 1. The table shows that 440 tornadoes, 62 percent of the total number, occurred from April to June and 580 or 81 percent of the storms occurred in the 5-month period, April to August. This is the usual "tornado season", the time of year when tornadoes are generally most frequent. Only 15 percent occurred during the first 3 months and the last 3 months of the year.

Two-thirds of the tornadoes, 475, occurred in 11 States -- Minnesota, Wisconsin, Iowa, South Dakota, Nebraska, Kansas, Missouri, Arkansas, Oklahoma, Texas, and Louisiana. Half of the tornadoes, 356, occurred in six States -- Wisconsin, Iowa, Nebraska, Kansas, Oklahoma, and Texas. The high frequency of tornadoes in this section of the Plains is responsible for its occasionally being referred to as the "tornado belt." The summary includes nine tornadoes that crossed State lines. A brief discussion follows.

On April 12, two tornadoes crossed the Kansas-Missouri boundary. One moved from Leavenworth County, Kans., to Platte County, Mo., about midafternoon. Later in the afternoon a tornado moved from Bourbon County, Kans., to Vernon County, Mo. On April 28, a tornado moved from Cleburne County, Ala., to Haralson County, Ga.

On May 4, a tornado moved from northwest of Harpers Ferry, Iowa, to Rising Sun, Wis. The storm caused considerable property damage in both States. On May 5, a tornado moved from near Fairmount, N. Dak., northeastward to near Doran, Minn. In the Fairmount area the storm injured 11 persons, demolished 6 houses and 2 churches, and badly damaged a score of other houses before moving to Minnesota. On the same date, May 5, a tornado caused crop damage and destroyed many farm buildings in Campbell County, S. Dak. The storm peeled the black top surface from several hundred feet of Highway 10. It moved to North Dakota where it destroyed more farm buildings, a utility company substation, and leveled utility lines.

On the afternoon of June 11, a tornado crossed from Curry County, N. Mex., to near Bovina, Parmer County, Tex. On the 17th a tornado over the Mountain Home area in Arkansas moved east-northeast to Thayer, Mo. On November 19, a tornado crossed the Arkansas-Mississippi State boundary.

A number of tornadoes are described briefly because of the number of persons killed or injured or because they caused extensive damage.

On January 24, a tornado struck a wooded area about 1 mile southwest of Harpersville, Ala. It moved to the eastern part of town, demolished 3 houses, and killed 10 persons. It damaged about 20 houses, destroyed 5 farm buildings, and damaged several automobiles. Some of the contents of the demolished houses were found more than a half mile away.

On March 4, a tornado moved from Counce, Tenn., to Clifton Junction. It destroyed a chemical plant; heavily damaged a pulp and paper mill; caused several million dollars damage at the Pickwick Dam TVA Station; destroyed a boat dock and about 15 boats, many houses, and damaged barns, roofs, TV antennas, utility lines, trees, and motor vehicles.

On April 3, a very large tornado struck the northwest section of Wichita Falls, Tex., and the Sheppard Air Force Base, killing 7 persons and injuring 111. Property damage was estimated at $15 million. Property damage included 225 homes destroyed, major damage to 50 homes and 16 other buildings, and minor damage to 200 homes.

During the early evening of May 5, a tornado moved from near Hastings, Nebr., northeastward for about 110 miles to southwestern Cuming County. Severe hail preceded, accompanied, and followed the 1, 2, and sometimes 3 funnels which contacted the ground. Four persons were killed, about 50 injured, and property damage exceeded $15 million.

Severe storms covered all of Lower Michigan on May 8. Several tornadoes occurred. The most damaging struck 3 1/2 miles north of Mount Clemens. It killed 11 persons, injured 244 others, completely demolished 132 dwellings, caused major damage to 69 houses, and minor damage to 167. It also destroyed household furnishings, farm buildings, automobiles, boats, and trees. The property damage was estimated at $2 1/2 to $3 million.

On October 3, a tornado killed 22 persons in the Larose, La., vicinity. Most of the persons were killed when their homes collapsed. Some were killed by flying debris. The storm injured 165 other persons. Some of the debris was carried 16 miles. Property damage exceeded $1/2 million.

Table 2 lists the total number of tornadoes in selected States and shows the number per 10,000 square miles of area in those States. More tornadoes occurred in Kansas than any other State. Furthermore, the ratio of occurrences to land area in that state was the highest in the Nation, 11.5 tornadoes per 10,000 square miles. Texas ranked second in the number of tornadoes but the ratio of the number of tornadoes to the land area was 3.0 tornadoes per 10,000 square miles.

Table 3 lists tornadoes, tornado days, and resulting losses by years for 1916 to 1964. The apparent increase in tornado frequency in recent years as represented in the tables is not an actual increase in the number of occurrences but, rather, indicates the more complete coverage of tornado reports. Property losses are greater in recent years. This is partially because more areas are occupied by dwellings, factories, etc., and partially because of the higher dollar value of such improvements.

Table 4 lists the total number of tornadoes, tornado days, and deaths from tornadoes, by months for the 12-year period 1953 to 1964. Of the 12-year total, 7261, more than 5000 or two-thirds of the tornadoes occurred in the late spring and early summer months, April to July. The number of tornadoes in those months in an "average year" is 417.

Table 5 lists the number of funnel clouds that were seen but which did not reach the ground. As with tornadoes, the funnel clouds were most frequent from April to June. About 60 percent of the funnels were seen during the 3-month period, April to June, and 85 percent in the 5-month period, April to August. These percentage frequencies are about the same as the percentage frequencies of tornado occurrences. Fewer than one-sixth of the funnels and one-sixth of the tornadoes occurred during the first 3 and the last 3 months of the year. As might well be expected, the States that ranked high in tornado frequency also ranked high in the frequency of funnel clouds.

The paths of the tornadoes are shown on the accompanying map, Chart IV.

NOTE.--This summary was prepared from information published by the United States Weather Bureau in Climatological Data National Summary and Storm Data.

TABLE I—TORNADO SUMMARY 1964

Year 1964

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
ALA.													
Number	2		3	12			1			3	2	5	28
Days	1		2	3			1			1	2	2	12
Deaths	10		2	0			0			0	0	0	12
Injuries	6		10	7			0			3	0	0	26
ALASKA (None)													
ARIZ.													
Number								1	1				2
Days								1	1				2
Deaths								2	0				2
Injuries								9	0				9
ARK													
Number	3		3	8	1	3	2	3					23
Days	1		2	3	1	2	1	2					12
Deaths	0		1	0	0	0	0	0					1
Injuries	1		6	0	0	3	0	0					10
CALIF.													
Number	1										3		4
Days	1										3		4
Deaths	0										0		0
Injuries	0										0		0
COLO.													
Number				2	2	2	1						7
Days				2	2	2	1						7
Deaths				0	0	0	0						0
Injuries				0	0	0	0						0
CONN. (None)													
DEL.													
Number			1										1
Days			1										1
Deaths			0										0
Injuries			0										0
FLA.													
Number	4	1	2	3	1	7	2	6		9	1	1	37
Days	1	1	2	3	1	4	2	4		1	1	1	21
Deaths	0	0	0	0	0	0	0	0		0	0	0	0
Injuries	0	0	1	2	0	1	6	1		0	0	4	15
GA.													
Number				6			1					4	11
Days				4			1					3	[illegible]
Deaths				0			0					2	2
Injuries				2			0					20	22
HAWAII (None)													
IDAHO													
Number					1			1					2
Days					1			1					2
Deaths					0			0					0
Injuries					0			0					0
ILL.													
Number			3	4									7
Days			2	2									4
Deaths			0	0									0
Injuries			2	1									3
IND.													
Number				4	1	1	1	1					8
Days				3	1	1	1	1					7
Deaths				0	0	0	0	0					0
Injuries				2	0	0	2	0					4
IOWA													
Number				10	15	15	1	10	4				55
Days				3	5	6	1	3	3				21
Deaths				1	0	0	0	0	0				1
Injuries				30	38	0	0	0	0				68
KANS.													
Number			1	46	13	24	1	7			2		94
Days			1	11	7	11	1	3			2		36
Deaths			0	4	0	0	0	0			0		4
Injuries			0	34	1	0	0	3			0		38
KY.													
Number	4		5			3							12
Days	1		3			2							6
Deaths	0		3			0							3
Injuries	2		30			3							35
LA.													
Number				2				1		6	2	3	14
Days				2				1		2	1	1	7
Deaths				0				0		22	0	0	22
Injuries				2				0		170	1	0	173
MAINE (NONE)													
MD. (None)													
MASS.													
Number					2		3						5
Days					1		2						3
Deaths					0		0						0
Injuries					0		0						0
MICH.													
Number				1	6		3	4	1				15
Days				1	2		2	1	1				7
Deaths				0	11		0	0	0				11
Injuries				0	245		1	5	0				251
MINN.													
Number				1	7	4	1	2	6				21
Days				1	3	2	1	2	2				11
Deaths				0	0	0	0	0	0				0
Injuries				0	14	8	0	0	1				23
MISS.													
Number							1			1	3		5
Days							1			1	1		3
Deaths							0			0	0		0
Injuries							0			0	0		0
MO.													
Number			3	8	1	11	3	1	2				29
Days			2	2	1	4	3	1	1				14
Deaths			0	2	0	0	0	0	0				2
Injuries			29	16	0	1	1	0	0				47
MONT.													
Number				1		1	2	1					5
Days				1		1	2	1					5
Deaths				0		0	0	0					0
Injuries				1		0	0	0					1
NEBR.													
Number				[illegible]	13	13	5	2					41
Days				4	6	4	4	2					20
Deaths				0	4	0	0	0					4
Injuries				0	63	0	0	0					63
NEV.													
Number				1	2	1							4
Days				1	1	1							3
Deaths				0	0	0							0
Injuries				0	1	0							1
N. H.													
Number						1							1
Days						1							1
Deaths						0							0
Injuries						0							0
N. J.													
Number			2										2
Days			2										2
Deaths			0										0
Injuries			10										10
N. MEX.													
Number					2	8			1				11
Days					2	4			1				7
Deaths					1	0			0				1
Injuries					8	1			0				9
N. Y.													
Number						1							1
Days						1							1
Deaths						0							0
Injuries						0							0
N. C.													
Number			2				1	4	1	[illegible]		1	11
Days			1				1	4	1	1		1	9
Deaths			0				0	0	0	0		0	0
Injuries			0				1	17	4	2		1	25
N. DAK.													
Number					2	3	3	3					11
Days					1	3	2	2					8
Deaths					0	0	0	0					0
Injuries					11	0	0	0					11
OHIO													
Number			1		1	4		3					9
Days			1		1	2		1					5
Deaths			0		0	0		0					0
Injuries			0		0	7		0					7
OKLA.													
Number				17	22	4	4	4	1		2		54
Days				7	5	3	4	4	1		2		26
Deaths				0	0	0	0	0	0		0		0
Injuries				2	1	1	0	0	0		0		4
OREG. (None)													

TABLE I-TORNADO SUMMARY 1964

Year 1964

State	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
PA.													
Number			1			4	1						6
Days			1			2	1						4
Deaths			0			0	0						0
Injuries			0			6	0						6
R. I.													
(None)													
S. C.													
Number				6		4	3	7	1			2	23
Days				3		3	2	2	1			2	13
Deaths				0		0	0	0	0			0	0
Injuries				0		0	0	2	0			0	2
S. DAK.													
Number					12	14	5	1					32
Days					4	3	3	1					11
Deaths					0	0	0	0					0
Injuries					0	2	0	0					2
TENN.													
Number			3				1	1				1	6
Days			1				1	1				1	4
Deaths			0				0	0				0	0
Injuries			13				0	6				0	19
TEX.													
Number		1	6	23	15	11	9	7	3	1	3		79
Days		1	2	9	7	8	8	7	3	1	1		47
Deaths		0	0	8	0	0	0	0	0	0	0		8
Injuries		1	1	119	0	4	1	6	0	0	0		132
UTAH													
Number								1					1
Days								1					1
Deaths								0					0
Injuries								0					0
VT.													
(None)													
VA.													
Number							2						2
Days							1						1
Deaths							0						0
Injuries							3						3
WASH.													
Number					1			1					2
Days					1			1					2
Deaths					0			0					0
Injuries					0			0					0
W. VA.													
Number												1	1
Days												1	1
Deaths												0	0
Injuries												0	0
WIS.													
Number					16	4	3	7	3				33
Days					6	3	2	2	1				14
Deaths					0	0	0	0	0				0
Injuries					25	2	3	32	4				66
WYO.													
Number				1	2	3	1						7
Days				1	2	3	1						7
Deaths				0	0	0	0						0
Injuries				0	0	0	0						0
TOTALS													
Number	14	2	36	164 *161	138 *135	146 *144	61	79	24	24	16 *15	18	722 *713
Days	†3	†2	†11	†23	†20	†24	†23	†23	†10	†4	†8	†5	†156
Deaths	10	0	6	15	16	0	0	2	0	22	0	2	73
Injuries	9	1	102	218	407	39	18	81	9	175	1	25	1085

* Corrected for boundary-crossing tornadoes

† Tornado days for country as a whole.

Table 2 - Tornadoes per 10,000 Square Miles
in Selected States

State	Number of Tornadoes	Tornadoes per 10,000 Square Miles
Kansas	94	11.5
Iowa	55	9.8
Oklahoma	54	7.8
South Carolina	23	7.6
Florida	37	6.9
Wisconsin	33	6.0
Nebraska	41	5.3
Alabama	28	4.9
Arkansas	23	4.4
Missouri	29	4.2
Louisiana	14	3.1
Texas	79	3.0

TABLE 3

NUMBER OF TORNADOES, TORNADO DAYS, AND RESULTING LOSSES BY YEARS 1916–64

Year	Number tornadoes	Number tornado days	Total deaths	Most deaths in a single tornado	Total property losses †	Number of tornadoes causing losses † in		
						category 5	category 6	category 7 & over
1916	90	36	150	30	6	7	1	0
1917	121	38	509	101	7	21	9	0
1918	81	45	135	36	7	20	5	0
1919	64	35	206	59	7	10	2	0
1920	87	50	498	87	7	14	10	0
1921	105	55	202	61	7	22	3	0
1922	108	64	135	16	7	27	5	0
1923	102	59	109	23	6	21	1	0
1924	130	57	376	85	7	26	11	1
1925	119	65	794	689	7	34	2	1
1926	111	57	144	23	6	28	0	0
1927	163	62	540	92	7	42	9	1
1928	203	79	92	14	7	40	7	0
1929	197	74	274	40	7	48	4	0
1930	192	72	179	41	7	38	6	0
1931	94	57	36	6	6	14	1	0
1932	151	67	394	37	7	23	1	1
1933	258	96	362	34	7	46	9	0
1934	147	77	47	6	6	10	3	0
1935	180	77	70	11	6	29	0	0
1936	151	71	552	216	7	17	5	1
1937	147	75	29	5	6	24	0	0
1938	213	76	183	32	7	29	6	0
1939	152	75	87	27	7	21	3	0
1940	124	62	65	18	7	13	2	0
1941	118	57	53	25	6	24	1	0
1942	167	66	384	65	7	42	10	0
1943	152	61	58	5	7	28	8	0
1944	169	68	275	100	7	50	9	0
1945	121	66	210	69	7	21	10	1
1946	106	65	78	15	7	29	7	0
1947	165	78	313	169	7	46	7	1
1948	183	68	140	33	7	62	11	2
1949	249	80	212	58	7	54	13	0
1950	199	88	70	18	7	47	9	0
1951	272	113	34	6	7	35	11	2
1952	236	98	230	57	7	53	19	0
1953	437	136	516	116	8	63	18	7
1954	549	159	35	6	7	63	8	1
1955	593	153	125	80	7	74	13	1
1956	632	155	83	25	7	83	24	1
1957	864	154	191	44	8	129	26	3
1958	565	166	66	19	7	70	8	1
1959	589	156	58	21	7	70	4	1
1960	618	172	47	16	7	65	11	1
1961	683	169	51	16	7	103	21	1
1962	658	153	28	17	7	51	10	0
1963	461	140	31	5	7	77	15	1
1964	713	156	73	22	7	113	17	5
Means:								
1916-64	---	---	194	--	-	---	--	-
1953-64	605	156	109	--	-	---	--	-

NOTE.--The above estimated losses are based on values at time of occurrence.

† Storm damages in categories:

5	$50,000 to $500,000	7	$5,000,000 to $50,000,000
6	$500,000 to $5,000,000	8	$50,000,000 and over.

This tabulation does not include funnel clouds that remained aloft or funnels on water surfaces only.

TABLE 4 — NUMBER OF TORNADOES, TORNADO DAYS, AND DEATHS — 1953-1964

Year	January			February			March			April			May			June			July		
	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths
1953	14	6	0	17	3	3	40	10	24	45	16	34	99	21	162	114	24	244	40	19	0
1954	2	1	0	19	9	2	69	13	10	117	22	3	97	22	8	101	26	5	46	23	0
1955	2	2	0	4	3	0	41	15	4	101	18	7	150	26	103	148	28	2	50	21	5
1956	2	2	0	47	12	8	31	7	1	87	15	67	88	24	4	66	21	0	101	26	1
1957	17	3	13	5	3	0	39	7	1	216	21	29	226	26	87	148	25	14	54	19	0
1958	12	7	0	20	5	13	15	10	0	78	19	4	69	21	0	128	27	42	119	30	1
1959	15	2	3	19	5	21	42	11	9	30	12	1	225	28	8	73	25	2	62	24	0
1960	9	4	0	28	10	0	27	10	0	70	20	7	200	26	34	123	27	3	48	22	1
1961	1	1	0	31	8	0	121	17	7	73	19	3	135	25	23	101	23	2	77	27	0
1962	11	3	1	25	7	0	37	9	17	41	8	1	201	22	3	173	29	0	75	26	0
1963	14	5	1	6	3	0	49	12	8	82	14	16	69	21	1	93	23	0	62	26	0
1964	14	3	10	2	2	0	36	11	6	161	23	15	135	20	16	144	24	0	61	23	0
TOTAL	113	39	28	223	70	47	547	132	87	1101	207	187	1694	282	449	1412	302	314	795	286	8
MEAN	9	3	2	19	6	4	46	11	7	92	17	16	141	24	37	118	25	26	66	24	1

Year	August			September			October			November			December			Annual		
	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths	Number	Days	Deaths
1953	26	15	0	5	4	0	6	4	0	11	6	0	20	8	49	437	136	516
1954	46	21	1	20	10	3	15	8	2	2	2	0	16	3	1	549	159	35
1955	34	18	0	16	8	2	23	7	1	20	4	1	3	2	0	593	153	125
1956	43	20	2	19	10	0	30	8	0	8	6	0	10	4	0	532	155	83
1957	26	14	0	17	10	2	17	11	2	61	11	25	38	4	18	864	154	191
1958	45	20	1	24	14	1	9	6	4	45	6	0	1	1	0	565	166	66
1959	37	18	0	54	15	14	19	10	0	11	4	0	2	2	0	589	156	58
1960	48	23	1	21	13	0	18	10	1	25	6	0	1	1	0	618	172	47
1961	25	16	0	53	16	15	13	5	0	36	7	1	16	5	0	682	169	51
1962	49	21	6	27	12	0	12	10	0	5	4	0	2	2	0	658	153	28
1963	27	13	2	33	12	3	14	5	0	12	6	0	0	0	0	461	140	31
1964	79	23	2	24	10	0	24	4	22	15	8	0	18	5	2	713	156	73
TOTAL	485	222	15	313	134	40	200	88	32	251	70	27	127	37	70	7261	1869	1304
MEAN	40	19	1	26	11	3	17	7	3	21	6	2	11	3	6	605	156	109

TABLE 5-NUMBER OF FUNNEL CLOUDS ALOFT 1964

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Total
Ala.				3									3
Alaska													0
Ariz.				1									1
Ark	1		2				2	1				1	7
Calif.			2	1							8	2	13
Colo.				2	2	1							5
Conn.													0
Del.													0
D. C.													0
Fla.		1	1	5	5	20	10	14	5	5	6	5	77
Ga.				2			1	1		1		4	9
Hawaii		1		2									3
Idaho						2		1					3
Ill.			1		4		3						8
Ind.				2	3	3	1						9
Iowa				3	10	23	4	3	1	1			45
Kans.				36	11	30		3	12				92
Ky.													0
La.	1			3	3	2	6	8	1	2	1	2	29
Maine													0
Md.													0
Mass.													0
Mich.				2	1	5	4	1					13
Minn.					4	2	1		1				8
Miss.			4	4	1		4	5		3	1		22
Mo.	2			14		5	1	1	2				25
Mont.						6							6
Nebr.				2	9	10		2					23
Nev.						1							1
N. H.													0
N. J.						1							1
N. Mex.						1							1
N. Y.			1			1	1	3					6
N. C.							2						2
N. Dak.						2	3	6					11
Ohio					1	2		5					8
Okla.				23	14	5	3	11	1		15		72
Oreg.													0
Pa.													0
R. I.													0
S. C.						1	5	2				1	9
S. Dak.					7	3	3						13
Tenn.				2									2
Tex.				10	12	14	11	14	11	1		1	74
Utah						2							2
Vt.													0
Va.													0
Wash.					1								1
W. Va.													0
Wis.						1							1
Wyo.					1	5	1						7
W. Indies													0
Total	4	2	11	117	89	148	66	81	34	13	31	16	612

HAILSTORM LOSSES FOR PAST YEARS

Year	Property (exclusive of crops)	Crops	Total
1933	-	-	7
1934	-	-	7
1935	-	-	7
1936	6	7	7
1937	6	7	7
1938	6	7	7
1939	5	6	6
1940	6	7	7
1941	6	7	7
1942	6	7	7
1943	6	7	7
1944	7	7	8
1945	6	7	7
1946	7	7	7
1947	6	8	8
1948	7	8	8
1949	7	7	7
1950	7	7	7
1951	7	7	8
1952	7	7	7
1953	7	7	7
1954	7	8	8
1955	7	7	8
1956	7	8	8
1957	7	8	8
1958	7	8	8
1959	6	7	7
1960	7	8	8
1961	8	8	8
1962	9	8	9
1963	8	8	8
1964	8	8	8

† Storm damages are placed in categories varying from 1 to 9 as follows.
1 Less than $50 4 $5,000 to $50,000 7 $5,000,000 to $50,000,000
2 $50 to $500 5 $50,000 to $500,000 8 $50,000,000 to $500,000,000
3 $500 to $5,000 6 $500,000 to $5,000,000 9 $500,000,000 to $5,000,000,000.

NOTE.--The above estimated losses are based on values at time of occurrence.

WINDSTORM LOSSES FOR PAST YEARS

(Windstorms other than tornadoes)

Year	Total loss of life	Total property loss
1916	65	7
1917	25	6
1918	79	7
1919	344	7
1920	42	6
1921	65	7
1922	133	7
1923	68	7
1924	78	7
1925	88	7
1926	357	8
1927	64	7
1928	1,947	8
1929	46	7
1930	49	7
1931	17	7
1932	306	7
1933	156	8
1934	109	7
1935	461	7
1936	121	7
1937	43	7
1938	630	8
1939	60	6
1940	251	7
1941	43	7
1942	68	7
1943	61	7
1944	448	8
1945	85	7
1946	70	7
1947	117	8
1948	52	8
1949	102	8
1950	210	8
1951	289	8
1952	137	8
1953	118	8
1954	292	9
1955	301	8
1956	196	8
1957	553	8
1958	129	8
1959	145	7
1960	85	8
1961	64	8
1962	134	9
1963	54	9
1964	64	9
	TOTAL 9,421	

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50 4 $5,000 to $50,000 7 $5,000,000 to $50,000,000
2 $50 to $500 5 $50,000 to $500,000 8 $50,000,000 to $500,000,000
3 $500 to $5,000 6 $500,000 to $5,000,000 9 $500,000,000 to $5,000,000,000.

NOTE.--The above estimated losses are based on values at time of occurrence.

NORTH ATLANTIC TROPICAL CYCLONES, 1964

George W. Cry, Climatology
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Twelve tropical cyclones, including six of hurricane intensity, developed over the North Atlantic region during 1964. The season, extending from June 2 through November 9, was relatively active. The total number of storms was the highest since 1955, when twelve were also observed. The average annual frequency during the past three decades (1931-1963) has been 9.8, including 5.6 hurricanes.

Significant effects of four hurricanes and two tropical storms were felt on the United States mainland. This was the largest number of hurricanes to pass inland since 1933, when five did so. In only four other years since 1900 have four or more hurricane centers moved inland: 1916 (6); 1906, 1909, and 1926 (4).

Florida was affected by three hurricanes -- Cleo, Dora, and Isbell -- the final extratropical stages of Hilda and one tropical storm. This season ended a prolonged period of unusually low hurricane frequencies in Florida. During the 13 years from 1951 through 1963 only three hurricanes passed over the State compared with a long-term average of almost one per year.

Dora was the first tropical cyclone of record to bring full hurricane force winds of long duration to northeastern Florida. High winds in Cleo and Isbell were confined to southern sectors of the State, and Hilda swept through east-central Louisiana.

Property and crop damages resulting from the tropical cyclones during 1964 has been estimated at more than $515 million in the United States and at more than $86 million in the Antilles and Bermuda. Good warnings and evacuation of the immediate coastal areas exposed to the greatest dangers from high winds and storm tides kept casualties in the United States at a moderate number--49. Three persons perished in Cleo, five in Dora, and three in Isbell. Of the 38 fatalities in Hilda more than two-thirds were the result of destructive tornadoes imbedded in a pre-hurricane squall line.

Some 214 fatalities resulted from Cleo's passage through the Antilles, and three persons were lost during Isbell in western Cuba.

Summaries of each hurricane and tropical storm follow. The tracks of the storms are shown in the chart and meteorological data are given in accompanying tables.

TROPICAL STORM, JUNE 2-11

During June 2 and 3 a broad area of unsettled weather covered the northwestern Caribbean. A weak depression moved northward to the Yucatan Channel by the night of the 4th, with maximum winds about 30 to 35 m.p.h. in scattered squalls. Conditions were not favorable for intensification of the circulation as it moved northward through the eastern Gulf of Mexico on June 5 and across the northern portions of the Florida peninsula during June 6. Intensification and organization of the circulation to tropical storm force did take place on the 7th while it was centered off the Carolinas, and the storm moved east-northeastward during the next two days. Late on the 8th it changed to an easterly course, reaching a point some 200 miles north of Bermuda on the 9th. Maximum intensity was attained at this time, with winds of near 60 m.p.h. reported from ships in the area.

By the 10th the storm's winds had weakened to under 40 m.p.h., and the storm turned northward during that day. On June 11 it was absorbed into an extratropical cyclone south of Newfoundland.

Several tornadoes and waterspouts were associated with this depression in Florida on June 6. The most damaging of these struck along a 3-1/2-mile section of Jacksonville, causing damage estimated in excess of $300,000. Strong winds and hail were reported in several areas of northern Florida and southern Georgia in connection with thunderstorm activity which left precipitation totaling from 3 to 6 inches. Sustained winds reached 48 m.p.h. at Jacksonville WBAS on the 6th. Winds were only 30 to 35 m.p.h. in the Charleston, S. Car., area. Lowest pressures reported from mainland stations were 1009.1 mb. (29.80 in.) at Jacksonville and Charleston.

The storm produced local flooding in western Cuba and in eastern South Carolina. Largest totals in the latter area were around Conway where 10.38 inches of rain fell in less than 24 hours on the 7th-8th. Flash flooding interrupted traffic and caused substantial damage to roads and automobiles. The tobacco crop suffered heavy damage in parts of South Carolina. No casualties were reported.

TROPICAL STORM, JULY 28-AUGUST 3

During the night of July 27-28 an area of showers and squalls was indicated by ship reports in the south-central North Atlantic. A reconnaissance plane on the 28th reported no westerly winds indicative of a closed circulation although maximum easterly winds of 50 m.p.h. were noted near 21° N., 50°W., some 800 miles east-northeast of the Leeward Islands. Reconnaissance the next morning found a small storm center and maximum winds of 50 m.p.h. in scattered squalls. The system continued to be poorly organized as it moved rapidly west-northwestward, then northward. It recurved on the 30th, and was located some 350 miles east of Bermuda on the 31st.

There was still little organization, the central pressure was only about 1012 mb., and winds were 55 to 65 m.p.h. east of the center. During the day pressure dropped several millibars and winds in the western portion of the circulation increased to 25 to 30 m.p.h. Some further intensification and organization were noted on August 1 as the storm continued rapidly northeastward in advance of a cold front approaching the area from the northwest. Several ships reported winds of 45 m.p.h. or higher, with one indicating 80 m.p.h., apparently in a squall. By August 3 cold air had intruded into the storm so that the tropical characteristics of the circulation were destroyed, and a typical extratropical cyclone was created.

No damage or casualties have been reported.

TROPICAL STORM ABBY, AUGUST 5-8

A weak trough of low pressure moved into the northeastern Gulf of Mexico on August 5. During the next two days it moved westward with no sign of development or intensification until it approached the southern portion of the upper Texas Coast on the 7th. The radar installations at Galveston, Victoria, Brownsville, and Lake Charles all showed the sudden development of spiral precipitation bands and an eye characteristic of a tropical storm shortly before noon, c.s.t., August 7. A reconnaissance plane was in the area and reported a center "fix" at 1115 c.s.t.

Abby, a very small storm with a complete surface wind circulation well under 100 miles in diameter, moved westward at about 10 m.p.h. following its development and crossed the coast just northeast of Matagorda about 1600 c.s.t. Over land Abby continued westward, with the center passing over Edna, and through the Victoria-Cuero area, as the winds weakened steadily. By the morning of August 8 the circulation had degenerated into an area of squalls over southern Texas.

Maximum winds over the Gulf were estimated at about 85 m.p.h. in brief squalls (probably an overestimate), and the central pressure was near 1000 mb. (29.53 in.). Highest winds observed on land were 45 m.p.h., with gusts to 65 m.p.h. from the west-southwest, at the Corps of Engineers installation at Matagorda. The lowest pressure on the coast was also recorded there -- 1004 mb. (29.66 in.).

Tides were only slightly above normal due to Abby's small size and rapid development near the coast. The highest reported, 2.7 feet above mean sea level at Galveston, occurred at 0420 c.s.t., August 7, before Abby intensified. At Matagorda the water level reached 1.8 feet, m.s.l.; at Freeport the highest tide was 2.1 feet, m.s.l.

Locally heavy rains occurred in a narrow belt near the storm track across the coastal plain, with the largest amounts falling during early morning hours of the 8th. Some of the highest totals included 6.14 inches at Victoria; 5.09 inches at Falls City; and 5.00 inches at Pettus and Cibolo Creek.

Property damage, mainly from flooding in and around Victoria, was estimated at $150,000. Crop damage from the effects of wind and driving rain on rice, which was in mid-harvest, and cotton, which was nearing maturity, was estimated at $600,000. The rainfall was beneficial to ranges in most sections.

No deaths or injuries were reported.

TROPICAL STORM BRENDA, AUGUST 7-10

Observations from Bermuda gave the first synoptic indications of tropical storm Brenda. The storm probably began developing in a trough of low pressure some 300 miles west of Bermuda on August 7. An airliner crew member observed a low-level circular cloud formation at 1800 G.m.t. that day near 32°N., 69°W. It was similar to many noted previously, but after learning of the storm, he realized its possible importance and notified the Weather Bureau.

At Bermuda during the morning of August 8 pressure began to fall, from 1018 mb. (30.06 in.) at 0600 G.m.t. to 1008 mb. (29.77 in.) at 1300 G.m.t. Winds increased briefly to 45 m.p.h., with gusts to 65 m.p.h., as Brenda's center passed over the Islands. A small tornado or waterspout within the storm circulation caused damage to a commercial airliner and several private aircraft, and was apparently responsible for winds of 92 m.p.h. measured atop a 100-foot NASA tower.

After passing Bermuda, Brenda drifted slowly east-southeastward before turning northeastward and accelerating ahead of a cold front on the 9th. Spiral precipitation bands were observed on the Bermuda radar after the center passed, indicating that the circulation became better organized for a short time. However, reconnaissance aircraft could find no complete circulation on the 10th, and reported that Brenda had dissipated near 35°N. The lowest central pressure was 1006 mb. (29.71 in.) on the 9th. There were no reported casualties.

HURRICANE CLEO, AUGUST 20-SEPTEMBER 5

Cleo, the first hurricane of the 1964 season, was located in its early stages of development by a Navy reconnaissance plane during the afternoon of August 20, near 13.2°N., 44.5°W., with minimum pressure 1006 mb. (29.71 in.) and a few squalls of 35 m.p.h. The initial disturbance in which Cleo formed probably moved off the west African coast south of Dakar on August 15. TIROS VIII photographs on August 18 showed a large cloud mass centered near 10°N., 34°W. A report from the German ship LICHTENSTEIN at 1800 G.m.t. that day showed continuous rain and a relatively low pressure, but no indication of a circulation. However, at 0600 G.m.t. on the 20th a ship report did indicate the existence of a circulation and this was soon confirmed by the aircraft.

Cleo intensified rapidly, with the central pressure dropping to 993 mb. (29.32 in.) and winds reaching hurricane force by the morning of August 21. The hurricane intensified steadily during the next few days as it moved west-northwestward at 20 to 25 m.p.h., unusually rapid movement for these low latitudes.

The center reached the Lesser Antilles during the early afternoon of August 22. It crossed the island of Marie Galante and the southern tip of Guadeloupe, in the French West Indies. At Raizet Airport, some 15 miles north of the eye, lowest pressure was 1003 mb. (29.62 in.) and the maximum wind was 44 m.p.h., with gusts to 81 m.p.h. In the French West Indies, Cleo caused 14 deaths and 40 injuries; destroyed the banana crop and 1,000 homes; and left extensive damage to roofs, roads, and communications.

The hurricane center passed 80 to 90 miles south of the Virgin Isands and Puerto Rico during the 23d with gale winds and heavy rains extending into those areas. Highest observed winds were 50 m.p.h. on St. Croix and 52 m.p.h. at Tuna Point, Puerto Rico. Although the hurricane had continued to intensify rapidly, with central pressure 950 mb. (28.05 in.), surface winds estimated at 140 m.p.h., and winds measured at flight level by Weather Bureau research aircraft at 152 m.p.h., the size of the storm remained small and these extreme winds were confined to an area very near the center.

During the 24th Cleo moved westward just south of the Dominican Republic and Haiti. A slight turn toward the northwest began during the day and the hurricane entered the southern Haitian Peninsula just east of Les Cayes. It was still quite small and concentrated, with the strong winds lasting under two hours at many points. At Les Cayes there was no calm and the lowest pressure was 964 mb. (28.47 in.). The pressure fell 34 mb. there from 1500 to 1535 l.s.t., and rose 37 mb. in the following 25 minutes. The lowest pressure at Camp Perrin, about 12.5 miles inland along the track, was 950 mb. (28.05 in.). There was extensive destruction of buildings and houses from about 20 miles east of Les Cayes to some 18 miles inland toward the northwest from that town.

At least seven persons perished in the Dominican Republic, where damage was estimated at $2 million. Some 192 lives were lost in Haiti and damage was estimated at $15 million.

The mountains of southern Haiti distorted Cleo's surface circulation, and the exact path of the center over the area is somewhat obscure. The storm continued northwestward, however, and passed over the southeastern peninsula of Cuba east of Cabo Cruz as a marginal hurricane, then into the Golfo de Guacanaybo

HURRICANE CLEO

AUGUST 20-SEPTEMBER 5, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #	Time+	Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+				
FLORIDA	Aug.										
Daytona Beach WBAS	28	29.43	0430	E 40†	0359	E 60		1.0		3.82	Property damage slight
Ft. Myers WBAS	27	29.73	0430,1530	WNW 23†	1446	WNW 32	1415			T	No significant property damage. Wind gusts at Sanibel Island, 52 mph
Gainesville FAA	28	29.72	0600,0700	NW 23	1214	N 28				0.38	Rainfall from cooperative station.
Jacksonville WBAS	28	29.58	1730	NE 43	0805	ENE 44	0818	3 to 4	1200	2.71	Storm damages negligible.
Key West WBAS	27	29.72	0258	NE 22	1236-26	NE 28	1236-26			0.15	Winds at Plantation Key, 40 mph; Ocean Reef(Key Largo) est. 50 mph.
Lakeland WBO	28	29.66	0100	NE 26	1342-27	NE 40				0.30	
Miami NHC	27	28.74	0306	N 110 est.		N 135 est.		3.6 est.			Extensive damage in Dade and Broward Counties. About 175 persons injured in Lower East Coast area.
Miami WBAS	27	28.71	0308	N 74†	0311	NW 100				6.80	
Orlando WBAS	28	29.43	0130	N 32†	0055	NNE 46	1930-27			3.20	Minor damage.
Tampa WBAS	28	29.73	0255	NNE 28†	1729-27	NW 33	1340	1.3		0.05	
West Palm Beach WBAS	27	29.14	0842	SE 86†	0840	ESE 104	0840			3.99	Extensive damage in Palm Beach County.
GEORGIA											
Augusta WBAS	29	29.69		N 21†						7.56	Rainfall total for August 28-30.
Brunswick	28	29.65	1630	NE 35 est.	1400					5.66	
Savannah WBAS	29	29.61	0356	NE 34	2120-28	NE 44	2047-28	2.3		6.26	Rainfall: Isle of Hope, 9.59 in.
Sapelo Island	29	29.53		NNE 42	1600-28	50					
SOUTH CAROLINA											
Charleston WBAS	29	29.78	0449	SE 42	1635					5.84	Rainfall: Sullivans Island USCG, 8.41 in.; Mt. Pleasant, 6.65.
Charleston WBO	29			E 57	0109			2.6	0415	4.46	Tornado on James Island, 29-0106. Beach erosion on exposed areas; flooding in poorly drained areas.
Columbia WBAS	29	29.78	1705	NNE 21†	0700	NNE 28	0700			5.13	Tornado at Lake Murray, 29-1600, $50,000 damage.
Florence WBAS	30	29.80	1750	ENE 21†	1002					2.53	Tornado at Darlington 29-2130.
Greenville WBAS	30	29.80	1657	N 28	2249-29	N 33				4.34	Minor lowland flooding.
NORTH CAROLINA											
Raleigh WBAS	31	29.72	1400,1600	ESE 17†						3.10	Tornado at Laurinburg, 29-1400 to north of Rockingham, 29-1600. Another small tornado at Laurinburg, 30-0400. One or more tornadoes at two places in Pitt County, one place in Martin County about 31-1600. Heavy rainfall northwest of Winston-Salem with unofficial measurements 7-8 in. on 30-31 caused some flooding on Yadkin River.
	Sept.										
Hatteras WBO	1	29.56	1100	S 45-31						5.14	
VIRGINIA											
Norfolk WBAS	1	29.66	0340	E 28-31		E 40	0035	1.0		11.40	Record rainfall over much of Hampton Roads area, on Aug. 31-Sept. 1. Almost all rain fell within a 24-hr. period. Totals included Back Bay Wildlife Refuge, 14.09 in., Diamond Springs, 13.70 in., Norfolk Navy, 13.32 in., Cape Henry WBO and Norfolk Co-op., 10.41 in., Langley Field, 6.59 in.
Oceana NAS	1					ESE 42	0002			13.70	

+ Eastern Standard Time
# Above Normal
† Fastest observed 1-minute wind speed.

and the Golfo de Ana Maria. The center re-entered the coast near 79°W., late on the 25th and moved across the island by the next morning. Cleo was probably just under hurricane force during this period. Winds in Jucaro, Majagua, Tamarindo, and Florencia were estimated about 60 to 70 m.p.h., and in Jatibonico at 70 to 75 m.p.h. Damage in Cuba was apparently not heavy -- totaling about $3 million -- and one casualty was reported.

Shortly after emerging from the north coast of Cuba east of Caibarien about 0700 e.s.t. on the 26th, Cleo regained hurricane force, but the area covered by hurricane winds remained small. The hurricane moved on a north to north-northwest track during the 26th, headed toward the lower east coast of Florida. The center was tracked after mid-morning by radar at Miami and Key West. By midday Cleo had intensified with maximum winds 85 m.p.h. and central pressure near 984 mb. (29.06 in.). Throughout the afternoon and evening research aircraft remained in Cleo, finding no winds of hurricane force in the western half of the storm and central pressure steady at 984 mb.

The edge of the eye reached Key Biscayne, just off Miami, at 0200 e.s.t. on the 27th, and the center, which was continually expanding and contracting from a minimum diameter of 8 miles to a maximum of 16 miles, passed over the northeastern sections of Miami. Cleo was the first hurricane to strike the Miami area with full force since October 17, 1950.

Rapid intensification had evidently occurred over the extremely warm water (86° to 90°F) just off the coast. The lowest pressure in Florida was 967.5 mb. (28.57 in.) in North Miami, about 0.5 inch lower than the series of observations from the research aircraft a few hours earlier. Maximum sustained winds were estimated at 100 to 110 m.p.h., with gusts to 135 m.p.h. in sections of Miami, some 25 to 30 m.p.h. higher than estimated from the aircraft.

Cleo moved north-northwestward to northward during the 27th and 28th with the center remaining some 10 to 20 miles inland and closely paralleling the coastline. A gradual decrease of intensity occurred with much of the circulation over land. At West Palm Beach WBAS maximum sustained winds were 86 m.p.h., with gusts to 104 m.p.h. At Daytona Beach WBAS, about 210 miles north of Miami, sustained winds were only 40 m.p.h., with gusts to 60 m.p.h.

The major damage from Cleo was confined to a narrow belt 20 to 35 miles wide along the east coast of Florida from Miami to near Melbourne. Although wind gusts were above 100 m.p.h. over a considerable area, the duration of extreme winds at any point was short due to the small size of the storm. Little structural damage to buildings was reported. In Dade and Broward Counties, the principal damage was glass breakage in unprotected store fronts, beach hotels and motels, and homes. Many instances of water damage were reported after windows gave way. Other damage was uprooted trees, disrupted communications and power failures, sand-blasted automobiles and buildings, and overturned parked aircraft. Agricultural losses included blow-off of some 10 percent of the oranges and 20 to 30 percent of the grapefruit in the Indian River citrus area. Some early truck crops suffered wind damage, and sugarcane east of Lake Okeechobee was flattened, increasing harvest cost. Avocado losses were estimated at under 5 percent of the crop. Overall direct and indirect damages were estimated at $125 million in Florida.

Rainfall associated with Cleo in Florida was relatively light. Storm totals varied from 5 to 8 inches in the coastal areas of north Dade, Broward, and Palm Beach Counties to 3 to 5 inches along the coast farther north. Most places in the middle and western portions of the peninsula had under one inch. No significant flooding occurred.

Tides were less than 4 feet above normal in the Miami area, about 5 feet at Fort Lauderdale, and 5 to 6 feet above normal at Pompano Beach. No serious tidal damage was reported and damage to small craft was minimal.

No fatalities or serious injuries were reported, although many persons suffered cuts from breaking windows in the Miami area.

The center of Cleo left Florida between St. Augustine and Jacksonville during the afternoon of the 28th, but moved back inland near Savannah, Ga., a few hours later. Winds diminished to less than tropical storm force as the circulation moved slowly through eastern Georgia on the 29th, into South Carolina on the 30th, and across central North Carolina on the 31st. As the remnants of the circulation moved out to sea between Norfolk and Hatteras during the early morning hours of September 1, the winds increased and the storm began to take on a better organized structure. Cleo regained tropical storm force during the afternoon of September 1, and again reached hurricane force while well at sea on the 2d. Cleo then curved northeastward and northward, moved east of Newfoundland, and acquired predominant extratropical features on the 4th.

Cleo's major effects from northern Florida northward were due to precipitation and scattered tornadoes. Winds reached gale force only at Charleston, S. Car., and in connection with severe local storms.

Rainfall amounts in Georgia ranged from 6 to 9 inches along the coast and the eastern border as far north as Augusta. Very little rain fell in central Georgia and none in the west. Extensive damage to roads, streets, and farmland resulted from the torrential rainfall. Floodwaters entered homes in Savannah, Augusta, and many smaller communities. One man drowned attempting to secure a boat near Brunswick.

In South Carolina rains ranging from 3 to more than 8 inches were widespread, and some flooding occurred on streams in the western part of the State. Rainfall totals in North Carolina varied from 2 to more than 8 inches, while 3- to 6-inch totals were reported in south-central Virginia and the lower Eastern Shore of Maryland. Flash flooding of small streams caused scattered damage.

Very heavy rainfall developed in extreme southeastern Virginia during the night of August 31-September 1 as Cleo moved offshore to the south and a cold front approached the area from the north. Rainfall amounts at several points exceeded previous all-time 24-hour records. The largest reported storm total was 14.09 inches at Back Bay Wildlife Refuge. At Norfolk WBAS, 10.40 inches of rain fell between 1100 e.s.t., August 31 and 1100 e.s.t., September 1, shattering the previous 24-hour record of 6.78 inches on June 2-3, 1963. Considerable flooding occurred in the Hampton Roads area with many streets and roads washed out. Two persons perished due to carbon monoxide poisoning in a vehicle stranded by high waters. Damage from flooding was estimated at $3 million.

A number of tornadoes or probable tornadoes were reported in connection with Cleo in Florida and the Carolinas. These occurred near Titusville, New Smyrna Beach, and Davie in Florida; James Island, Lawton Bluff, Bethera, Lake Murray, Cassat, Darltington, Timmonsville, and Sansbury Crossroads in South Carolina; Laurinburg (2), Bethel, Stokes, and Beargrass in North Carolina. At least 22 injuries and more than $400,000 damage resulted from these storms.

HURRICANE DORA, AUGUST 28-SEPTEMBER 16

A large, weak low pressure area that moved off the west African coast south of Dakar on August 28 was probably the initial disturbance from which Dora later developed. This low passed south of the Cape Verde Islands on the 29th. By early on the 31st TIROS VIII photographs showed a large cloud mass indicative of an incipient tropical storm centered near 11°N., 40°W., and the next day ship reports placed it near 12°N., 46°W. The MORMACSCAN passed close to the center, and reported a windshift from northeast to southwest, pressure 1007.5 mb. (29.75 in.) and winds to 40 m.p.h. during the early morning hours of September 1. Reconnaissance aircraft reached the area by midday and located the center of the tropical storm near 12.5°N., 48.5°W., with surface winds of 60 m.p.h., and minimum pressure 998 mb. (29.47 in.). Dora moved west-northwestward during the 1st and 2d at about 18 m.p.h., and reached hurricane force on the latter day. During the evening of the 2d it slowed down in forward speed and turned to a more northwesterly course. It continued to gain intensity and to expand in size. Reconnaissance aircraft during the night of the 2d reported winds had increased rapidly to 115 m.p.h., and on the afternoon of the 3d, the central pressure was down to 981 mb. (28.97 in.).

Late on the 5th Dora began to turn toward a course almost due west. The storm was about 350 miles south of Bermuda at the time and had grown into a large and intense hurricane. On the morning of the 6th the central pressure was near 942 mb. (27.82 in.) and maximum winds were about 150 m.p.h. During the 7th and 8th Dora continued on a track just slightly north of west heading toward the upper east coast of Florida. Prior to reaching the coast the hurricane slowed its forward speed so that winds and tides increased gradually during the 9th over a broad area from central Florida northward to the Carolinas. Radar photographs showed that the center followed a very erratic path on the 9th. The central eye finally moved onshore at St. Augustine, Fla., between 0015 and 0130 e.s.t., September 10. The lowest pressure reported on land, 966 mb. (28.52 in.), occurred there at 0100, and the highest sustained winds, estimated at 125 m.p.h. from the southwest, immediately followed the passage of the center.

Winds exceeded hurricane force from extreme southeastern Georgia to Flagler County, Fla., with sustained speeds near 100 m.p.h. along the coastline from St. Augustine northward to the Jacksonville beaches. At Jacksonville WBAS, some miles inland, the maximum sustained wind, 82 m.p.h. at 1948 e.s.t. on the 9th, was the first occurrence of full hurricane force in Weather Bureau records there dating back some 80 years.

After passing inland, Dora continued to move slowly on an unusual path only slightly north of west, and maintained hurricane force winds over a gradually decreasing area on the 10th. The storm center reached extreme southeastern Alabama on the evening of the 11th with wind speeds down to moderate levels, then recurved and moved east-northeastward through southern Georgia during the 12th. The forward speed picked up, and wind force increased offshore and along the coast as the center moved rapidly northeastward to near Cape Hatteras by the evening of the 13th. Within 12 hours after Dora re-entered the Atlantic, cold air had completely destroyed its tropical structure. The storm continued rapidly northeastward, and crossed southern Newfoundland during the 15th.

Damage resulting from all the major potential destructive forces in a hurricane (tides, winds, and rainfall), was heavy throughout northern Florida and southern Georgia. No ancillary tornadoes were reported in the major damage areas.

Unusually high tides were produced by the long duration of strong onshore winds. Levels reached 5 to 8 feet or more above the average tide from the Daytona Beach area northward to the Georgia coast. Tides estimated at 12 feet (reference plane unknown), or 4 feet higher than any known previous tide, swept over Anastasia Island off St. Augustine, and the water level reached 10 feet above normal at Mayport. These massive storm surges caused extensive beach erosion, inundated many beach communities, washed out beach roads, and swept several dwellings and buildings into the sea.

Wind damage was also extensive in coastal areas north of Daytona Beach. The heaviest destruction occurred from St. Augustine to the Georgia border. The high winds in the Jacksonville Metropolitan area caused extensive damage to utility lines. Numerous trees were uprooted throughout northeastern Florida, adding to damage as they fell across utility lines or onto buildings. Major structural damage due to wind was limited to coastal areas and to older frame buildings a short distance inland. Extensive wind-induced river flooding occurred in Jacksonville along the banks of the St. Johns River following the passage of Dora's center.

Although winds gradually diminished as Dora moved westward across northern Florida, widespread and intense rainfall spread over sections of the interior counties northward into southeastern Georgia. Rain continued at many places for four days during both the westward and eastward passages of the storm center. Totals in excess of 10 inches fell over an estimated 10,000-square-mile area, and amounts of more than 6 inches were general from near Brunswick and Waycross, Ga., to near Tallahassee and Orlando, Fla. The most intense rains fell in Lafayette and Suwannee Counties, Fla., on the 12th. At Live Oak 18.62 inches of rain fell between the 10th and the 14th, with 12.95 inches during the 24 hours ending at 1800 e.s.t. on the 12th. Mayo recorded 23.73 inches, with 14.62 inches during the same 24-hour period.

Tides along the Gulf coast between St. Marks and Tampa, Fla. ranged from two to locally six feet above normal (at Yankeetown) as gale force southwesterly winds persisted from the 10th through most of the 12th. Tidal flooding was increased in many places by the runoff from the heavy rains of the 11th and 12th. In addition to flooding in these coastal sections and along lakes and streams, many poorly-drained sections were completely inundated by the heavy rains. Some communities were isolated for several days and damage to roads and bridges was widespread. Considerable water damage was reported to unharvested crops of corn, cotton, and peanuts.

Conditions in southeastern Georgia were less severe, but considerable beach erosion was reported all along the coast; flooding, wind damage, and utility failures were widespread around Brunswick. Lesser damage was recorded elsewhere, and crop damage was apparently not heavy.

HURRICANE DORA

SEPTEMBER 1-14, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #	Time+	Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+				
FLORIDA	Sept.										
Apalachicola WBO	11	29.44	0140	NW 39	1416-10					4.95	Tide Alligator Point 2 ft. mean low water.
Daytona Beach WBAS	9	29.04	2015	W 46*	1424	W 71	1715	7.0	2200-9	9.32	Tide: USCG, New Smyrna Beach.
Fernandia Beach	10	29.28	0145	100	2200-9			10.0	2300-9		Winds are downtown; estimated on beach near 115 m.p.h.
Fort Myers	10	29.71	0300	SSW 29*	1030	W 44		1.5 to 2.0		0.27	
Gainesville FAA	10	29.08	0700	W 40	1030	W 60				10.74	Arm of anemometer lost during storm, speeds estimated.
Jacksonville Beach	9					84					Anemometer failed.
Jacksonville WBAS	10	29.05	0314	N 82	1948-9	NE 85†		7.0†	0144-10	8.67	Tide Mayport Ferry Slip.
Jacksonville Navy	10	28.87	0255	N 53	1832-9	N 81					
Jacksonville (Cecil Field)	10	28.91	0455	NE 44	0555	NNW 71					
Lakeland WBO	10	29.56	0300	W 27	1039	W 42†	1039			1.50	
Marineland	10	28.80	0000	NW 60†	1700-9					5.85	
Mayport	10	29.03	0130	NNE 74		NNE 101					
Orlando WBAS	9	29.41	1937	WSW 40*	1955	WSW 58				5.99	
St. Augustine	10	28.52	0100	SW 125†	0130					7.10	Station in eye 0015-0130-10. Tides Anastasia Island, 12 ft., 4 ft. above any other known.
Tallahassee WBAS	11	29.29	0230	N 35*	1335-10	N 44	2030-10			6.11	Record low pressure.
Tampa WBAS	10	29.57	0358	WSW 44*	2120-12	WSW 52				2.39	
W. Palm Beach WBAS	9	29.69		WSW 35*							RAINFALL: Mayo 23.73 in.; Live Oak 18,62 in.; New Harmony 17.33 in.; Usher Tower 16.60 in.; Inglis 15.55 in.; Perry 12.96 in.; Cedar Key 12.15 in.; Lake City 12.10 in.; Ocala 11.46 in.; Melrose 11.40 in.; Cross City 11.29 in.; Federal Point 11.11 in.; Gainesville 3 WSW 11.04 in.; Bayport 10.65 in. (Totals for September 9 or 10 through 12 or 13.)
Pensacola	11-12	29.63		NW 29	12					0.33	
Miami WBAS	9	29.74									
GEORGIA											
Brunswick	10	29.40	0030			NE 90†				6.23	Peak gust on water front.
Brunswick	12	29.47	1700			S-SW 50†		13.0-14.0	2300-9		Tide above average low water.
Brunswick FAA	9-13									6.35	
Cairo	11	29.29	0230			NNE 45	0230				
Homerville	9-13									8.10	
Jesup						E 50†	2000 to 0000-10			5.81	
Nahunta										7.48	
Savannah WBAS	10	29.66	0014	E 37	0327	NE 53	2345-9	2.4	2302-9	3.81	
Savannah WBAS	13	29.51	0335			S 59	0748				
Savannah Beach	9					NNE 64	1720				
Waycross	9-13									7.03	
Fargo											Unconfirmed report of 14.84 in. of rain.
Sapelo Island	10	29.53	0200-0500	ENE 45	0300	70	1930	10.7	0000	3.22	
Valdosta	10	29.43	1500			S 35	1400 to 1700-11			5.12	
SOUTH CAROLINA											
Charleston WBAS	13	29.51	0542	SE 46	1704-12					2.53	RAINFALL: Conway 8.25 in.; Loris 5.20 in.; Myrtle Beach 5.12 in.; Hilton Head 4.24 in.; Columbia 3.23 in.
Charleston WBO	12-13			S 47	2018-12			1.7		1.35	
Georgetown	13	29.52	0700	SSW 45	1430	55	1445			2.85	
McClellanville	13	29.54	0800			SW 55	2100-12			3.00	Several waterspouts near Garden City Beach between 1300-1400-12.
NORTH CAROLINA											
Hatteras WBO	13	29.50	1852	NNE 35	0018-14	NNE 41	0012-14	2.5	a.m.-14	2.52	Tide on Sound side.
Raleigh WBAS	13	29.75	0827	WNW 25	0858					2.75	
Wilmington WBAS	13	29.54	1230	N 28	1653	N 35	1356	3.0		3.41	Tide on Sound side. Tornado Howell's Point 2100-12. Waterspout Carolina Beach 0725-10.
VIRGINIA											
Cape Henry	13			NE 66	1231					2.63	Greatest tidal departures Hampton Roads area about 3.5 ft. above normal.
Norfolk Navy	13					NE 69	1545				
Norfolk WBAS	13	29.74	1510			NE 61	1617			4.80	
Richmond WBAS	13					29	1458				
MARYLAND											
Pocomoke City	13									2.40	Tides 2 to 4 ft. above normal on 14th along Atlantic coast.
NEW JERSEY											
Atlantic City WBAS	14			N 33	0322					1.47	
MASSACHUSETTS											
Nantucket WBAS	14	29.62		NE 42	1133	N 50	1420	1.3	1800-1900	2.53	
Nantucket Shoals Lightship	14			63							

+ Eastern Standard Time
# Above normal
† Estimated
* Fastest one-minute wind speed

Final damage estimates were $200 million to $230 million in Florida; $9 million in Georgia. Only one direct fatality -- a drowning at Live Oak, Fla., had been reported. Two Navy men died near Sanford, Fla., on September 9 when an aircraft being evacuated crashed on takeoff. Two men drowned while attempting to secure boats before Dora approached -- one near Brunswick, Ga., and another near Norfolk, Va. This low number of casualties is remarkable for such an extensive and severe hurricane.

Wind damage in South Carolina was minor, but rainfall in the eastern part of the State ranging from 3 to more than 8 inches caused some flooding. Several small waterspouts were reported near Garden City Beach between 1300 and 1400 e.s.t. on the 12th.

The only significant damage to structures in North Carolina was caused by local storms: a waterspout moving westward onto Carolina Beach, south of Wilmington at 0725 e.s.t. on the 10th; and a tornado moving northwestward across Howell's Point, southwest of Wilmington at 2100 e.s.t. on the 12th. Rainfall, locally 5 inches or more, and tides 3 to 4 feet above normal were reported between Cape Hatteras and the Virginia border.

Dora's effects in Virginia were confined to heavy rainfall over the southeast, ranging up to almost 5 inches in the Hampton Roads area; and storm tides of about 3.5 feet above normal in the same area.

The western fringes of Dora brushed the Middle Atlantic and New England coasts but no significant damage was reported. Winds were generally below gale force; tides reached 2 to 4 feet above normal on the Maryland and Delaware coasts, and locally to about 3 feet in New Jersey. Rainfall totaled only 1 to 2 inches at scattered coastal points. Highest amount was 2.53 inches at Nantucket, Mass. The rains were timely and much needed.

HURRICANE ETHEL, SEPTEMBER 4-16

The first indications of Ethel came from TIROS VIII photographs on the morning of September 4. These showed a large cloud mass centered near 18°N., 45°W. Reconnaissance aircraft on the 5th found a poorly-defined eye near 20°N., 45°W., with a central pressure of 1005 mb. (29.68 in.). Maximum observed winds were 25 m.p.h. south of the center but much higher winds were indicated toward the north. The plane could not completely cover the area because of the extreme range from its base. Ethel moved west-northwestward for the next two days with little development. Around 1200 A.s.t. on September 7, reconnaissance indicated the storm had reached hurricane intensity, with maximum winds near the center about 80 m.p.h. The development persisted during the next two days, as Ethel slowed down and moved on a westward course near 28°N. On the 10th central pressure was 977 mb. (28.85 in.) and maximum observed winds were 100 m.p.h. Early on the 11th the hurricane turned northward and the forward speed accelerated. Reports indicate Ethel reached its maximum intensity on the 12th as it moved northward to the west of Bermuda with maximum winds 100 m.p.h. and the central pressure 976 mb. (28.82 in.).

The center passed some 100 miles west of Bermuda. High surf, heavy rains, and winds gusting over 70 m.p.h. lashed the Islands during the afternoon of September 12, but no casualties or significant damage occurred. After passing Bermuda Ethel moved rapidly northeastward and maintained hurricane force during its modification into an extratropical storm near 45°N., 40°W. on September 15.

TROPICAL STORM FLORENCE, SEPTEMBER 6-10

Weather conditions became unsettled arount the Cape Verde Islands as a strong perturbation on the Intertropical Convergence Zone moved into the eastern Atlantic from west Africa on September 4 and 5. By the morning of the 6th a closed circulation had formed with a central pressure estimated at 1002 mb. (29.59 in.). It was located just north of the Cape Verdes, accompanied by heavy rainfall and maximum winds of about 25 m.p.h., and was moving northwestward at about 10 m.p.h.

Some intensification occurred as the depression continued northwestward, and it probably reached tropical storm force by the evening of the 7th. Maximum winds of 50 m.p.h. were estimated on the 8th and 9th as Florence moved northward toward the Azores Islands, but the storm dissipated before it reached that area. An Air Force tanker reported sighting only an area of squalls south of the Azores during the early morning hours of September 10. No casualties or damage were reported.

HURRICANE GLADYS, SEPTEMBER 13-24

A ship report from the SS GERWI including 63 m.p.h. winds and heavy rains on the morning of September 13 confirmed the existence of a well-developed tropical storm in the south-central North Atlantic near 15.5°N., 46°W. A disturbance, first observed off the west coast of Africa on September 9 was probably the initial perturbation in which the storm later formed.

A reconnaissance plane was unable to obtain data due to darkness on the 13th, but early the next morning another flight found that Gladys had intensified to hurricane force and was moving west-northwestward at about 18 m.p.h. The hurricane continued to intensify and move along a persistent path for the next four days. Gladys reached its maximum intensity -- 945 mb. (27.91 in.) central pressure and 140 m.p.h. winds -- on the 17th near 25°N., 65°W.

On September 19, Gladys turned slowly to a northward course for about 48 hours before it returned to a northwestward path for another two days. The center of the storm reached its closest point to the United States on the 23d when it was located about 140 miles east of Cape Hatteras. A slow attrition of the strength of the circulation had been proceeding since the time of its turn to the north on the 19th, and the maximum winds were down to 85 m.p.h. by the 23d. During the night of the 22d a recurvature toward the northeast had begun, followed by a rapid acceleration of the forward speed as cool air began to enter the circulation. Gladys had taken on predominant extratropical features by the 24th before it passed over Newfoundland. No unusually strong winds were reported there.

Gladys remained far enough offshore so that the effects of winds and rainfall associated with the hurricane were only slight from North Carolina to southern New England. High tides, ranging generally two to three feet above normal, and heavy wave action produced considerable erosion on exposed ocean beaches. No casualties and no damage that can be measured in monetary terms were reported.

HURRICANE HILDA, SEPTEMBER 28-OCTOBER 5

A weak circulation formed in an easterly wave just

HURRICANE HILDA

SEPTEMBER 28-OCTOBER 5, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet) #	Time+	Storm Rainfall (inches)	Remarks
		Low	Time+	Fastest Mile	Time+	Gusts	Time+				
LOUISIANA	Oct.										
Baldwin	3	28.53	1848	NE 120†	1730	130†	1730	4.5	0115-4	9.63	
Baton Rouge WBAS	4	28.97	0200	NE 46	2358-3	69	0624			8.88	
Bogalosa	4	29.25	1030	NW 60†	1330					3.67	
Buras	3	29.60	0745	S 75	1040	80	1040	4.5	1110	2.11	
Clinton	4	29.18	0425	62†						10.65	Anemometer blown down.
Franklin	3	28.40	1810	NNE 135†	1800			4.0		9.53	
Jeanerette	3			N 75+†	1900					17.71	
Jennings	3	29.34	2135	NE 67	2130					2.78	
Lafayette FAA	3	29.10	1958	N 69	1858	92	1836			8.04	
Melville	4	28.98	1530	NE 95†	1600					7.82	
Morgan City	3			E 100†	1900			5.8	2300	8.53	
New Orleans WBAS	4	29.29	0330	S 40	0156	54	1331			3.26	
Oaknolia	4			N 60†	0900	80	0900			8.98	
Plaquemine	4	28.96	0215	75-80†	0300						
Reserve	4	29.12	0330	E 58	0200	70	0315			4.42	
Thibodaux	3	29.18		NE 100	2200					7.50	
TEXAS											
Port Arthur C. of E.	3	29.57	1500	N 29	1400			2.2	0600		
Port Arthur WBAS	3	29.64	1525	N 37	1203					T	
Sabine C.G.	3	29.54	1500	N 35				2.6	0900		
MISSISSIPPI											
Bay St. Louis	4	29.46	1200	S 40	0900	S 60	0900	6.0	1030		
Centerville										10.06	
Gulfport	4	29.35	1500	S 46	0700	75	0700			3.05	
Jackson WBAS	4	29.63	0630	NNE 41	1058	45	0940				
Keesler AFB	4	29.31	1550	N 58	1657	58	1657	5.0	0820	1.65	
McComb	4	29.34	0600	N 63	1300	63	1300			12.57	
Meridian WBAS	4	29.66		N 35						3.46	
Pascagoula	4	29.38	1600	SSW 30	1300	SSW 40	1300	4.2	1200	1.30	
Vicksburg WBO	4	29.66	0956	N 29	0927	40				1.85	
Woodville										11.50	
ALABAMA											
Mobile WBAS	4	29.41	1630	S 30	0809	S 46	0809	4.4	1500	1.65	Tides above normal. $50,000 damage in Mobile and Baldwin Counties
Montgomery WBAS	4	29.61		N 30						4.02	
FLORIDA											
Apalachicola WBO	5	29.54	0345	NE 36	0720	NE 50	0843			7.90	
Pensacola WBAS	4	29.50	2050	NW 43	2146	54	2146	3.1	1200	5.03	
Tallahassee WBAS	5	29.55	0500	SSW 27	0858-4					3.87	

+ Times are Central Standard, except for Apalachicola and Tallahassee, Eastern Standard
# Above Mean Sea Level
† Estimated

off the south-central coast of Cuba during the morning of September 28. It became better organized and gradually intensified as it moved westward. Hilda reached tropical storm force as it crossed the western tip of Cuba near Cabo San Antonio on the morning of the 29th. Hilda continued to increase rapidly in intensity over the southern Gulf of Mexico, became a hurricane during the early morning hours of September 30, and reached its maximum development -- central pressure 941 mb. (27.79 in.) and maximum winds estimated at 150 m.p.h. -- on October 1.

The severe hurricane continued to move forward slowly at an average speed of about 6 m.p.h. on the 1st and 2d while turning northward toward the Louisiana coast. A slight decrease in intensity apparently had occurred by the 2d, but Hilda was still an intense storm. The central eye, about 30 to 35 miles in diameter, crossed the coast over Vermilion Bay, St. Mary Parish about 1800 c.s.t., October 3. At landfall, maximum winds were 100 to 120 m.p.h. along the immediate coast in the Franklin-New Iberia-Morgan City section. The lowest reported pressure -- 961.7 mb. (28.40 in.) -- and the highest estimated wind -- 135 m.p.h. -- were at Franklin.

After the center moved inland the storm gradually lost force as it moved north-northeastward to East Baton Rouge Parish by the morning of October 4. Hurrican force winds were reported near the path of the center for a considerable distance inland during the night of the 3d. The storm was forced eastward from this area on the 4th by the intrusion of a large mass of cold air into the circulation from the northwest. Hilda continued to weaken as it rapidly acquired extratropical features and moved eastward across southern Mississippi and Alabama on the 4th and over northern Florida and southern Georgia on the 5th. The strongest winds at most places from northeastern Louisiana eastward occurred following the passage of the cold front.

Tides along much of the Gulf coast were well above normal as a result of Hilda. Levels were two to four feet above normal along the western Louisiana and upper Texas coasts, and 2 to 5 feet above normal from the mouth of the Mississippi River to Apalachicola, Fla. The highest water reported was an unofficial estimate of 10 feet at Point au Fer, La., where the center crossed the coast.

Rainfall was excessive over most of southeastern Louisiana and southern Mississippi. Storm totals of 10 inches or more occurred over a large area and considerable flooding resulted. The largest rainfall accumulation in Louisiana was 17.71 inches at the Jeanerette Experiment Farm, with 16.01 inches in a 25-1/2hour period ending at 0900 c.s.t., October 4. In Mississippi, the largest storm total recorded was 12.57 inches at McComb FAA. On the 4th, 10.98 inches fell there -- an alltime Mississippi October 24-hour rainfall record. Storm totals of four to seven inches or more were reported in sections of Alabama, Georgia, and northwestern Florida. Moisture brought into the region by Hild's circulation also contributed to extremely heavy rains in parts of the Carolinas and northern Georgia that were caused by a cold front moving across the southern Appalachians.

The combination of high winds and heavy rains produced considerable damage to crops in Louisiana and Mississippi. Sugarcane blowdown increased harvest costs, open cotton was blown from the bolls, and pecans and tungnuts were prematurely blown from the trees, with substantial losses.

Extensive property damage occurred in Louisiana. Over 100,000 telephones were out of service and many other utility lines were damaged. The American Red Cross reported almost 2,600 dwellings were destroyed or severely damaged and over 16,000 others suffered some damage.

Offshore oil facilities in the large Eugene Island-Marsh Island field were directly in the path of Hilda's most intense winds and heaviest seas. About 100 miles south of Morgan City winds of 120 m.p.h. were recorded on the "Oil Driller" at 2300 c.s.t., October 2. This was the highest their anemometer could indicate and "substantially higher winds" were apparent later that night. The center of the hurricane passed during the morning of the 3d and the winds dropped to 30 m.p.h., but after the eye moved toward shore winds again exceeded 120 m.p.h. Huge waves, estimated at 50 feet or higher, lashed the platform for many hours. A number of drilling rigs and platforms were destroyed; many producing wells and additional rigs were severely damaged.

Evacuation of most of the oil platforms and the low coastal areas subject to tidal flooding reduced the possible death toll. Loss of life in Louisiana did total 37, but more than two-thirds of the fatalities were the direct result of several of the nine tornadoes embedded in pre-hurricane squall lines that moved through southeastern Louisiana on the morning of October 3. Localaties affected by these local storms included Galliano, Golden Meadow, Kenner, Metairie, New Orleans, and Larose. The Larose tornado caused 22 deaths and about 175 injuries.

A 125-foot water tower at Erath, La., toppled under the force of high wind and crushed the City Hall where Civil Defense activities were being conducted. Eight persons perished.

Tornadoes also occurred at Poplarville, Miss., on October 3d, and at Evergreen, Eufaula, and Crawford, Ala., on the 4th.

Damages to property, crops, and industrial equipment were heavy. Direct damage and indirect losses were estimated in excess of $100 million in Louisiana and Mississippi. Damage was relatively moderate farther east, and much of it resulted from causes not wholly attributable directly to Hilda.

HURRICANE ISBELL, OCTOBER 8-16

Showers and squalls indicative of a tropical disturbance appeared over the western Caribbean on October 7. The disturbed area remained weak and poorly-organized for the next few days as it drifted slowly northwestward toward the coast of Yucatan. The circulation became better defined on October 12, and winds reached tropical storm force during that night, shortly after the center made a small counterclockwise loop and headed toward the western tip of Cuba. Isbell reached hurricane force as it neared Cuba on the morning of October 13.

Over Cuba, wind gusts of 70 m.p.h. were reported as far east as Boyeros Airport near Havana. The lowest pressure recorded in Cuba was 979 mb. (28.91 in.) around Pinar del Rio. Three fatalities and damage to communications and the tobacco crop totaling about $10 million were reported. Damage was most severe in the Guane area.

The lowest estimated surface pressure in Isbell -- 964 mb. (28.47 in.) -- was calculated from reconnaissance data obtained on the morning of October 14 when the hurricane center was west-southwest of Key West.

Isbell moved inland over Florida near Everglades about 1600 e.s.t., October 14. A calm was experienced there from 1615 to 1640 e.s.t. The storm moved rapidly across the State and passed offshore in the Juniper-Juno Beach area around 2130 e.s.t. At its closest approach, the center was some 47 miles northwest of Miami, where sustained winds were 46 m.p.h., with peak gusts to 63 m.p.h., and the lowest pressure was 1000.3 mb. (29.54 in.). The highest winds reported -- 90 m.p.h. -- were along small sections of both coasts near the eye. Minimum pressures were recorded at Juno Beach -- 978 mb. (28.88 in.), and Juniper, 890.4 mb. (28.95 in.).

Rainfall in Florida was relatively light, ranging up to 5 or 6 inches very near the path of the center. Localized flooding occurred. At least 11 tornadoes touched down in southeastern coastal sections from Coral Gables northward to Eau Gallie, with reported injuries totaling about 50, apparently none serious.

Two persons drowned off the lower Florida Keys when a shrimp boat was destroyed, and one person succumbed to a heart attack while putting up storm shutters at Palm Beach.

Damage associated with Isbell was generally light. In the lower Keys property damage totaled about $175,000, mostly to telephone equipment. In Palm Beach County damage estimates totaled about $700,000--about half due to tornadoes--excluding agricultural losses. Vegetable crops in the Everglades and Pompano areas suffered heavy damage.

After leaving Florida Isbell moved rapidly northeastward, then turned northward on October 15. Its intensity was steadily decreasing during this period and the winds were barely of hurricane force in gusts by the early morning of the 16th as the center approached the North Carolina coast. The center moved inland near Morehead City around 0800 e.s.t. Cold air which had been located just to the northwest of the circulation from the Gulf of Mexico northward finally penetrated to the center of Isbell about the time it crossed the North Carolina coast, and rapidly completed the transformation of the storm into an extratropical cyclone. The last remnants of Isbell were absorbed in southern Virginia into an extensive and rapidly developing storm that moved northeastward off the Middle Atlantic and New England areas on October 17 and 18.

The highest winds reported in connection with Isbell in North Carolina were 45 m.p.h. sustained, 75 m.p.h. gusts, at Elizabeth City. At Norfolk, Va., the fastest mile was 50 m.p.h., with gusts to 62 m.p.h. Relatively minor property damage resulted from Isbell in the Carolinas and tidewater Virginia. Heavy rainfall--locally from 3 to more than 5 inches-- caused considerable flooding on inland streams in South Carolina and eastern North Carolina. There was substantial agricultural damage, particularly to unharvested peanuts in northeastern North Carolina.

TROPICAL STORM, NOVEMBER 5-9

The final tropical storm of the 1964 season developed slowly. There was a perturbation on the Intertropical Convergence Zone in northern Colombia as early as November 1, and heavy rainfall was reported intermittently during the following days in the Caribbean north of Panama. A weak circulation developed on the 4th east of San Andres Island. A reconnaissance plane on the 6th found a minimum pressure of 1001 mb. (29.56 in.), but maximum winds of only 35 m.p.h. Ships in the area reported winds of 40 to 45 m.p.h. during the night of the 6th. The storm passed inland over northeastern Nicaragua on the 7th and a reconnaissance flight reported a central pressure of 997 mb. (29.44 in.) over land. After moving into the Gulf of Honduras on the morning of the 8th the storm continued to lose intensity and passed inland again in northern British Honduras on the morning of the 9th in its dissipating stages.

Press reports indicated heavy damage from winds, rains, and consequent flooding in northeastern Nicaragua. The meteorological service of Honduras reported that high tides swept the coast around Caukira, and heavy rainfall caused flooding in Puerto Castilla.

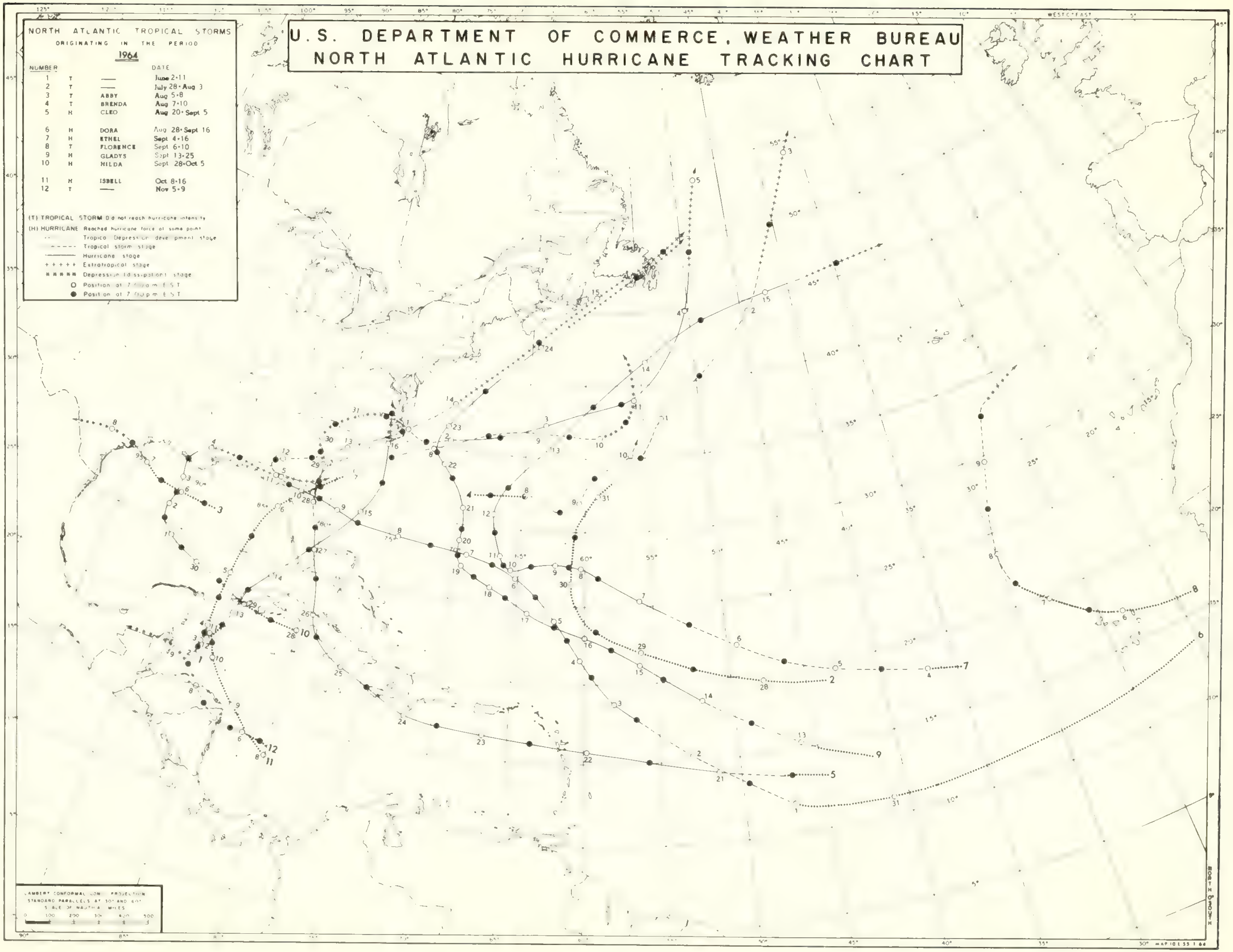
Total damage was estimated at about $5 million.

HURRICANE ISBELL

OCTOBER 8-16, 1964

Station	Date	Pressure (inches)		Wind (miles per hour)				Highest Tide (feet)	Time	Storm Rainfall (inches)	Remarks
		Low	Time	Fastest Mile	Time	Gusts	Time				
FLORIDA	Oct.										
Dry Tortugas	14	28.67	[illegible]	E 60	1011						
Key West	14	29.40	1115	S 73	1130	SW 76	1152	4 to 5		1.43	
Everglades	14	28.75	1620	90							
Naples	14	29.35	1630			NNE 50	1620			0.40	
Miami WBAS	14	29.54	1820	37	1713	59	1711			1.69	
Miami WBO	14	29.51	1805	46		63				2.26	
Fort Lauderdale Ap.	14	29.15	1928	52	2001	81	2001				
Fort Myers	14	29.54		NE 24		36	1701			T	
Belle Glade	14	29.07	1935	N 65	1930	80 Est.	1930			4.25	
Everglades Exp. St.	14	28.98	1930	67	1925					5.09	Five-minute maximum wind.
Port Mayaca	14	29.35		NE 55		70				1.55	
Indiantown	14			90							
Pompano Beach	14	29.41	1955	48		80				1.55	
Lantana Heights	14	29.26		47		72					
West Palm Beach	14	29.05	2051	SSE 74	2020	87				2.38	
Juno Beach	14	28.87	2128								
SOUTH CAROLINA											
Charleston WBAS	15	29.48		NE 23	0957	N 36	1902			1.63	
Charleston WBO	15			NE 32	0815			2.1		2.06	
Columbia	15	29.49		NE 15	1240	NE 28	1240			6.11	
Florence	15	29.44		NNE 23	1558	NNE 38	1558			2.98	
NORTH CAROLINA											
Wilmington	16	29.42	1238	SW 24	1307	SW 29	1256			0.76	
Hatteras	16	29.43		E 26	0558	E 51	0554			1.52	Tide: less than 1 ft. above normal.
Elizabeth City	16	29.44	1100	NE 45	1000	NE 75	1000			2.16	Tide: 2.5 Ocean, 3.0 Pamlico Sound, above normal.
Raleigh	16	29.30	1349	NE 23	1115					0.60	
VIRGINIA											
Norfolk	16	29.45	1430	NE 50	1119	E 62	1130			0.62	

+ Eastern Standard Time



U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
NORTH ATLANTIC HURRICANE TRACKING CHART

NORTH ATLANTIC TROPICAL STORMS
ORIGINATING IN THE PERIOD
1964

NUMBER			DATE
1	T	——	June 2-11
2	T	——	July 28-Aug 3
3	T	ABBY	Aug 5-8
4	T	BRENDA	Aug 7-10
5	H	CLEO	Aug 20-Sept 5
6	H	DORA	Aug 28-Sept 16
7	H	ETHEL	Sept 4-16
8	T	FLORENCE	Sept 6-10
9	H	GLADYS	Sept 13-25
10	H	HILDA	Sept 28-Oct 5
11	H	ISBELL	Oct 8-16
12	T	——	Nov 5-9

(T) TROPICAL STORM Did not reach hurricane intensity
(H) HURRICANE Reached hurricane force at some point

··	Tropical Depression development stage
- - - - -	Tropical storm stage
———	Hurricane stage
+ + + + +	Extratropical stage
■ ■ ■ ■ ■	Depression (dissipation) stage
○	Position at 7:00 a m E S T
●	Position at 7:00 p m E S T

NORTH ATLANTIC TROPICAL CYCLONES, 1964

Storm name	Date	Area where first reported	Coast lines crossed	Highest wind speed reported	Lowest pressure reported	Place of dissipation reported	Intensity	Remarks
1 TROPICAL STORM	June 2-11	Western Caribbean	Northern Florida	Est. 60 m.p.h., north of Bermuda on June 9	990 mb. (29.24 in.) north of Bermuda on June 9	Atlantic - south of Newfoundland	Tropical Storm	Damage estimated near $1 million in northern Florida and eastern South Carolina. No deaths or injuries.
2. TROPICAL STORM	July 28-Aug. 3	South central North Atlantic	None	Est. 80 m.p.h., (squall), southeast of Newfoundland on August 1	997 mb. (29 44 in.) southeast of Newfoundland on August 1	Atlantic - south of Greenland	Tropical Storm	
3. ABBY	Aug 5-8	North-central Gulf of Mexico	Upper Texas coast	Est. 85 m.p.h., (squall), just off Texas coast on August 7	1000 mb. (29.53 in.) just off Texas coast on August 7	Southern Texas	Tropical Storm	Damage estimated at $150,000 to property from flooding: $600,000 to crops in Texas coastal plain. No deaths or injuries.
4. BRENDA	Aug 7-10	West of Bermuda	Bermuda	Est. 60 m.p.h., east of Bermuda on August 9	1006 mb. (29.71 in.) east of Bermuda on August 9	Northeast of Bermuda	Tropical Storm	Damage estimated at $275,000 on Bermuda. No death or injuries.
5. CLEO	Aug. 20-Sept. 5	South-central North Atlantic	Guadeloupe, Haiti, Cuba, southern Florida, Georgia	Est. 140 m.p.h., recon. south of Puerto Rico on August 23	950 mb. (28.50 in.) recon. south of Puerto Rico on August 23 and Camp Perrin, Haiti on August 24	South of Greenland	Hurricane	Damage estimated at $125 million in Florida, $3 million in Virginia from floods, $0.5 million in other states. Three deaths, over 200 injuries. Damage in Caribbean estimated at $70 million, 214 deaths, over 300 injuries.
6. DORA	Aug. 28-Sept. 16	Southeastern North Atlantic	Northeastern Florida, Newfoundland	Est. 150 m.p.h., recon. south of Bermuda on September 6.	942 mb. (27.82 in.) recon. south of Bermuda on September 6	Northeast of Newfoundland	Hurricane	Damage estimated at $230 million in Florida, $9 million in Georgia, $11 million in other areas. Five deaths in United States.
7. ETHEL	Sept. 4-16	Southeastern North Atlantic	None	Est. 100 m.p.h., recon. west of Bermuda on September 12	976 mb. (28.82 in.) recon. west of Bermuda on September 12	North of the Azores	Hurricane	Minor damage at Bermuda, no deaths or injuries.
8. FLORENCE	Sept. 6-10	Southeastern North Atlantic	None	Est. 50 m.p.h., September 8 and 9 north of Cape Verde Islands	1000 mb. (29.53 in.) north of Cape Verde Islands on September 8 and 9	South of the Azores	Tropical Storm	
9 GLADYS	Sept. 13-25	South-central North Atlantic	Newfoundland	Est. 140 m.p.h., recon. south of Bermuda on September 17	945 mb. (27.91 in.) recon. south of Bermuda on September 17	Northeast of Newfoundland	Hurricane	
10. HILDA	Sept. 28-Oct. 5	Caribbean - just south of central Cuba	Western Cuba, central Louisiana	Est. 150 m.p.h., recon. south-central Gulf of Mexico on October 1	941 mb. (27.79 in.) recon. south-central Gulf of Mexico October 1	Off the Georgia coast	Hurricane	Damage estimated near $125 million in United States, $1 million in Cuba. Deaths totaled 38, including 22 in one tornado at Larose, Louisiana.
11. ISBELL	Oct. 8-16	Southwestern Caribbean	Western Cuba southwestern Florida, eastern North Carolina	90 m.p.h., Everglades and Indiantown, Florida on October 14	964 mb. (28.47 in.) recon. southwest of Key West, Florida on October 14	Southeast Virginia	Hurricane	Damage estimated at $10 million in Florida and North Carolina, $10 million in Cuba. Deaths: 3 in Florida, 3 in Cuba.
12. TROPICAL STORM	Nov. 5-9	Southwestern Caribbean	Northeastern Nicaragua, northern British Honduras	Est. 60 m.p.h., (squalls), southwestern Caribbean on November 6	997 mb. (29.44 in.) recon. over northeastern Nicaragua on November 7	Southern Mexico	Tropical Storm	Damage estimated about $5 million in Nicaragua and Honduras.

NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

TOTAL NUMBER OF TROPICAL CYCLONES, LOSS OF LIFE AND DAMAGE

Year	Total Number Tropical Cyclones*		Total Number Hurricanes		Loss of Life		Damage by Categories**	
	All Areas	Reaching U.S. Coast	All Areas	Reaching U.S. Coast	Total All Areas	United States	Total All Areas	United States
1886	10	7	8	6				
1887	17	4	10	3				
1888	10	6	5	3				
1889	9	4	[illegible]	2				
1890	1	[illegible]	1	0				
	47	21	29	14				
1891	11	4	8	2				
1892	9	[illegible]	4	0				
1893	12	[illegible]	10	6				
1894	6	5	7	2				
1895	6	4	2	1				
	44	21	20	11				
1896	6	4	6	4				
1897	5	4	2	1				
1898	9	6	4	3				
1899	6	4	5	[illegible]				
1900	7	3	3	1		6,000		
	33	[illegible]	20	12				
1901	10	6	[illegible]	2		10		[illegible]
1902	5	5	5	1		[illegible]		
1903	9	2	8	2		[illegible]		6
1904	5	3	[illegible]	[illegible]		[illegible]		6
1905	5	2	[illegible]	[illegible]		[illegible]		[illegible]
	34	[illegible]	[illegible]	[illegible]				
1906	[illegible]	6	[illegible]	[illegible]		285		[illegible]
1907	4	3	[illegible]	[illegible]		[illegible]		[illegible]
1908	8	2	5	[illegible]		#		[illegible]
1909	[illegible]	7	4	[illegible]		[illegible]		[illegible]
1910	4	2	5	2		15		[illegible]
	37	[illegible]	[illegible]	10				
1911	4	2	3	[illegible]		17		4
1912	6	[illegible]	4	2		12		6
1913	4	3	3	2		#		[illegible]
1914	1	1	[illegible]	[illegible]		[illegible]		[illegible]
1915	5	4	[illegible]	3		600		8
	20	14	14	9				
1916	14	8	[illegible]	[illegible]		107		[illegible]
1917	4	1	2	1		5		[illegible]
1918	[illegible]	[illegible]	[illegible]	1		34		6
1919	3	2	[illegible]	1		287		[illegible]
1920	4	[illegible]	4	2		2		[illegible]
	[illegible]	[illegible]	21	11				
1921	6	2	4	2		5		6
1922	4	[illegible]	2	[illegible]		0		[illegible]
1923	7	4	[illegible]	[illegible]		0		4
1924	8	[illegible]	[illegible]	[illegible]		2		[illegible]
1925	2	2	[illegible]	[illegible]		6		[illegible]
	27	12	15	7				
1926	11	4	8	4		269		8
1927	7	1	4	0		0		
1928	6	3	4	2		1,836		[illegible]
1929	3	2	[illegible]	2		3		6
1930	2	1	2	[illegible]		0		2
	29	11	21	8				
1931	9	[illegible]	2	[illegible]		[illegible]		[illegible]
1932	11	[illegible]	6	2		0		[illegible]
1933	21	[illegible]	[illegible]	[illegible]		63		[illegible]
1934	11	[illegible]	6	3		17		6
1935	6	2	5	2		414		[illegible]
	58	21	28	12				
1936	16	7	[illegible]	[illegible]		[illegible]		6
1937	9	4	3	0		[illegible]		4
1938	8	4	3	2		600		8
1939	5	3	[illegible]	1		3		[illegible]
1940	8	[illegible]	4	2		51		6
	46	21	20	8				
1941	6	4	4	2		1		[illegible]
1942	10	3	4	2	17	8	[illegible]	[illegible]
1943	10	4	[illegible]	[illegible]	[illegible]	16	[illegible]	[illegible]
1944	11	4	[illegible]	[illegible]	1,076	64	8	8
1945	10	5	4	[illegible]	29	[illegible]	8	8
	47	20	24	11				
1946	6	4	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]
1947	9	7	[illegible]	3	[illegible]	[illegible]	8	8
1948	9	4	6	3	[illegible]	3	[illegible]	[illegible]
1949	13	[illegible]	7	2	[illegible]	4	[illegible]	[illegible]
1950	13	4	11	3	27	[illegible]	[illegible]	[illegible]
	50	22	32	12				
1951	10	[illegible]	8	[illegible]	244	0	[illegible]	[illegible]
1952	7	2	6	1	[illegible]	[illegible]	[illegible]	6
1953	14	6	6	2	[illegible]	2	[illegible]	[illegible]
1954	11	4	8	3	[illegible]	193	[illegible]	[illegible]
1955	12	[illegible]	9	3	1,518+	218	[illegible]	[illegible]
	54	[illegible]	37	[illegible]				
1956	8	2	4	1	[illegible]	21	[illegible]	[illegible]
1957	8	[illegible]	3	1	[illegible]	395	[illegible]	[illegible]
1958	10	[illegible]	7	0	49	2	[illegible]	[illegible]
1959	11	[illegible]	7	3	[illegible]	24	7	[illegible]
1960	7	[illegible]	4	2	185	65	8	8
	44	20	25	7				
1961	11	3	8	2	[illegible]	46	8	8
1962	5	1	3	0	4	4	6	6
1963	9	1	7	[illegible]	[illegible]	11	[illegible]	[illegible]
1964	12	6	6	4	266	49	[illegible]	[illegible]
Total	636	285	374	155				
Median	8	4	4	2				

** The Weather Bureau has for some time recognized that, without detailed expert appraisal of damage, all figures published are merely approximations to fact. Since errors in dollar estimates vary in proportion to the total damage, storms are placed in categories varying from 1 to 9 as follows

1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

Blank spaces indicate no figures available.

* Including hurricanes.

# Not reported in literature, believed minor.

+ Additional deaths for which figures are not available.

NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS — CONT'D

Frequency of Tropical Cyclones (Including Hurricanes) by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1886			3	1	2	2	2			10
1887		1		2	2	3	6	1	2	17
1888			1	1	2	2	1	3		10
1889		1	1		1	5	1			9
1890					1					1
1891				1	2	3	4	1		11
1892			1		1	4	3			9
1893			1	1	5	3	1	1		12
1894					2	1	3			6
1895					2	1	3			6
1896				1	1	2	2			6
1897					1	2	2			5
1898					2	5	2			9
1899				1	2	1	2			6
1900					1	3	3			7
1901			1	2	2	3	2			10
1902			2			1	1	1		5
1903				1	1	4	2	1		9
1904			1			1	3			5
1905						3	2			5
1906			2		1	3	4	1		11
1907			1			2	1			4
1908	Mar. 1			1	1	3	2			8
1909			2	2	2	2	1	1		10
1910					1	2	1			4
1911					2	1	1			4
1912			1	1		1	2	1		6
1913			1		1	1	1			4
1914						1				1
1915				1	2	2				5
1916			1	2	3	4	3	1		14
1917					2	1				3
1918					3	2				5
1919				1		1		1		3
1920						4				4
1921			1			3	2			6
1922			1			1	2			4
1923					1	1	5			7
1924			1		2	2	2	1		8
1925						1		1		2
1926				1	2	5	2	1		11
1927					1	3	3			7
1928					2	3	1			6
1929			1			1	1			3
1930					2					2
1931			1	1	2	3	1	1		9
1932		1			3	3	3	1		11
1933		1	1	3	7	5	3	1		21
1934		1	1	1	2	2	3	1		11
1935					3	1	2			6
1936			3	2	6	4	1			16
1937				1	2	6				9
1938					3	1	3	1		8
1939			1		1	1	2			5
1940		1			3	2	2			8
1941						4	2			6
1942					3	3	3	1		10
1943				1	2	4	3			10
1944				3	2	4	2			11
1945			1	1	4	3	1			10
1946			1	1	1	1	2			6
1947				1	2	3	3			9
1948		1		1	2	3	1	1		9
1949					3	7	2	1		13
1950					4	3	6			13
1951		1			3	4	2			10
1952	Feb. 1				2	2	2			7
1953		1			3	4	4	1	1	14
1954			1	1	2	4	1	1	1	11
1955				1	4	5	2			12
1956			1	1	1	4	1			8
1957			2		1	4	1			8
1958			1		4	4	1			10
1959		1	2	2	1	3	2			11
1960			1	2	1	3				7
1961				1		6	2	2		11
1962					2	2	1			5
1963				1	1	5	2			9
1964			1	1	4	4	1	1		12
Totals	Feb. Mar. 1 1	10	41	46	142	216	146	29	4	636

Frequency of Tropical Cyclones Reaching Hurricane Intensity by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1886			2	1	2	2	1			8
1887				1	2	3	2	1	1	10
1888			1		2		1	1		5
1889		1			1	3				5
1890					1					1
1891				1	2	3	2			8
1892					1	2	1			4
1893			1	1	5	3				10
1894					1	1	3			5
1895					1		1			2
1896				1	1	2	2			6
1897					1	1				2
1898					2	2				4
1899				1	2	1	1			5
1900					1	2				3
1901				1	2					3
1902			1			1	1			3
1903				1	1	3	2	1		8
1904						1	1			2
1905							1			1
1906			1		1	2	2			6
1907										0
1908	Mar. 1			1		2	1			5
1909				1	1	1	1			4
1910						2	1			3
1911					2	1				3
1912						1	2	1		4
1913			1		1	1				3
1914										0
1915					2	2				4
1916			1	2	3	2	2	1		11
1917					1	1				2
1918					2	1				3
1919						1				1
1920						4				4
1921			1			2	1			4
1922						1	1			2
1923					1	1	1			3
1924					2	1	1	1		5
1925								1		1
1926				1	2	4	1			8
1927					1	3				4
1928					2	1	1			4
1929			1			1	1			3
1930					2					2
1931						2				2
1932					3	1	1	1		6
1933			1	1	3	3	1			9
1934			1	1	1	1	1	1		6
1935					2	1	2			5
1936			1	1	3	2				7
1937						3				3
1938					2	1				3
1939					1		2			3
1940					3	1				4
1941						3	1			4
1942					3			1		4
1943				1	1	2	1			5
1944				2	1	3	1			7
1945			1		1	1	1			4
1946				1		1	1			3
1947					2	1	2			5
1948					1	3	1	1		6
1949					2	4	1			7
1950					4	3	4			11
1951		1			2	3	2			8
1952					2	2	2			6
1953					2	3	1			6
1954			1		2	3	1		1	8
1955					3	5	1			9
1956				1	1	1	1			4
1957			1			2				3
1958					3	3	1			7
1959			1	2		3	1			7
1960				1	1	2				4
1961				1		5	1	1		8
1962					1	1	1			3
1963				1	1	4	1			7
1964					2	3	1			6
Totals	Mar. 1	2	17	26	104	141	69	12	2	374

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC, 1964

Martin McGurrin
U. S. Weather Bureau, San Francisco, California

Only six tropical cyclones of storm or hurricane intensity were detected in the Eastern North Pacific Ocean during the 1964 season. This is the smallest number of any season since 1955. Only one of these reached hurricane intensity. Weather satellites were relied upon to supplement the surface ship reports in determining the storm positions and to some extent their strength. All of these tropical cyclones moved with an average speed of 8 to 14 kt. and in a direction between west and north.

Of these tropical cyclones, only one went inland into continental Mexico, two passed over or very near the Tres Marias Islands and one over or very near Socorro Island shortly before it developed to tropical storm intensity. One of the centers that went over the Tres Marias Islands passed barely south of the tip of Baja California. In none of these cases was the extent of damage to property or loss of life known. A storm track map for the season with legend is given in conjunction with a short table presenting a summary of the tropical cyclones.

When these tropical cyclones in the Eastern North Pacific have winds equal to or greater than 64 kt., they are known as hurricanes rather than typhoons as in the Western North Pacific. However, winds of tropical storm intensity have the uniform definition of 34 to 63 kt. and tropical depressions, winds below 34 kt. All times used are GMT. Tracks and dates shown in the chart are those for which the cyclones were at least of tropical storm intensity.

TROPICAL STORM NATALIE, JULY 5-7

This was the first tropical cyclone of the 1964 season off the west coast of Mexico and Central America. It was first located at 16.2°N., 104.0°W. or about 250 mi. west of Acapulco, Mexico, at 1800 on July 5 at which time the CALIFORNIA STAR reported a pressure of 1005.8 mb. and a 30 kt. east-southeast wind. On later maps many ships reported 35- to 40-kt. winds and some had seas of 13 and 14 ft. The storm first followed a north-northwesterly path then curved almost directly northward to cross over the Tres Marias Islands. At or very near the time of crossing, the WESTPORT, anchored at the Islands, reported a pressure of 1001 mb. and a southeast wind of 70 kt. Gale winds of 40 kt. were reported aboard the AMERICAN QUEEN on the 6th, also near the Islands. Immediately after crossing the Tres Marias Islands Natalie lost intensity and no more reports of strong winds were received from either ship or shore stations. The weakened storm appeared to go inland about 70 mi. northwest of Mazatlan. The storm remained of small diameter and maintained an average speed of 14 kt. during its short life. Gale force winds extended only about 75 mi. from its center at maximum development. Although 70 kt. winds were reported, these were believed to be observed in local squalls and the pressure did not indicate sustained winds of hurricane intensity.

HURRICANE ODESSA, JULY 15-19

A wave on the intertropical convergence zone with pressures below 1008 mb. extended over 20 degrees of longitude west of Acapulco, Mexico, as early as 1800 on the 13th, with showers, rain and seas 6 to 8 ft. However, the first definite report of a storm came from the CALLI at 2300 on the 14th with a pressure of 994 mb. and a 50-kt. east-northeast wind. Successive radio reports followed at 3-hr intervals and these formed an interesting series in defining the position of the storm center. The ship originally in the right forequarter of the storm, altered course, crossing ahead of the storm path to a left quarter to achieve better wind and sea conditions. While making this crossover, winds of 50 to 60 kt. were experienced in squalls. Gale winds of 35 kt. on the 15th and 36 kt. on the 18th were reported from the MILLICOMA as the ship circumnavigated the hurricane. The JANECKE MAERSK remained hove-to just north of Odessa's center late on the 17th and early on the 18th. Heavy rain lowered visibility as 60-kt. winds and 21-ft. waves were observed. The PIONEER MING also in the vicinity of the storm reported 40-ft. seas.

The first advisory gave the position as 15.0°N., 112.0°W. at 0000 on the 15th. After the storm was 24 hr. old, no more radio reports were received near the storm center, so great reliance was placed upon the two TIROS weather satellite determinations made during that later period. These pictures showed an extensive cloud mass 300 to 400 mi. in diameter and a well-defined circulation of the kind that may have caused surface winds up to 90 kt. The storm moved west-northwestward with a speed of 11 kt. during its life of 4 days. At its maximum development hurricane winds extended outward about 100 mi. from the center and gale force winds 275 mi.

TROPICAL STORM PRUDENCE, JULY 20-24

The first indication of a tropical cyclone was given by photograph from a weather satellite on the 19th, showing the location near 12°N., 113°W. The chart at 0000 of the 20th had two ships in the vicinity, the STEEL KING giving a west wind of 20 kt. and the JANECKE MAERSK reporting a northeast wind of 30 kt., pressure 999.8 mb., indicating a storm centered at 12.3°N., 112.0°W. or 200 mi. northwest of Clipperton Island and within one degree of the Satellite Bulletin position. The wind on the yacht TRADEWIND increased to 35 kt. by 0600 on the 20th with seas of 20 ft. by 1200.

The storm moved west-northwestward at a speed of 12 kt. and very closely paralleled the path of hurricane Odessa of 5 days earlier. Gale force winds extended 200 mi. from the center at its maximum development on the 22d and 23d. Prudence dissipated on the 24th near 20°N., 130°W.

TROPICAL STORM ROSLYN, AUGUST 20-22

This storm was followed for 48 hr. as a tropical depression before it developed to storm intensity. Information from a satellite picture and from the ship GOPHER STATE gave the first indication that the depression was centered near 15°N., 107°W. at 1800 on the 18th. This depression moved northwestward passing just west of Socorro Island and curved west-northwestward with an average speed of 12 kt. It is believed that it increased to tropical storm strength about 1800 on the 20th near 20°N., 115°W., continuing west-northwestward but slowing to about 8 kt. and dissipating at approximately 1800 on the 22d. During its existence as a tropical storm no observational information from its central area was available. At its maximum development, the highest winds were believed to be 55 kt., with gale force winds extending outward about 200 mi.

TROPICAL STORM SYLVIA, AUGUST 23-24

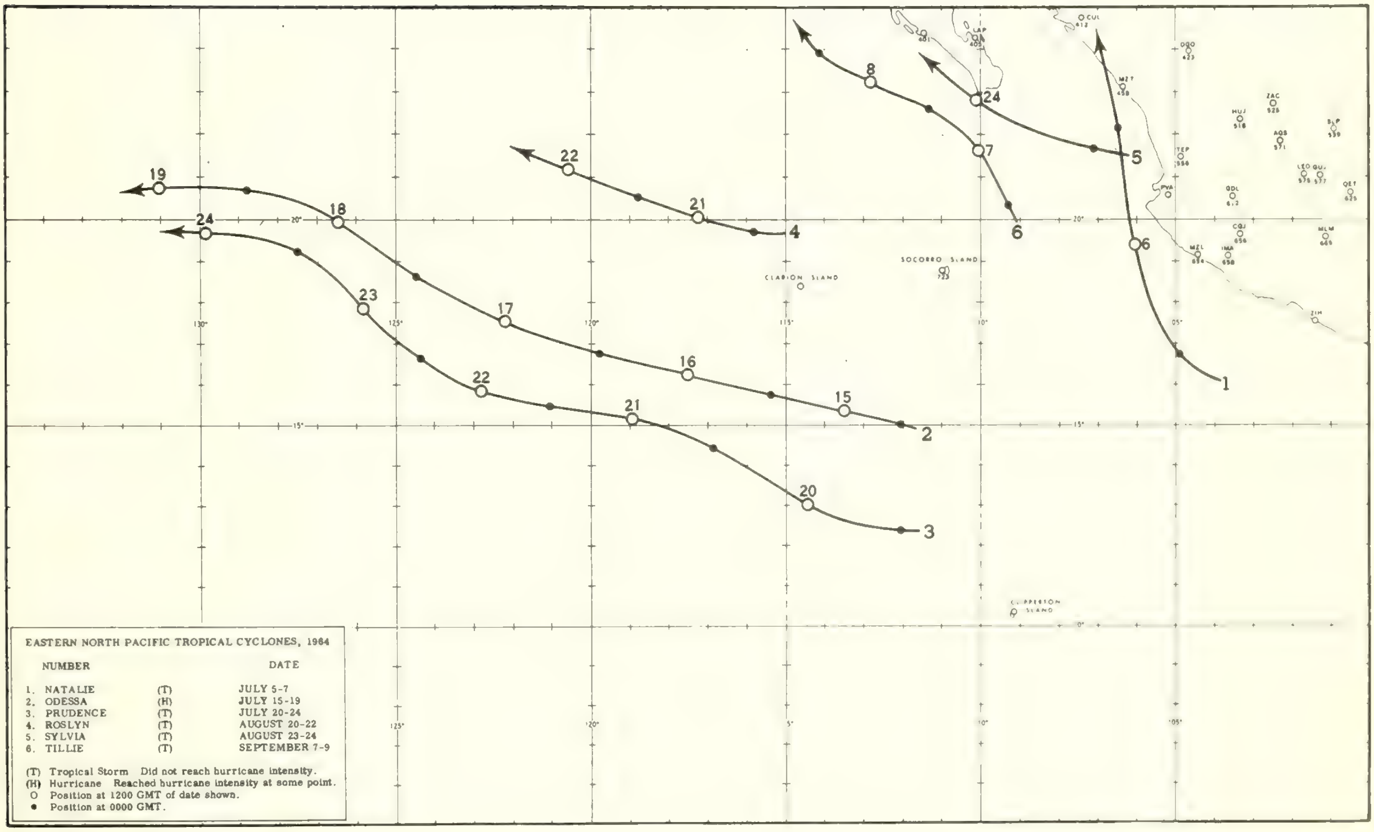
This tropical storm was one of the smaller Mexican west coast storms. Direct evidence of its location and strength was given at 2200 on the 23d by the ship CULIACAN. It reported seas of 25 ft. with southwest winds 30 to 35 kt. and the storm center position was determined to be 21.7°N., 107.1°W., at 0000 on the 24th. This tropical cyclone, having barely reached tropical storm strength, weakened to a tropical depression sometime during the 24th and moved west-northwestward with an average speed of 14 kt. At 1915 of the 25th a picture taken by TIROS showed a spiral formation of clouds centered at about 25.0°N., 115.0°W. Surface data indicated no storms in this vicinity at that time, so it has been assumed that the satellite picture showed the upper air remnants of a previously well-developed storm. At its maximum development the highest winds were estimated to be 50 kt. with gale force winds extending outward 50 mi. from the center.

TROPICAL STORM TILLIE, SEPTEMBER 7-9

For two days a tropical depression was followed on the weather maps as it moved in a northwesterly direction. Then at about 0000 on the 7th it developed to storm intensity near 20.3°N., 109.3°W., or 230 mi southwest of Mazatlan, Mexico. This storm dissipated shortly after 0000 on the 9th about 125 mi. west-southwest of Magdalena Bay. It moved at an average speed of 8 kt., generally in a northwesterly direction. At its maximum development, highest winds were believed to be 50 kt. with gale force winds extending outward about 100 mi. The chart shows Tillie during the formative stages, demonstrating the exceptionally fine results of the NIMBUS I high resolution infrared radiometer (HRIR) system, used for nighttime surveillance.

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC, 1964

Name	Dates	Area Where First Reported	Land Area Affected	Highest Wind Speed (Observed)	Lowest Pressure (Observed)	Area of Dissipation
1. NATALIE	July 5-7	16.2°N., 104.0°W.	Tres Marias Islands and 70 mi. northwest of Mazatlan, Mexico.	70 kt.	1001.0 mb.	70 mi. northwest of Mazatlan, Mexico
2. ODESSA	July 15-19	15.0°N., 112.0°W.	None	65 kt.	992.0 mb.	20.8°N., 131.0°W.
3. PRUDENCE	July 20-24	12.3°N., 112.0°W.	None	40 kt.	999.8 mb.	19.7°N., 129.8°W.
4. ROSLYN	August 20-22	19.7°N., 115.0°W.	Socorro Island, before it developed to storm intensity.	40 kt.	1005.5 mb.	21.5°N., 121.3°W.
5. SYLVIA	August 23-24	21.7°N., 107.1°W.	Tres Marias Islands and the southern tip of Baja California	40 kt.	1005.7 mb.	23.5°N., 111.0°W.
6. TILLIE	September 7-9	20.3°N., 109.3°W.	None	35 kt.	1000.0 mb.	23.9°N., 114.2°W.


19
18
17
16
15
2
24
23
22
21
20
3
22
21
4
8
7
6
24
5
6
1
20°
15°
130°
125°
120°
115°
110°
105°
10°
CLARION ISLAND
SOCORRO ISLAND
CLIPPERTON ISLAND
EASTERN NORTH PACIFIC TROPICAL CYCLONES, 1964
NUMBER
DATE
1. NATALIE (T) JULY 5-7
2. ODESSA (H) JULY 15-19
3. PRUDENCE (T) JULY 20-24
4. ROSLYN (T) AUGUST 20-22
5. SYLVIA (T) AUGUST 23-24
6. TILLIE (T) SEPTEMBER 7-9
(T) Tropical Storm Did not reach hurricane intensity.
(H) Hurricane Reached hurricane intensity at some point.
O Position at 1200 GMT of date shown.
● Position at 0000 GMT.

TYPHOONS OF THE WESTERN NORTH PACIFIC, 1964

Based on Material Prepared by the Joint Typhoon Warning Center,
Fleet Weather Central, Guam, Mariana Islands

A total of 730 tropical warnings were issued by the Joint Typhoon Warning Center on 26 typhoons, 13 tropical storms, and 5 tropical depressions in the western North Pacific Ocean during 1964. Seven additional tropical cyclones were investigated, but did not intensify enough to necessitate the issuance of warnings. The development of 26 typhoons in the North Pacific west of 180° longitude in 1964 is a new record. The previous high of 24 was established in 1962. For the years since 1952, when intense aircraft reconnaissance began, the average annual number of typhoons is about 19.

The two most intense typhoons of 1964 were Sally and Opal. Each had maximum sustained surface winds of 170 kt. Other typhoons with sustained winds exceeding 130 kt. were Cora, Ida, Wilda, and Louise. Opal had the largest surface circulation with a maximum radius of 650 mi. Alice was the smallest typhoon with a maximum radius of 200 mi. Of the 26 typhoons during the 1964 season, 15 dissipated over land, 5 dissipated over water, 2 were absorbed by other typhoons, and only 4 became extratropical.

Total extent of damage and loss of life due to tropical cyclones in the western North Pacific is unknown. However, several areas were frequented by more than their usual share of typhoons and tropical storms. The South China Sea west of the Philippines and south of 8.5°N. was visited by 10 typhoons, compared to an annual average of 3.2 for the previous 5 yr. Three other regions in particular were adversely affected by typhoon activity.

An unusually high number (5) of typhoons hit near Hong Kong. They caused heavy rains in the British Crown Colony. High water, landslides, and strong winds did considerable damage and caused over 50 deaths. At least 14 freighters in the harbor were damaged. Ruby, with winds to 140 kt., was reported to be the first typhoon in 20 yr. to pass directly over Hong Kong.

Six typhoons (and two tropical storms) moved across the Viet Nam coast between 11° and 22°N., Violet was responsible for destroying many houses in Quang Tin Province. Iris, Joan, and Kate struck within a 12-day period in November. Reports indicated up to 7,000 dead and many homeless in the wake of Iris and Joan. Up to 5,000,000 acres were reported swamped by the worst floods in 60 yr.

The Philippines suffered from 10 typhoons with Luzon being crossed by 6 and receiving at least fringe effects from the other 4. Most destructive were Winnie, Ida, Louise, and Opal. Louise moved through the central Philippines for about 2 days with winds to 140 kt. Nearly 600 were reported killed. At the time Winnie hit, it was reported to be the worst typhoon on Luzon since 1882. Property and crop losses from the typhoons were high. At least five freighters were sunk or damaged.

The tracks of the typhoons and tracks of tropical storms and depressions are shown in the accompanying charts. Typhoon intensity indicates wind speeds equal to or greater than 64 kt.; tropical storm intensity, wind speeds from 34 to 63 kt.; and tropical depression intensity, wind speeds less than 34 kt. All distances are in nautical miles and all times in Greenwich Mean Time. Brief summaries of individual typhoons follow:

TESS, MAY 14-22

Typhoon Tess formed east of the central Philippines on the 14th and remained quasi-stationary in the area until the 17th, briefly attaining storm intensity. Then, slowly moving east-northeastward, Tess had become better organized by the 18th. On the 19th near 14°N., 139°E., typhoon intensity was reached, and later the same day Tess moved through the Marianas. Aircraft reconnaissance reported 85-kt. winds near the center of the cyclone early on the 21st. Now weakening slowly Tess moved about 100 mi. west of Marcus at noon that day. Scattered gale reports were received from vessels in the path of the storm over the next 3 days as Tess continued moving slowly northeastward into the trans-Pacific shipping lanes. Winds on the periphery of Tess of 35 kt., were reported on the 21st by the ALASKA BEAR, and on the 23d by the HAWAII and the NAESS JUPITER.

VIOLA, MAY 25-28

Typhoon Viola developed over the waters of the South China Sea west of Luzon on the 25th. With winds of storm intensity, Viola moved in a northwesterly direction toward the China coast while slowly intensifying. Typhoon intensity was reached on the 27th as winds increased to maximum intensity of 70 kt. The JARICHA experienced winds of 36 and 48 kt., on the 26th and 27th, respectively, near 15°N., 115°E. Viola crossed inland about 100 mi. west of Hong Kong early on the 28th. Three freighters were grounded at Hong Kong from the force of Viola; the Liberian MADURA; and the Greek GLORIA in Pennys Bay, Lantao. The British MANGROVE HARBOUR was partially flooded when it grounded on Tung Kwu Island. Beneficial rain fell over the Crown Colony due to Viola.

WINNIE, JUNE 26-JULY 3

Typhoon Winnie formed as a tropical depression southwest of Guam on the 26th. Rapid intensification took place on the 27th and typhoon strength was reached late in the day near 15°N., 130°E. Winnie moved in a westerly direction toward southern Luzon which it approached on the 29th with sustained winds of about 95 kt. near the center. Manila was directly in the path of the cyclone and damage reported was the worst in the area since 1882. An estimated 500,000 persons were left homeless in Manila and the central Luzon provinces. Loss of life was surprisingly light with about 40 persons dead or missing. A Philippine Navy destroyer sank at her moorings and several aircraft suffered varying amounts of damage. Coconut and abaca plantations on Luzon were also hard hit. From the Philippines, typhoon Winnie turned to a northwesterly course across the South Chine Sea with winds of 100 kt. The cyclone crossed Hainan and the Gulf of Tonkin on July 2 and moved inland over the Red River delta of North Viet Nam where it weakened and dissipated during the next day or two.

ALICE, JUNE 26-28

Typhoon Alice developed from a tropical depression which moved over Guam on the 26th. Tropical storm intensity was reached late on the 26th when a reconnaissance aircraft recorded winds of 50 kt. Typhoon strength was reported a few hours later early on the 27th as the wind speed reached 65 kt. Alice moved westward about 700 mi. behind the larger, developing cyclone Winnie, and late on the 27th Alice began dissipating rapidly and was absorbed in the circulation of typhoon Winnie.

BETTY, JULY 2-6

Typhoon Betty developed early on the 2d near 22°N., 132°E., with winds already of storm intensity of 40 kt. by the time an aircraft checked the area. Betty intensified and moved along a northwesterly path which took it across the southern Ryukyu Islands on the 4th with winds of 100 kt. over a small area near the center. Maximum intensity of 110 kt. was reported on the following day as the cyclone approached the China coast about 200 mi. south of Shanghai. The cyclone then rapidly weakened and lost its identity. Several good TIROS pictures were obtained of typhoon Betty.

CORA, JULY 6-10

Typhoon Cora, a tropical storm near 10°N., 142°E., about 300 mi. southwest of Guam when the first advisory was issued early on the 6th, reached typhoon intensity later that same day and had central winds to 130 kt. by the 7th. Cora moved slightly north of west toward the central Philippines intensifying to about 140 kt. sustained winds on the 8th. Approaching northern Samar and southern Luzon on the 9th, the intensity of the cyclone suddenly dropped below typhoon intensity and on the 10th it had dissipated.

DORIS, JULY 11-15

Typhoon Doris formed on the 11th in the same area where Cora developed, about 300 mi. southwest of Guam. Doris was of tropical storm intensity on the 11th and 12th and attained typhoon intensity early on the 13th near 17°N., 131°E., while moving northwestward. Maximum intensity of 80 kt. was reached early on the 14th. Later that day, while located about 200 mi. east of Taiwan, Doris weakened suddenly, and by noon on the 15th it had dissipated near the southern Ryukyu Islands.

ELSIE, JULY 13-18

Typhoon Elsie developed as a tropical depression near the Marianas on the 13th. Tropical storm intensity was reached late on the 14th, and Elsie became a typhoon about 48 hr. later when aircraft reconnaissance estimated winds at 65 kt. near 14°N., 127°E. Elsie moved in a general westerly direction toward southern Luzon. On the 17th some intensification occurred as wind speeds increased to 100 kt. near the center. Elsie later that day crossed southern Luzon near Manila and appeared in the South China Sea with winds down to 40 kt. Late on the 18th Elsie was dissipating near 18°N., 117°E.

FLOSSIE, JULY 26-29

Typhoon Flossie formed within an area of low pressure east of Taiwan on the 25th. Intensification to tropical storm strength occurred later on the 25th when aircraft reconnaissance found 40-kt. winds in the circulation just south of Okinawa. North of Flossie's center as the typhoon approached the island on the 26th, the PRESIDENT ROOSEVELT met 40-kt. gales. Flossie continued along a northwesterly track to off the China coast near Shanghai on the 28th with winds increasing to about 80 kt. near the center. Recurvature and movement toward the northeast over the Yellow Sea to the west coast of North Korea took place on the 29th. The dissipating storm then moved across southeastern portions of Manchuria and Siberia. Two U. S. Navy vessels collided and a third ran aground during gale force winds in Okinawan waters as Flossie passed that island. Damage to the ships was rated as "not serious". The attack transport GEORGE CLYMER and the amphibious ship ELDORADO were involved in the collision while the high-speed transport WEISS broke out of her anchorage and went aground. At least two fishermen and several fishing boats were lost along the Yellow Sea coast of Korea during the passage of Flossie.

HELEN, JULY 27-AUGUST 3

Typhoon Helen developed over the sparse data areas near 19°N., 150°E., on the 27th. Winds near the center were then estimated at 35 kt. Helen moved in a northwesterly direction toward southern Japan. Typhoon intensity was reached early on the 29th near 22°N., 146 °E. Helen moved within 100 mi. of Iwo Jima about noon on the 30th with peak winds at 130 kt. near the center. On August 1, Helen skirted Kyushu and the northern Ryukyu Islands. Some damage and loss of life were sustained on these islands. Central winds were then approximately 100 kt. Helen continued northwestward into the Yellow Sea on the 2d and 3d with winds slowly diminishing. On the 4th the storm was dissipating over Manchuria.

IDA, AUGUST 2-9

Typhoon Ida was discovered as a tropical depression about 300 mi. southeast of Guam on the 2d. Late the same day Ida was upgraded to a tropical storm and continued to move in a general west-northwesterly direction. Ida reached typhoon intensity early on the 4th with 80 kt. winds near the center of the circulation. Churning across northern Luzon with sustained winds of 135 kt. late on the 6th and early on the 7th, Ida was responsible for 11 fatalities and widespread flooding and crop damage. The 3,541-ton SUNSHINE was grounded in Ida near Aparri on northern Luzon. The Panamanian freighter suffered considerable damage to bottom, propeller, and rudder. Several vessels encountered gale force or greater winds in Ida's circulation on the 6th and 7th: FREDERICK LYKES, 35 kt.; PRESIDENT WILSON, 40 kt.; BRETON, 46 kt.; SGT. TRUMAN KIMBRO, 50 kt. Some weakening occurred, but Ida rapidly reintensified after crossing Luzon. Passing 40 mi. southwest of Hong Kong, Ida moved into the Chinese mainland with 90-kt. winds on the 8th. Fringe winds with gusts to 120 kt. swept over the Crown Colony and the 11,360-ton Liberian tanker DOROTHY broke loose from her moorings and ran aground in Hong Kong Harbor. Moving inland, Ida rapidly dissipated on the 9th.

KATHY, AUGUST 12-25

Typhoon Kathy was located by ship reports on the

12th near 28°N., 151°E., as a tropical storm. One of the earliest indications of Kathy came from the CALIFORNIA GETTY near the storm's first known position. Winds were from the east-southeast at 38 kt. Intensification to typhoon strength occurred on the 13th about 150 mi. northwest of its original location when winds were 70 kt. near the center. Movement the following 4 days was west-southwestward near Okinawa to about 25°N., 126°E. Completing a counterclockwise loop, Kathy was positioned about 150 mi. northeast of Okinawa on the 20th. During this time, sustained winds near the center had reached 115 kt. and typhoon Marie was absorbed into Kathy's circulation. From the 19th through the 22d, numerous ships in the vicinity of the northern Ryukyu Islands experienced some effect of the typhoon. On the 19th, the FLYING DRAGON recorded 35 kt. winds. The following 2 days the NAESS VENTURER encountered 50 kt. gales. Similarly, the PRESIDENT McKINLEY encountered 40 kt. winds on the 21st-22d. Moving into Kyushu on the 23d with winds of 70 kt., Kathy caused widespread damage. At least 13 fatalities and numerous injuries were reported. Landslides and flooding were the major causes of casualities and up to 28 in. of rain was recorded in Kyushu's mountainous regions. Turning northeastward, Kathy churned into the Inland Sea, across Honshu, and into the Sea of Japan via Wakasa Bay late on the 24th. However, Kathy had been downgraded to a tropical storm as it left Kyushu. Maximum winds were 45 to 50 kt. as Kathy rapidly moved across the Noto Peninsula and back across Honshu near the 40th parallel on the 24th-25th. The cyclone became extratropical on the 25th and moved seaward in an easterly direction. A swing to the northeast on the 29th from near 42°N., 170°E., took the storm into the Bering Sea near the central Aleutians. Force 8 and 9 winds were reported by vessels in this area on the 30th. The storm began to dissipate over the colder waters and eventually drifted across the Bering Strait by September 1.

MARIE, AUGUST 14-18

Typhoon Marie was already a tropical storm when sighted by reconnaissance aircraft on the 14th near 20°N., 129°E. After initially moving northwestward, Marie recurved toward the east and by late on the 16th, the center was located near 22°N., 135°E. Moving northward, Marie finally reached typhoon intensity on the 17th at 25°N., about 450 mi. east of typhoon Kathy. Central winds were near 70 kt. As Kathy moved eastward, Marie traveled northwestward remaining just above minimum typhoon strength. Late on the 18th, when Marie was about 150 mi. north of Okinawa, the typhoon was absorbed by Kathy, However, about 200 mi. south of Kobe, minimum gale winds of 35 kt. were reported from the FLYING DRAGON in Marie's disappearing circulation.

RUBY, SEPTEMBER 1-5

Typhoon Ruby, the third such major cyclone to strike the coast near Hong Kong this year, was discovered on the 1st near 20°N., 132°E. Aircraft reconnaissance positioned the storm which had 35-kt. winds near the center. Ruby attained typhoon strength 1 day later. Movement was westward until early on the 4th when, about 125 mi. west-northwest of Luzon, Ruby turned to the northwest. Early the next day, as maximum intensity was reached, sustained winds near the center were 120 kt. Moving across the South China Sea, Ruby approached the Chinese mainland early on the 5th. Just southeast of Hong Kong that day, the PHIL. PRES. OSMENA reported 55-kt. winds. The typhoon was the first to pass directly over Hong Kong in 20 yr. Winds in the Crown Colony on the 5th ranged to near 140 kt. Heavy rains caused flooding, landslides, and house collapses. Up to 9 persons were reported missing when the Panamanian freighter DORAR sank in Hong Kong Harbor; 14 others were rescued. More than 20 ocean-going ships broke their moorings, colliding with each other. Some were swept out to sea. Other ships damaged at Hong Kong during Ruby's assault were the AMONEA, FAIRHURST, COSMO TRADER, SHUN FUNG, ANJI, and KOWLOON BAY. The combined casualty toll on Hong Kong and Portuguese Macao was reported to be 31 dead, 11 missing and over 300 injured as huge trees were uprooted, cars flipped over and houses were demolished in the high winds. Continuing the westward movement, Ruby rapidly dissipated over land about 150 mi. west of Canton.

SALLY, SEPTEMBER 3-10

Typhoon Sally was discovered on the 3d by ship observations as a depression about 150 mi. southwest of Eniwetok. Later that day Sally was of tropical storm intensity and positioned by aircraft radar about 200 mi. northeast of Truk. Early on the 4th, Sally was upgraded to a typhoon with 65-kt. winds near the center. Only 1 day later, 85-kt. winds battered Guam as Sally continued its west-northwestward movement near the Island. Maximum intensity was attained early on the 7th. Sustained winds near the center reached 170 kt. and the lowest reported sea level pressure was 894 mb. After brushing northern Luzon on the 8th-9th, Sally crossed the South China Sea and moved into the Chinese mainland just east of Hong Kong with 85-kt. winds. Late on the 10th near Canton, Sally was downgraded to a tropical storm as dissipation rapidly continued. By the 12th-13th, remnants of Sally gave Seoul, Korea, the worst rains in 20 yr. Reports listed at least 376 persons as dead or missing and 258 injured. Most of the casualties were attributed to rain-triggered landslides, floods and many collapsed houses. Strong, damaging winds accompanied the storm as some intensification occurred over marine areas. Vessels encountered force 8 to 10 winds as the storm moved across Hokkaido on the 13th and northeastward to southern Kamchatka by the 16th where dissipation occurred.

TILDA, SEPTEMBER 13-22

Typhoon Tilda was the fifth major typhoon to affect Hong Kong during 1964. On the 13th, near 18°N., 132°E., vessel reports and aircraft reconnaissance indicated a tropical depression. By early on the 14th, Tilda had reached typhoon intensity with winds near the center from 65 to 70 kt. Later that day, Tilda moved near Batan Islands lashing southern Taiwan and sparsely populated islands in the northern Philippines, and then headed westward across the South China Sea. Midday on the 16th, Tilda was positioned about 60 mi. south of Hong Kong where it remained stationary for about 12 hr. before drifting southeastward and being downgraded to storm strength. Again after remaining stationary in the vicinity of 19°N., 115°E., for nearly 2 days, Tilda attained full typhoon intensity on the 19th. One day later about 100 mi. southeast of Hainan maximum intensity was achieved. Winds near the center were 100 kt. for about 12 hr. as Tilda headed westward. Beneficial information was provided on the 21st from the observation of the PRESIDENT JOHNSON, just off the southern coast of Hainan. Winds of 60 kt. were reported from the ship. Slowly losing intensity the typhoon was downgraded to a tropical storm shortly after slamming into the Viet Nam coast about 60 mi. northwest of Hue.

VIOLET, SEPTEMBER 14-15

Typhoon Violet began and ended during the lifetime of typhoon Tilda and also struck the coast of Viet Nam. Violet's life was short, from early on the 14th to late the following day. Discovered as a depression about 350 mi. east-northeast of Saigon, Violet intensified to a tropical storm within a few hours. Most early fixes were based on vessel reports. Just prior to striking the coast, Violet was upgraded to a typhoon with winds of 75 kt. Early reports indicated that about 90 percent of the houses in Quang Tin Province were demolished. Farther north at the coastal city of Da Nang, one plane was damaged at an air base. Moving just inland along the coast, Violet weakened to storm intensity. The final advisory was issued as Violet rapidly dissipated in the vicinity of Donghoi (18 °N., 106°E.).

WILDA, SEPTEMBER 19-25

Typhoon Wilda was one of the most severe tropical cyclones to strike Japan this year. When first discovered on the 19th in the storm stage, Wilda was situated about 230 mi. northwest of Saipan. Wilda was upgraded to a typhoon the same day and its movement was generally northwestward until the 23d. On the 21st maximum sustained winds were 150 kt. near the center. They were not much less on the 23d-24th when the typhoon caused widespread damage in the northern Ryukyus. Positions of the center and estimates of intensity were good during this time due to land and ship reports, and radar observations. The storm curved toward the north, moving directly into Kyushu. Kagoshima was especially hard hit by the 95-kt. winds. There were at least 3 fatalities, 450 homes destroyed and two ships sunk in Kagoshima Bay. The British ORIENTAL was cracked amidships and forced aground near Namami Cape on southern Kyushu. Wilda sped across Shikoku and the Inland Sea to the heavily populated Kobe-Osaka district. There 70-kt. winds battered the cities and forced the ADRI XIV, an Indonesian freighter, aground in Kobe Harbor. The SURNA and DON RAMON were also grounded in Osaka Bay from Wilda's high winds. After crossing Honshu on the 24th, Wilda entered the Sea of Japan and moved northeastward brushing along the western coast of the main Japanese island as a tropical storm. However, Wilda was fast becoming extratropical as it again crossed Honshu through the northern districts on the 25th. On that day the PRESIDENT VAN BUREN, just south of Tokyo Bay, reported 41-kt. winds. Deepening occurred as the cyclone moved rapidly to the central Aleutians by late on the 27th. Pressure was then 968 mb. and vessels in the circulation encountered force 8 to 10 winds; the SANTA ISABEL MARU in the storm's eastern quadrant had 47-kt. winds.

CLARA, OCTOBER 2-8

Typhoon Clara was initially indicated on the 2d from sparse surface reports as a tropical depression near Yap. Later that day reconnaissance aircraft and surface data better positioned the cyclone about 100 mi. west of Yap. The reports further revealed Clara to be of tropical storm intensity. Movement was generally northwestward until late on the 3d near 15°N., 130°E. Thereafter, Clara's direction varied little from slightly north of west. By the 4th, Clara was a typhoon and maximum winds were 80 kt. when it struck Luzon near Dilasac Bay late that day. Weakened somewhat by its journey over land, the cyclone maintained enough strength to retain typhoon designation. Crossing the South China Sea on the 5th-7th, Clara followed a path similar to its immediate predecessor, tropical storm Billie. Clara's highest winds reached 80 kt. again on the 6th and brushed southern Hainan on the 7th. Weakening to a tropical storm with 45-kt winds, Clara spun into Viet Nam near Ben Thuy early on the 8th, but rapidly dissipated over land.

DOT, OCTOBER 6-13

Typhoon Dot was the strongest tropical cyclone in the North Pacific during October and 5th typhoon of 1964 to move inland near Hong Kong. As a tropical storm Dot was first sighted by aircraft reconnaissance about 100 mi. southwest of Yap on the 6th. Little movement was evidenced that day and Dot appeared to be dissipating, but rapid reintensification gave a more definitive center to the storm and it was relocated near 11°N., 131°E., early on the 7th. Dot continued west-northwestward, brushing Catanduanes Islands on the 8th. Swinging to a northwesterly course, Dot attained typhoon strength as it arced over the northern edge of Luzon on the 9th leaving that island near Laoag, heading westward. However, Dot quickly resumed its earlier direction on the 10th and 11th veering across the South China Sea towards Hong Kong. Maximum intensity was reached on the latter day, with sustained winds near the center estimated at 90 kt. and observed winds of 50 kt. in the circulation reported by the NAESS VENTURER. The following day, the PRESIDENT ROOSEVELT, nearer Dot's center encountered seas over 17 ft. and near hurricane winds of 57 kt. With only a slight drop in intensity, Dot battered the Crown Colony on the 12th-13th. Within a 15-hr. period the typhoon caused at least 23 deaths and numerous injuries. Rain-triggered landslides and collapsed houses left many homeless. Two ships in the harbor were driven aground and 30 junks were sunk or missing. Earlier 1964 typhoons had already refilled Hong Kong's drought depleted reservoirs to overflowing.

HOPE, OCTOBER 23-29

Typhoon Hope was detected on the 23d about 200 mi. west of Guam in its embryonic stage. Hope was quickly upgraded to a tropical storm after reconnaissance aircraft surveyed the cyclone. Vessel reports were instrumental in aiding to track the storm during the 6 days it was a tropical cyclone. Early movement took Hope to near 16°N., 136°E., where it swung to a northerly course on the 25th. By the 27th, intensity and forward motion had increased and Hope's movement had gained an easterly component. Late that day 65-kt. winds qualified Hope for typhoon classification as it passed northwest of the Bonin Islands. Highest winds were estimated at 130 kt. by early on the 29th. At 0000 on the 29th, the ELISABETH ENTZ remained hove-to in winds of 75 kt. and 27-ft. waves. Later that day the FLYING FISH met 50-kt. winds while in the circulation. Hope was downgraded to tropical storm and further was transformed to extratropical on the 29th as it continued to move northeastward. Maximum winds in the circulation were 50 kt. late that day as the system passed near 38°N., 156°E. On the 30th, the extratropical stage of typhoon Hope deepened as it neared the central Aleutians and moved into the southeastern Bering Sea. It became the main cell of a large system with a fetch from Kamchatka to 155°W. in the strong pressure gradient of the storm's southern quadrant.

IRIS, NOVEMBER 2-4

Typhoon Iris had a known existence slightly over 2 days from time of discovery in the central South China Sea on the 2d. Sparse surface reports helped to follow the system which was a tropical storm when penetrated by reconnaissance aircraft near 14°N., 115°E. Movement of Iris was mostly westward with a temporary swing to about 15°N., and back again on the 3d. Iris reached minimal typhoon strength just prior to slamming into the central provinces of South Viet Nam early on the 4th. Shortly thereafter, typhoon Iris was downgraded to tropical storm as it rapidly dissipated in crossing the rough terrain.

JOAN, NOVEMBER 6-8

Typhoon Joan, together with its immediate predecessor typhoon Iris, reportedly flooded over 5,000,000 acres, left 7,000 dead and a million homeless in the central provinces of South Viet Nam. Vessel reports were the first indications of Joan, which was located about 200 mi. southwest of Manila on the 6th with 40-kt. winds. Joan increased in strength as it moved westward, reaching typhoon intensity early on the 8th near 13°N., 111°E. The typhoon was preceded by days of torrential rains and damage was reported high at Quinhon, just north of the region where Joan struck the coast. The floods were termed the most disastrous in 60 yr. Mountain valleys and coastal plains were swept clean, entire hamlets washed away without a trace. Late on the 8th, Joan was dissipating over land.

KATE, NOVEMBER 13-16

Typhoon Kate began in the South China Sea near the spawning grounds of typhoons Iris and Joan. Soon after discovery near 10°N., 112°E., early on the 13th, the tropical storm moved on a southerly course to about 8°N., 112°E. Just north of the storm's center the ILLINOIS encountered 45-kt. gales later that day. Reversing its direction, Kate continued to intensify and was centered near 10°N., 113°E., by the 15th with 65-kt. winds. Shifting direction again on the 15th Kate headed west-northwestward and further intensified as winds near the center reached 80 kt. late that day. On the 16th Kate struck the Viet Nam coast near Nhatrang, just south of the region devastated by floods from typhoons Iris and Joan. Reports indicated heavy damage. Rapid dissipation occurred over land and late on the 16th maximum winds were only 25 kt.

LOUISE, NOVEMBER 15-20

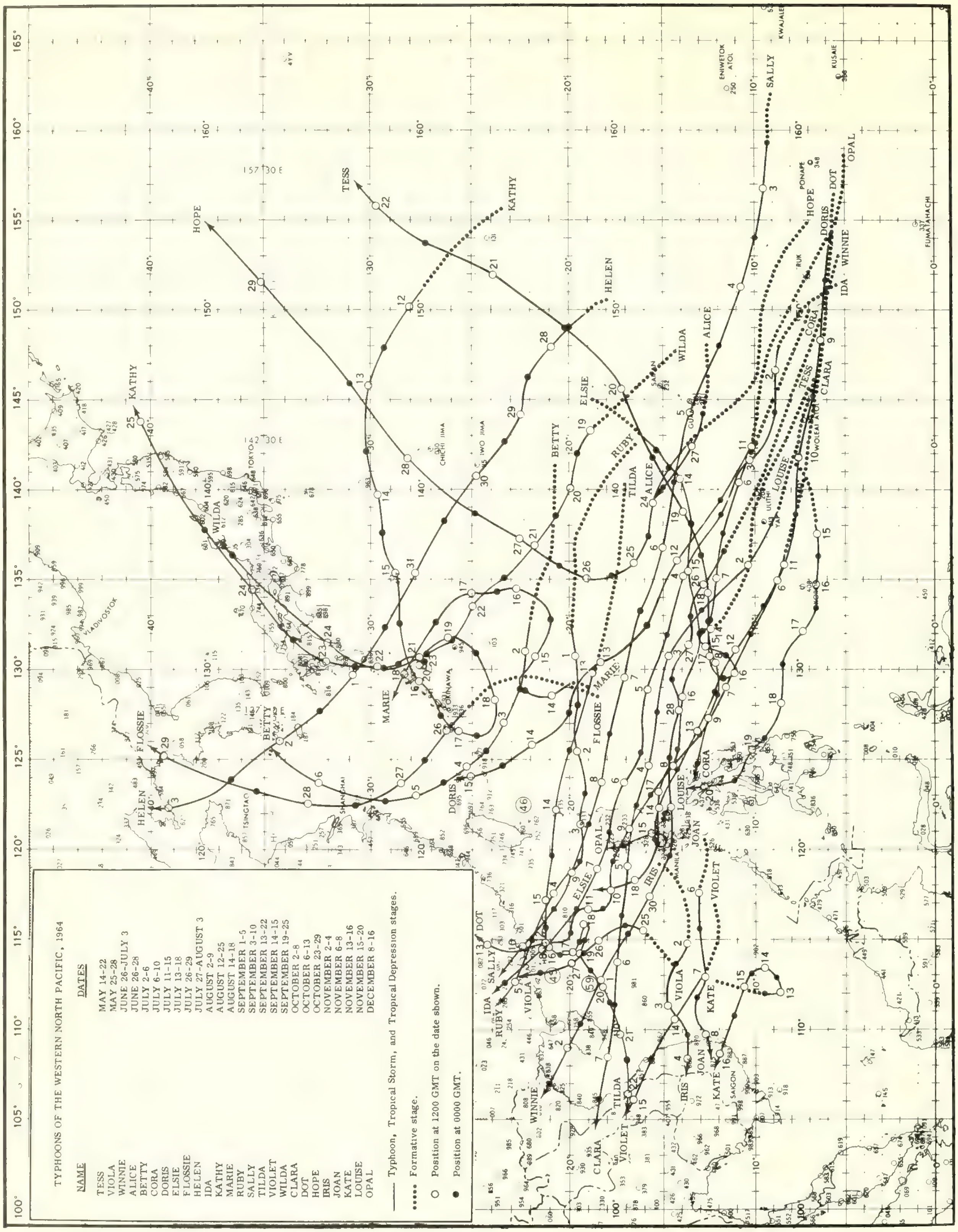
Typhoon Louise had only 25-kt. winds in the circulation when discovered early on the 15th about 100 mi. south of Yap. Sparse surface reports furnished early information until reconnaissance aircraft penetrated the circulation late on that day. Louise was upgraded to typhoon on the basis of winds of 70 kt. and a more accurate fix positioned the center near 7°N., 136°E., early on the 16th. Moving just south of Koror, Louise headed for the Philippines on a west-northwesterly course. For 1 day from early on the 18th until the typhoon hit Mindanao on the 19th near Lanuza Bay, Louise packed winds to 165 kt. The typhoon was one of the most destructive storms to hit the central Philippines in years. A total of 576 persons were reported killed and many more missing and homeless. Property and crop losses were high. The provinces of Surigao, Del Norte, Agusan, Leyte, Bohol, and the island of Negros bore the brunt of winds of 140 kt. At the city of Surigao on northern Mindanao, reports indicated one village suffered 100 casualties and destruction of all buildings. Nine inter-island ships were sunk. The Panamanian freighter POMPADOUR and an escort salvage tug were lost when they were slammed into a reef by the typhoon's winds. A British frigate rescued the 46 men aboard the two vessels. Louise crossed the Visayan Islands on the 19th, turned northward over Panay Island on the 20th, and became stationary off the northern end of Masbate Island that day. Louise had weakened rapidly and was downgraded to a depression near the latter point, where the storm remained until dissipation on the 21st.

OPAL, DECEMBER 8-16

Typhoon Opal intensified rapidly after earliest indications late on the 8th and had 65-kt. winds near the center when first positioned by aircraft reconnaissance early on the 9th about 100 mi. southwest of Truk. Late on the 10th, about midway between Palau and Yap Islands, Opal continued to intensify. Moving west-northwestward the typhoon developed sustained winds to 170 kt. by late on the 12th. The eye passed just north of Catanduanes Island and the Polillo Islands and into central Luzon on the 14th. Central winds had dropped to 75 kt. The British freighter SWIFT RIVER was driven ashore. Heavy rains damaged rice crops on Luzon and caused a washout that derailed a passenger train; at least two were killed and three injured. Considerable property damage to structures was also sustained. Weakening over land as it crossed to near Iba by the 15th, Opal swung back toward Manila, making a small counterclockwise loop. The center moved off the western shore of Luzon via Lingayen Gulf. Winds had dropped to 40 kt. by then. On the 16th, Opal crossed the northwestern corner of Luzon and passed through the Babuyan Islands slightly intensified. Winds were then 45 kt. The final advisory was issued that day as Opal continued toward Okinawa. However, winds to 45 kt. battered a stranded ore carrier near Naha on the 17th and 18th as the tropical cyclone's final stages moved through the southern Ryukyus. Rough weather had forced the UNION PACIFIC aground on the 3d. Two persons who had remained on the stranded vessel were lost during rescue attempts on the 18th.

TYPHOONS OF THE WESTERN NORTH PACIFIC, 1964

Name	Dates of Storm and Typhoon Intensity (mb.)	Values and Dates (GMT) of		Calendar Days of		Land Areas Affected
		Highest Surface Wind Speed (kt.)	Lowest Observed Surface Pressure (mb.)	Warnings	Typhoons	
TESS	May 14-22	85-21	965-21	8.75	3.00	Marcus Island, Marianas Islands
VIOLA	May 25-28	70-27	980-27	3.00	1.00	China, Hong Kong
WINNIE	June 26-July 3	100-01	950-01	6.25	4.50	Philippines, Hainan Island, Viet Nam
ALICE	June 26-28	65-27	990-26,27	1.50	0.50	Marianas Islands
BETTY	July 2-6	110-05	958-04,05	4.75	3.75	Ryukyu Islands,China, Korea
CORA	July 6-10	140-08	967-06	4.00	3.00	Caroline Islands, Philippines
DORIS	July 11-15	80-14	974-13	4.25	1.25	None
ELSIE	July 13-18	100-17	992-17	5.25	1.25	Philippines
FLOSSIE	July 26-29	80-27	974-28	4.75	3.00	Ryukyu Islands,China, Korea
HELEN	July 27-Aug. 3	130-30	931-30	7.00	4.75	Volcano Islands,Japan, Korea, Manchuria
IDA	Aug. 2-9	135-06	927-06	7.25	4.75	Caroline Islands, Philippines, China, Hong Kong
KATHY	Aug. 12-25	115-18,19	945-20	13.50	10.00	Bonin Islands, Japan, Ryukyu Islands
MARIE	Aug. 14-18	70-17	976-17	4.75	1.00	Japan
RUBY	Sept. 1-5	120-05	963-04	4.50	3.25	Babuyan Island, Philippines, China, Hong Kong
SALLY	Sept. 3-10	170-07	894-08	8.00	6.50	Marianas Islands, Philippines, Babuyan Island, China, Hong Kong
TILDA	Sept. 13-22	110-20	952-20	9.50	5.75	Batan Island, Hainan Island, Viet Nam
VIOLET	Sept. 14-15	75-15	--	1.75	0.50	Viet Nam
WILDA	Sept. 19-25	150-21	905-20	6.25	5.50	Japan
CLARA	Oct. 2-8	80-05,06	979-06	6.50	4.00	Philippines, Hainan Island
DOT	Oct. 6-13	90-11,12	976-12	7.50	4.25	Palau Islands,Philippines, China, Hong Kong
HOPE	Oct. 23-29	130-29	973-28	6.00	1.75	Bonin Islands
IRIS	Nov. 2-4	65-04	994-03	2.25	0.50	Viet Nam
JOAN	Nov. 6-8	70-08	999-07	4.50	0.50	Viet Nam
KATE	Nov. 13-16	80-15	986-15	4.00	1.50	Viet Nam
LOUISE	Nov. 15-20	165-18	914-18	6.00	1.25	Palau Islands, Philippines
OPAL	Dec. 8-16	170-12	903-11	7.75	5.75	Caroline Islands, Palau Islands, Philippines



TYPHOONS OF THE WESTERN NORTH PACIFIC, 1964

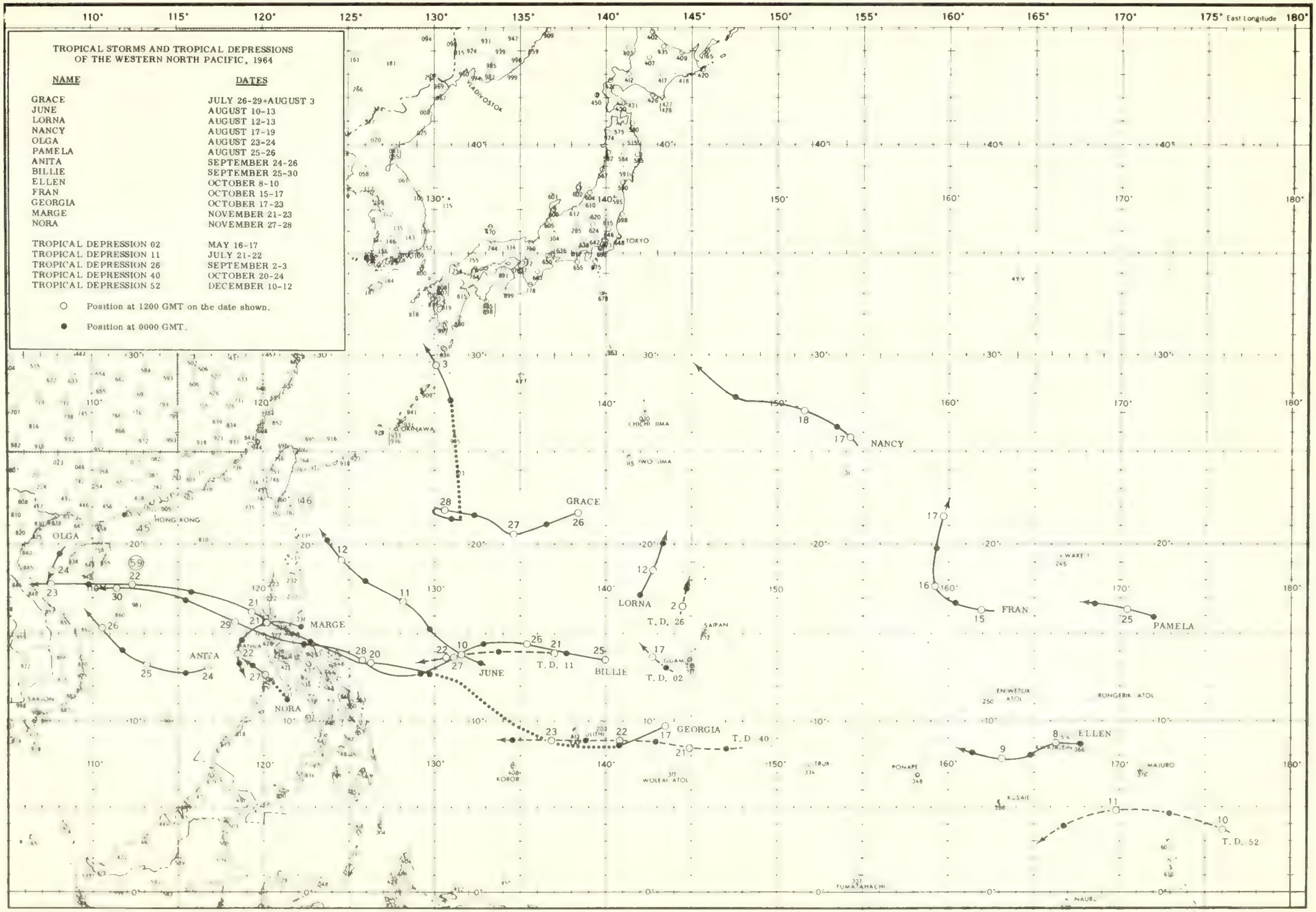
NAME	DATES
TESS	MAY 14-22
VIOLA	MAY 25-28
WINNIE	JUNE 26-JULY 3
ALICE	JUNE 26-28
BETTY	JULY 2-6
CORA	JULY 6-10
DORIS	JULY 11-15
ELSIE	JULY 13-18
FLOSSIE	JULY 26-29
HELEN	JULY 27-AUGUST 3
IDA	AUGUST 2-9
KATHY	AUGUST 12-25
MARIE	AUGUST 14-18
RUBY	SEPTEMBER 1-5
SALLY	SEPTEMBER 3-10
TILDA	SEPTEMBER 13-22
VIOLET	SEPTEMBER 14-15
WILDA	SEPTEMBER 19-25
CLARA	OCTOBER 2-8
DOT	OCTOBER 6-13
HOPE	OCTOBER 23-29
IRIS	NOVEMBER 2-4
JOAN	NOVEMBER 6-8
KATE	NOVEMBER 13-16
LOUISE	NOVEMBER 15-20
OPAL	DECEMBER 8-16

—— Typhoon, Tropical Storm, and Tropical Depression stages.

••••• Formative stage.

○ Position at 1200 GMT on the date shown.

● Position at 0000 GMT.



TROPICAL STORMS AND TROPICAL DEPRESSIONS OF THE WESTERN NORTH PACIFIC, 1964

NAME	DATES
GRACE	JULY 26-29+AUGUST 3
JUNE	AUGUST 10-13
LORNA	AUGUST 12-13
NANCY	AUGUST 17-19
OLGA	AUGUST 23-24
PAMELA	AUGUST 25-26
ANITA	SEPTEMBER 24-26
BILLIE	SEPTEMBER 25-30
ELLEN	OCTOBER 8-10
FRAN	OCTOBER 15-17
GEORGIA	OCTOBER 17-23
MARGE	NOVEMBER 21-23
NORA	NOVEMBER 27-28
TROPICAL DEPRESSION 02	MAY 16-17
TROPICAL DEPRESSION 11	JULY 21-22
TROPICAL DEPRESSION 26	SEPTEMBER 2-3
TROPICAL DEPRESSION 40	OCTOBER 20-24
TROPICAL DEPRESSION 52	DECEMBER 10-12

○ Position at 1200 GMT on the date shown.

● Position at 0000 GMT.

GENERAL SUMMARY OF FLOOD LOSSES FOR 1963

Monetary losses from floods in the United States during 1963 estimated at $175,646,000, was more than twice the total that occurred in 1962. This is the highest damage sustained from floods since 1958 when the losses totaled $218,255,000. In comparison with the national average of $350,000,000 based on the 10 year period 1951 to 1960 (adjusted to the 1960 price index), the flood loss in 1963 was about 50 percent.

The total loss of life in 1963 was 39; in 1962, 19 lives were lost. The national average of lives lost each year due to floods is 78 during the last 39 years (1925-1963).

The savings reported from the flood forecasting service of the Weather Bureau were compiled from fragmentary information, $55,000,000. This figure represents statistics collected from less than 15 percent of the river systems where flooding was reported during the year.

The most destructive of the floods during 1963 occurred in the Ohio Basin during March. The Guyandot and Tug Fork Rivers in West Virginia reached the highest stages of record. Crest stages in the headwaters of the Kentucky Basin were only 2 feet below the record flood of 1957. Major flooding occurred in the upper Cumberland Basin in southeastern Kentucky and on Stones and Harpeth Rivers in Tennessee. Small streams in Woodbury, Tenn., were the highest since 1902. The main stem of the Ohio was above flood stage for 22 consecutive days at Cincinnati, Ohio, the longest consecutive period on record. Parts of West Virginia, Virginia, and Kentucky were declared Disaster Areas by the President. The total damages in the Ohio Basin during March totaled $97,600,500 or 55 percent of the total damages sustained during the entire year. Twenty-six lives were lost in the Ohio Basin during the March floods.

The total flood damages reported in Hawaii during 1963 was estimated at $2.2 million. This occurred during April in the northern Islands of Kauai and Oahu.

The total flood damages reported in Puerto Rico during 1963 was estimated between $4 and 7 million dollars.

GENERAL SUMMARY OF FLOOD LOSSES FOR 1963-Continued

ANNUAL FLOOD LOSSES FOR U. S. . .

Annual Flood Losses and Savings for years 1933 to 1947, inclusive, have been published in the Monthly Weather Review as follows:

Year	Issue of Review	Pages
1933	Vol. 62, No. 1, Jan. 1934	25-27
1934	Vol. 62, No. 12, Dec. 1934	465-467
1935	Vol. 63, No. 12, Dec. 1935	362-365
1936	Vol. 65, No. 1, Jan. 1937	28-31
1937	Vol. 66, No. 12, Dec. 1938	426-430
1938	Vol. 68, No. 9, Sep. 1940	262-263
1939	Vol. 68, No. 11, Nov. 1940	329-330
1940	Vol. 69, No. 7, Jul. 1941	217-218
1941	Vol. 71, No. 11, Nov. 1943	185-186
1942 & 1943	Vol. 73, No. 8, Aug. 1945	137-139
1944 & 1945	Vol. 76, No. 6, Jun. 1948	113-116
1946	Vol. 76, No. 9, Sep. 1948	208-210
1947	Vol. 77, No. 9, Sep. 1949	262-265

Beginning with flood losses for the year 1948, annual flood loss data are published in Climatological Data, National Summary, as follows:

Year	Issue of Climatological Data
1948	August 1950
1949	Annual 1950
1950) 1951)	Annual 1951
1952	Annual 1952
1953	Annual 1953
1954	Annual 1955
1955	Annual 1956
1956	Annual 1957
1957	Annual 1958
1958	Annual 1959
1959	Annual 1960
1960	Annual 1961
1961	Annual 1962
1962	Annual 1963

Prior to 1933 Flood Losses and Savings were published monthly, as a rule, in the Monthly Weather Review.

ESTIMATED FLOOD LOSSES FOR 1963

PROPERTY LOSSES IN THOUSANDS OF DOLLARS

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
ST. LAWRENCE DRAINAGE																
Lake Erie																
Sandusky River	179.8	0.0	0.0	0.0	141.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	50.0	A 372.1	0
Minor Streams Vicinity Buffalo, N.Y.	0.0	0.0	0.0	0.0	822.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34,677.6	35,500.0	1
Total	179.8	0.0	0.0	0.0	963.4	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	34,727.6	35,872.1	1
ATLANTIC SLOPE DRAINAGE																
Juniata River	75.0	25.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	110.0	0
Four Mile Run near Arlandria, Va.	844.0	0.0	318.0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	1,212.0	1
Potomac River	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0
James River and Tributaries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
Santee River	0.0	0.0	3.0	0.0	0.0	44.0	5.0	0.5	0.0	0.0	0.0	5.0	0.0	31.5	89.0	0
Total	919.0	25.0	321.0	0.0	41.0	47.0	5.0	0.5	0.0	0.0	0.0	22.0	0.0	33.5	1,414.0	6
EAST GULF OF MEXICO DRAINAGE																
Conasauga River	0.0	0.0	0.0	0.0	0.0	256.2	0.0	0.0	0.0	0.0	27.7	0.0	0.0	0.0	B 283.9	0
Coosawattee River	0.0	0.0	0.0	0.0	0.0	158.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0	B 161.5	0
Oostanaula River	0.0	0.0	0.0	0.0	0.0	268.1	0.0	0.0	0.0	0.0	34.5	0.0	0.0	0.0	B 302.6	0
Etowah River	123.7	0.0	0.0	0.0	0.0	99.1	0.0	0.0	0.0	0.0	10.8	0.0	0.0	0.0	B 233.6	0
Coosa River	0.0	0.0	0.0	0.0	0.0	426.1	0.0	0.0	0.0	0.0	13.5	0.0	0.0	0.0	B 439.6	0
Tallapoosa River	0.0	0.0	0.0	0.0	0.0	112.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	B 120.3	0
Cahaba River	0.0	0.0	0.0	0.0	0.0	33.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	B 33.7	0
Alabama River	0.0	0.0	0.0	0.0	0.0	135.8	0.0	0.0	0.0	0.0	14.6	0.0	0.0	0.0	B 150.4	0
Total	123.7	0.0	0.0	0.0	0.0	1,489.0	0.0	0.0	0.0	0.0	112.9	0.0	0.0	0.0	B 1,725.6	0
MISSISSIPPI SYSTEM																
Upper Mississippi Basin																
Blue Earth River	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.5	0
Minnesota River	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.5	0
Whitewater River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0	18.0	0
Root River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	2.5	0
Kickapoo River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0
Pecatonica River	0.0	0.0	60.5	0.0	0.0	0.0	0.0	0.0	214.0	0.0	0.0	0.0	0.0	0.0	B 274.5	0
Mississippi River	0.0	1.5	0.0	0.0	5.0	91.0	0.0	1.0	0.7	0.0	2.0	0.0	7.0	0.0	108.2	0
Total	0.0	1.5	60.5	0.0	6.0	91.0	0.0	1.0	214.7	0.0	31.5	0.0	7.0	0.0	B 413.2	0
Missouri Basin																
Gallatin River (Montana)	0.0	15.0	0.0	2.0	100.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	120.0	0
Soap Creek (Bighorn River)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0
Shoshone, Woodriver & Greybull Rivers (Tributaries of Bighorn River)	0.0	0.0	0.0	0.0	205.0	30.0	0.0	0.5	40.0	0.0	0.0	20.0	1.0	0.0	296.5	0
Bighorn River (Yellowstone River)	68.0	25.0	20.0	10.0	130.0	100.0	25.0	3.0	23.0	2.0	96.0	100.0	0.5	0.0	602.5	0
Yellowstone and Clark Fork Rivers	1.0	0.0	0.0	0.0	10.5	0.3	0.2	0.0	6.0	1.0	0.0	0.0	2.0	0.0	21.0	0
Maple River (Iowa)	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	20.0	0
Little Sioux River	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	50.0	0
Platte and Blue Rivers. Wahoo and Salt Creeks	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	13,000.0	13,017.5	3
Sappa Creek (Nebraska)	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	2.0	0.0	4.0	0.0	0.0	0.0	21.0	0
Solomon River	0.0	0.0	0.0	0.0	23.5	C 20.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	46.5	0
Gypsum Creek and Smoky Hill River	D 47.8	0.0	E 50.5	0.0	2.8	C 21.0	0.0	0.0	0.0	0.0	4.0	4.5	5.5	0.0	B 136.1	0
Big Blue River	D 93.0	0.0	E 16.6	0.0	8.4	C 140.4	0.0	0.0	0.0	0.0	49.0	0.0	2.0	0.0	309.4	0
Grand River	0.0	0.0	0.0	0.0	0.0	40.2	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	B 40.7	
Chariton River	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0
Dragoon Creek (Marais Des Cygnes)	2.0	0.0	1.0	0.5	5.0	2.0	0.0	0.2	0.1	0.0	2.0	0.0	0.0	0.0	12.8	0
Missouri	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0
Total	216.8	40.0	88.1	12.5	485.2	429.5	25.2	3.7	74.1	3.0	191.0	124.5	11.0	13,000.0	14,704.6	3
Ohio Basin																
Allegheny River	11.0	6.0	3.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	32.0	0
Monongahela River	480.7	215.5	309.1	183.8	401.5	0.0	0.0	0.0	0.0	0.0	985.7	32.3	0.0	1,505.2	4,113.8	3
Muskingum River and Tributaries	604.0	0.0	0.0	0.0	174.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A 778.0	0
Hocking River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,796.0	B 1,796.0	0
Greenbrier River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	456.5	B 456.5	0
New River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.0	B 95.0	0
Kanawha River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,683.0	B 1,683.0	0
Guyandot River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8,370.0	B 8,370.0	0
Big Sandy River	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19,951.0	B 19,961.0	1
Twelvepole Creek (West Virginia)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	B 38.0	0
Little Kanawha River	10.0	3.0	0.0	2.0	5.0	51.0	0.0	0.0	5.0	0.5	20.0	5.0	2.5	47.0	B 151.0	0
Jenny Creek (Kentucky)	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0
Alum Creek (Ohio)	20.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0
Scioto River and Tributaries	1,008.0	0.0	0.0	0.0	261.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,345.8	B 3,615.0	0
Licking River	0.0	0.0	0.0	0.0	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	0

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1963

PROPERTY LOSSES IN THOUSANDS OF DOLLARS

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
MISSISSIPPI SYSTEM - CONTD.																
Ohio Basin - Contd																
White Water River (Ohio)	3.0	1.0	0.0	0.0	133.0	1.0	0.0	1.0	5.0	0.0	100.0	6.0	5.0	0.0	255.0	2
Great Miami and Little Miami Rivers	1,110.0	600.0	1,200.0	550.0	1,630.0	100.0	0.0	50.0	800.0	230.0	220.0	59.0	290.0	0.0	6,839.0	2
Kentucky River	950.0	570.0	900.0	350.0	1,000.0	250.0	0.0	50.0	750.0	150.0	450.0	80.0	413.0	0.0	5,913.0	7
Barren River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	B 10.0	0
Rough River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	B 36.0	0
Green River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	517.0	B 517.0	0
Wabash River and Tributaries	600.0	60.0	200.0	160.0	1,600.0	1,512.0	40.0	0.0	120.0	40.0	320.0	40.0	200.0	1,505.0	B 6,397.0	2
Saline River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	B 75.0	0
Cumberland River	1.0	1,822.6	218.1	1,337.3	471.3	0.0	81.9	0.0	821.9	0.0	137.0	0.0	473.2	0.0	5,364.3	2
Little Pigeon (Tennessee)	10.0	0.0	30.0	70.0	410.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	520.0	0
First Creek	1.0	0.0	0.0	0.0	150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	151.0	0
Little River and Pistol Creek	1.0	0.0	0.0	0.0	328.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	333.5	0
Ohio	1,253.2	535.8	2,401.8	2,090.0	2,035.5	153.0	5.0	3.0	194.0	55.0	1,627.5	126.3	6,949.3	13,813.0	31,242.4	7
Total	6,062.9	3,813.9	5,262.0	4,744.1	8,652.5	2,087.0	126.9	104.0	2,695.9	475.5	3,860.2	353.1	8,343.0	52,243.5	98,824.5	26
White Basin																
Black and Cache Rivers	0.0	0.0	0.0	0.0	0.0	95.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.2	0
Total	0.0	0.0	0.0	0.0	0.0	95.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.2	0
Arkansas Basin																
Kramer Creek (East of Boone, Colo.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	1
Cottonwood River and Tributaries	0.0	0.0	0.8	0.0	3.5	7.1	0.0	0.0	2.5	0.0	4.5	0.0	0.2	0.0	18.6	1
Salt Fork and Tributaries	1.0	1.0	1.0	2.0	5.0	170.0	4.0	1.0	20.0	4.0	15.0	2.0	2.0	0.0	228.0	0
Eagle Chief Creek (nr. Alva, Okla.)	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0	2.0	1.0	3.0	1.0	0.0	0.0	11.0	0
Boggy Creek (nr. Enid, Okla.)	15.0	27.5	30.0	20.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	107.5	0
Mingo, Bird, Walnut and Flat Rock Creeks (Oklahoma)	10.0	0.0	3.0	15.5	15.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	3.2	0.0	52.7	0
Total	26.0	28.5	34.8	37.5	38.5	180.1	5.0	1.0	24.5	5.0	72.5	9.0	5.4	0.0	467.8	2
Red Basin																
Ouachita River	0.0	0.0	0.0	0.0	0.0	5.5	0.0	2.3	2.0	1.0	0.0	0.0	0.0	2,350.0	2,360.8	1
Total	0.0	0.0	0.0	0.0	0.0	5.5	0.0	2.3	2.0	1.0	0.0	0.0	0.0	2,350.0	2,360.8	1
Lower Mississippi Basin																
Yazoo River	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	16.0	0
Mississippi	0.0	0.0	0.0	0.0	0.0	187.5	25.0	0.0	5.0	0.0	25.0	5.0	30.0	0.0	277.5	0
Total	0.0	0.0	0.0	0.0	0.0	202.5	25.0	0.0	5.0	0.0	26.0	5.0	30.0	0.0	293.5	0
WEST GULF OF MEXICO DRAINAGE																
Nueces River and Tributaries	0.0	0.0	0.0	0.0	5.0	0.0	0.0	3.0	12.0	0.0	0.0	0.0	0.0	0.0	20.0	0
Minor Creeks near Albuquerque, N. Mex.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	449.1	0.0	0.0	171.1	620.2	0
Total	0.0	0.0	0.0	0.0	5.0	0.0	0.0	3.0	12.0	0.0	449.1	0.0	0.0	171.1	640.2	0
GREAT BASIN																
Dry Canyon near Parowan, Utah	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	40.0	0
Corn Creek near Kanosh, Utah	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0
South Fork Provo Canyon (Utah County)	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	14.0	0
Twelve Mile Creek nr. Woodruff, Utah	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0
Susan River (Nevada)	0.0	0.0	0.0	0.0	155.0	0.0	0.0	0.0	45.0	0.0	0.0	0.0	0.0	315.0	515.0	0
Truckee River	737.5	0.0	0.0	0.0	40.7	0.0	0.0	0.0	0.0	0.0	884.7	0.0	0.0	663.5	2,326.4	0
Long Creek nr. Doyle, Calif.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	10.0	50.0	0
Carson River	0.0	0.0	0.0	0.0	3.4	245.0	0.0	0.0	0.0	0.0	75.7	0.0	0.0	101.0	425.1	0
Walker River	65.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0	0.0	0.0	27.2	149.2	0
Total	802.5	0.0	0.0	0.0	209.1	245.0	0.0	0.0	45.0	0.0	1,111.4	0.0	0.0	1,116.7	3,529.7	0
PACIFIC SLOPE DRAINAGE																
Tulare Basin																
Kern River	2.0	0.0	0.0	0.0	43.0	0.0	0.0	0.0	0.0	0.0	50.0	30.0	0.0	0.0	125.0	0
Total	2.0	0.0	0.0	0.0	43.0	0.0	0.0	0.0	0.0	0.0	50.0	30.0	0.0	0.0	125.0	0
Tule and Kaweah Basins																
Tule and Kaweah Rivers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	200.0	200.0	0
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	200.0	200.0	0

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1963

PROPERTY LOSSES IN THOUSANDS OF DOLLARS

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities				
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable						
PACIFIC SLOPE DRAINAGE - CONTD.																
Sacramento and San Joaquin Basins																
Fresno, Chowchilla and Merced Rivers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	300.0	300.0	0
Sacramento and San Joaquin Rivers	317.0	0.0	1,016.0	0.0	0.0	2,960.0	0.0	0.0	0.0	0.0	6,236.0	0.0	0.0	0.0	10,529.0	0
Total	317.0	0.0	1,016.0	0.0	0.0	2,960.0	0.0	0.0	0.0	0.0	6,236.0	0.0	0.0	300.0	10,829.0	0
Eel Basin																
Eel River	0.0	0.0	0.0	0.0	0.0	20.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.0	0
Total	0.0	0.0	0.0	0.0	0.0	20.0	45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.0	0
Columbia Basin																
Henry's Fork	10.0	5.0	15.0	5.0	10.0	0.0	10.0	4.0	10.0	15.0	40.0	10.0	16.0	0.0	150.0	0
Portneuf River	600.0	250.0	100.0	75.0	200.0	0.0	50.0	10.0	50.0	50.0	800.0	100.0	75.0	0.0	2,360.0	0
Big Wood and Little Wood Rivers	5.0	5.0	2.0	1.0	10.0	0.0	0.0	1.0	10.0	5.0	40.0	5.0	5.0	0.0	89.0	0
South Fork Owyhee Rivers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	7.0	0
Weiser and Payette Rivers	8.0	2.0	5.0	2.0	5.0	0.0	0.0	5.0	15.0	2.0	25.0	5.0	1.0	0.0	75.0	0
Salmon	5.0	2.0	0.0	1.0	5.0	0.0	0.0	0.0	1.0	1.0	5.0	1.0	2.0	0.0	23.0	0
Clearwater River	10.0	2.0	3.0	2.0	10.0	0.0	0.0	0.0	2.0	0.0	40.0	0.0	0.0	0.0	69.0	0
Palouse and South Palouse Rivers	85.0	0.0	84.0	0.0	13.0	C 290.0	0.0	0.0	0.0	0.0	6.0	3.0	12.0	0.0	B 493.0	0
Minor Creeks near Spokane, Wash.	0.0	0.0	0.0	0.0	72.8	0.0	0.0	0.0	0.0	0.0	200.0	0.0	0.0	0.0	272.8	0
Wilson and Crab Creeks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	172.5	B 172.5	0
Yakima River	1.0	0.5	2.5	0.5	0.0	1.0	0.0	0.0	0.5	0.0	1.0	0.0	0.0	18.0	25.0	0
Umatilla River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	B 2.5	0
Adler and Rock Creeks (Washington)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	B 50.0	0
Deschutes near Madres, Oreg.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	B 5.0	0
Willamette River	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	292.0	B 292.0	0
Total	724.0	266.5	211.5	86.5	325.8	291.0	60.0	20.0	88.5	73.0	1,169.0	124.0	111.0	535.0	4,085.8	0
Grand Total	9,373.7	4,175.4	6,993.9	4,880.6	10,769.5	8,142.8	292.1	135.5	3,161.7	557.5	13,309.6	668.9	8,507.4	104,677.4	175,646.0	39

A. Figures furnished by Ohio Civil Defense and Ohio Dept. of Natural Resources.
B. Coordinated with U.S. Engineers.
C. Includes all rural.
D. Includes all residential.
E. Includes all commerical.

LOSS OF LIFE AND PROPERTY IN THE UNITED STATES FROM FLOODS

Property Losees in Thousands of Dollars
BY DISTRICTS AND YEARS, 1925-1963

District	1925		1926		1927		1928		1929		1930		1931		1932	
	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property
Great Lakes----------	---	--------	---	19	48	15,750	---	--------	---	171	---	36	---	1	---	1
North Atlantic-------	---	50	---	137	40	29,408	3	2,105	---	245	---	--------	---	1,050	---	25
South Atlantic-------	---	2,999	---	--------	---	1	5	8,382	8	10,196	---	--------	---	31	---	191
East Gulf------------	2	615	---	37	8	255	---	2,428	5	8,746	---	466	---	174	---	615
Ohio Valley----------	---	33	2	5,523	94	15,639	4	10,279	34	17,050	---	7,042	---	1	---	288
* Upper Mississippi----	14	3,983	1	5,435	---	19,612	---	1,173	---	3,677	---	15	---	20	---	88
Lower Mississippi----	---	115	---	42	100	133,898	---	7,819	4	9,980	---	530	---	--------	---	1,840
Missouri-------------	---	--------	6	1,434	1	4,880	2	6,714	13	2,118	---	13	---	886	---	451
Arkansas-------------	---	224	6	8,938	132	26,183	1	4,349	12	7,516	---	213	---	6	---	2,528
Red------------------	---	--------	1	155	---	100,908	---	153	1	100	14	3,616	---	19	---	516
West Gulf------------	6	1,436	---	301	---	208	---	75	---	8,124	---	924	---	2	11	3,522
Colorado-------------	---	--------	---	447	---	12	---	100	12	175	---	--------	---	3	---	13
Pacific--------------	14	468	---	--------	---	902	---	1,032	---	--------	---	--------	---	560	---	217
Miscellaneous east of Rockies-----------	---	--------	---	1,000	---	--------	---	--------	---	--------	---	2,500	---	--------	---	--------
Miscellaneous west of Rockies-----------	---	--------	---	--------	---	--------	---	--------	---	--------	---	495	---	55	---	--------
Total	36	9,923	16	23,468	423	347,656	15	44,611	89	68,098	14	15,850	---	2,808	11	10,295

District	1933		1934		1935		1936		1937		1938		1939		1940	
Great Lakes----------	---	14	---	--------	---	13,185	1	9	---	690	---	240	---	11	2	--------
North Atlantic-------	2	5,418	---	142	52	16,340	24	146,035	---	2,689	8	37,068	2	56	4	2,519
South Atlantic-------	---	19	---	240	---	77	2	2,391	---	989	---	455	---	454	12	5 034
East Gulf------------	---	444	---	13	---	719	---	1,240	---	357	---	1,655	1	6,680	---	5 497
Ohio Valley----------	5	7,725	2	928	5	8,536	82	122,296	65	413,936	8	4,481	80	3,773	28	8 077
* Upper Mississippi----	4	1,157	12	1,023	---	1,506	---	313	3	1,127	2	3,659	---	228	---	199
Lower Mississippi----	---	6,933	---	--------	17	6,631	---	55	72	6,657	---	1	---	1,448	---	--------
Missouri-------------	2	1,391	6	1,906	125	38,959	---	109	2	1,367	71	4,333	---	610	5	1,759
Arkansas-------------	---	776	---	18	4	8,344	6	817	---	1,557	---	2,202	---	179	2	1,332
Red------------------	---	38	22	640	8	2,751	---	16	---	24	---	755	---	22	---	12
West Gulf------------	---	1,160	---	422	20	29,522	24	8,376	---	1,830	6	6,003	---	360	7	7,622
Colorado-------------	---	--------	1	22	---	--------	---	--------	---	264	---	256	---	13	---	180
Pacific--------------	20	11,604	45	5,008	5	557	3	892	---	9,245	85	39,990	---	--------	---	8,236
Total	33	36,679	88	10,362	236	127,127	142	282,549	142	440,738	180	101,098	83	13,834	60	40,467

District	1941		1942		1943		1944		1945		1946		1947		1948	
Great Lakes----------	---	--------	---	153	1	9,564	---	130	---	119	---	251	1	5,761	4	20,270
North Atlantic-------	---	--------	35	22,321	4	1	---	--------	3	5,729	14	8,500	---	198	4	12,467
South Atlantic-------	---	89	---	608	---	152	---	1,926	3	1,007	---	172	---	944	1	1 372
East Gulf------------	---	24	2	155	---	773	---	2,660	---	268	---	2,963	2	654	---	3 122
Ohio-----------------	---	1,122	16	16,546	44	31,416	---	806	27	52,887	---	10,914	5	7,812	16	16,871
* Upper Mississippi----	---	3,018	1	5,592	16	42,097	7	27,031	---	9,288	4	8,642	27	87,937	---	2,905
Lower Mississippi----	---	--------	---	475	---	829	---	1,550	---	3,601	---	4,407	1	2,555	---	5,390
Missouri-------------	2	12,019	1	22,511	13	62,630	13	44,616	4	34,403	---	8,305	18	163,176	1	31 490
Arkansas-------------	9	13,346	---	6,577	26	41,850	10	11,171	20	15,068	---	1,791	1	1,424	14	18,721
Red------------------	---	1,855	---	2,205	---	44	---	1,676	6	22,209	---	1,434	---	1,446	---	220
West Gulf------------	34	5,458	2	12,489	---	2,589	3	8,938	4	10,987	10	15,967	---	330	1	4,604
Colorado-------------	2	1,061	---	3	---	310	---	575	10	182	---	--------	---	3	---	1
Pacific--------------	---	1,532	11	8,872	3	7,477	---	--------	14	9,530	---	7,367	---	88	37	111,826
Great Basin----------	---	--------	---	--------	---	--------	---	--------	---	520	---	100	---	--------	---	--------
Total	47	39,524	68	98,507	107	199,732	33	101,079	91	165,798	28	70,813	55	272,328	82	229,959

District	1949		1950		1951		1952		1953		1954		1955		1956	
Great Lakes----------	---	1,619	9	33,542	---	131	---	2,350	1	2,654	---	15,000	---	2,596	---	1,327
North Atlantic-------	11	9,273	2	7,149	1	916	5	1,222	1	10,637	11	7,337	211	761,303	11	1 453
South Atlantic-------	3	291	---	1,203	---	9	---	236	---	109	1	546	2	902	3	2,720
East Gulf------------	---	1,747	---	1,435	---	4,310	---	347	2	2,444	---	543	6	5,300	1	1,379
Ohio-----------------	7	4,754	50	25,195	1	4,889	14	4,940	5	778	9	18,594	15	14,645	12	17,836
*Upper Mississippi----	---	406	2	11,060	6	71,799	7	22,439	2	5,602	4	24,656	---	85	---	388
Lower Mississippi----	---	10,020	6	10,071	---	5,996	---	444	12	7,857	---	490	---	1,352	---	865
Missouri-------------	6	33,503	18	35,090	31	889,872	8	181,335	14	44,255	---	11,999	1	2,753	1	6,360
Arkansas-------------	---	6,696	---	8,294	10	44,331	---	5	2	2,020	---	296	2	5,362	---	24
Red------------------	2	365	1	1,105	---	2,101	---	836	---	2,061	---	923	---	2,003	1	250
West Gulf------------	18	22,462	---	417	---	238	10	9,584	1	34,849	29	21,639	2	4,286	3	3,714
Colorado-------------	---	155	---	--------	---	889	---	76	---	7	---	1,890	---	2,173	---	--------
Pacific--------------	1	2,640	5	37,362	2	3,260	10	20,251	---	8,931	1	2,929	63	186,785	6	27,930
Great Basin----------	---	--------	---	4,127	---	--------	---	9,999	---	--------	---	--------	---	5,946	4	442
Total	48	93,931	93	176,050	51	1,028,741	54	254,064	40	122,204	55	106,842	302	995,491	42	64,688

District	1957		1958		1959		1960		1961		1962		1963	
Great Lakes----------	1	1	---	10	---	12,746	2	1,942	1	216	---	--------	1	35,872
North Atlantic-------	---	11	---	167	---	6,952	2	15,274	---	1,168	---	8	6	1,325
South Atlantic-------	---	166	---	3,917	---	631	---	172	---	600	---	97	---	89
East Gulf------------	---	4,526	---	3,434	---	241	---	13,780	3	30,386	---	5,768	---	1,726
Ohio-----------------	25	135,972	10	68,248	8	82,503	1	7,519	31	33,748	5	30,583	26	98,824
*Upper Mississippi----	8	14,648	---	20,770	8	3,427	2	12,901	4	25,320	1	5,341	---	413
Lower Mississippi----	6	15,608	---	11,979	---	199	---	496	---	11,462	---	3,546	---	293
Missouri-------------	15	26,057	21	45,819	3	12,162	8	28,105	7	33,990	2	10,501	3	14,705
Arkansas-------------	5	50,082	---	360	2	12,886	1	3,480	1	9,173	3	1,254	2	563
Red------------------	6	16,037	---	11,768	---	880	---	226	---	1,609	---	581	1	2,361
West Gulf------------	16	73,057	6	18,127	4	2,886	14	8,205	1	2,945	2	1,948	---	640
Colorado-------------	---	741	---	240	---	100	---	--------	3	552	---	1,080	---	--------
Pacific--------------	---	23,397	10	33,404	---	5,638	2	876	1	1,825	6	12,198	---	15,305
Great Basin----------	---	--------	---	12	---	4	---	--------	---	1,039	---	2,332	---	3,530
Total	82	360,303	47	218,255	25	141,255	32	92,976	52	154,033	19	75,237	39	175,646

* Including Red River of the North

LOSS OF LIFE AND PROPERTY IN THE UNITED STATES FROM FLOODS

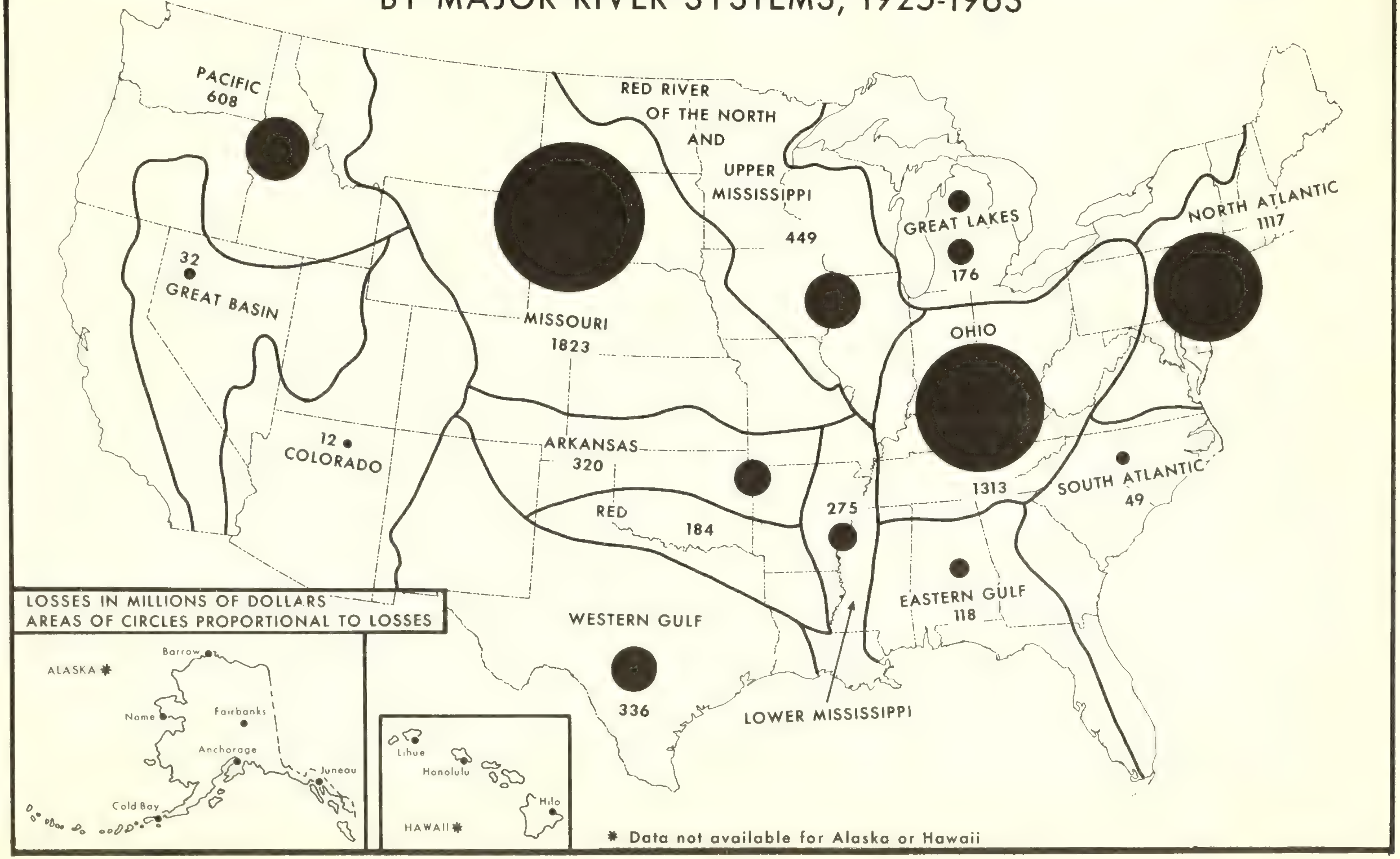
Property Losses in Thousands of Dollars
BY MONTHS AND YEARS, 1925-1963

	January		February		March		April		May		June	
Year	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life	Property	Life
1925	3,614	2	141	0	74	0	-	0	65	6	3,980	14
1926	19	0	600	0	77	0	293	0	-	0	-	1
1927	2,626	8	1,867	0	407	0	283,207	232	7,566	95	1,125	0
1928	4	0	9	0	758	0	1,168	0	105	0	12,296	1
1929	122	0	2,964	0	21,947	47	1,937	0	15,668	5	10,268	5
1930	7,110	0	7	0	146	0	-	0	5,021	14	3,042	0
1931	-	0	30	0	572	0	-	0	8	0	13	0
1932	1,207	0	-	0	165	0	373	0	1,552	0	1,245	0
1933	308	0	87	0	2,008	1	2,709	4	10,785	4	2,650	4
1934	5,002	45	9	0	706	0	1,693	34	-	0	899	0
1935	297	0	1	0	2,177	4	2,698	5	16,903	40	62,702	122
1936	341	0	2,107	6	145,936	24	124,743	82	1,118	6	124	0
1937	411,481	65	7,691	75	62	0	4,524	0	2,627	0	5,429	0
1938	260	0	3,712	2	27,819	86	3,008	0	12,402	0	3,624	58
1939	3	0	1,657	4	738	0	1,982	0	37	0	4,271	1
1940	58	0	7,246	0	1,048	2	2,185	0	438	0	2,790	12
1941	3	0	516	0	820	2	1,970	4	3,081	7	12,718	12
1942	131	0	1,901	1	327	0	18,369	2	14,837	31	25,586	1
1943	3,579	4	69	5	7,183	8	10,161	5	130,478	57	41,771	0
1944	3	0	35	1	2,633	3	42,646	13	24,103	0	24,535	16
1945	146	0	5,882	0	33,202	14	54,054	36	23,530	0	28,866	8
1946	13,385	0	4,015	0	631	0	2	0	12,587	12	20,343	3
1947	486	3	96	0	1,458	0	56,037	2	18,032	1	193,134	48
1948	6,479	6	11,429	1	17,896	4	28,667	15	107,244	35	22,160	15
1949	9,772	6	5,073	2	11,676	3	9,261	2	18,195	10	32,861	17
1950	4,619	3	6,925	7	3,451	7	14,668	0	51,126	21	22,340	34
1951	884	0	5,823	2	7,264	1	18,287	2	15,166	6	5,383	8
1952	9,139	14	926	1	1,909	9	199,127	10	6,438	3	22,775	2
1953	8,575	1	368	0	10,675	2	-	0	41,656	5	53,572	29
1954	2,554	4	84	0	20	0	557	0	6,213	1	52,076	20
1955	-	0	1,620	4	17,372	17	2,653	4	9,231	2	3,825	1
1956	9,455	0	2,731	3	3,403	2	1,202	0	24,799	10	2,300	4
1957	61,383	15	29,750	2	-	0	106,130	18	44,182	13	101,696	32
1958	273	0	12,501	11	11,193	0	21,145	3	24,884	2	67,537	0
1959	95,601	8	2,448	0	2,031	6	427	0	7,181	8	890	0
1960	534	1	713	2	29,988	4	28,056	0	2,214	3	9,956	13
1961	32	0	13,870	1	14,242	3	5,053	0	67,785	6	4,324	4
1962	884	0	24,906	9	28,418	3	8,920	0	1,893	0	2,265	2
1963	2,343	0	16,392	0	99,429	31	2	0	1,573	0	14,682	3
Total	662,712	190	176,201	139	509,861	283	1,057,904	486	730,723	403	880,053	490
Average	16,993	5	4,518	4	13,073	7	27,126	12	18,736	10	22,565	13

Year	July		August		September		October		November		December		* Total	
1925	140	0	275	0	1,171	14	380	0	83	0	-	0	9,923	36
1926	55	0	7	0	7,729	6	12,699	6	135	0	1,854	3	23,468	16
1927	241	0	3,460	0	-	0	1,627	0	45,093	88	437	0	347,656	423
1928	13,339	0	9,272	3	4,047	5	-	0	3,567	6	46	0	44,611	15
1929	4,959	32	130	0	92	0	9,379	0	556	0	76	0	68,098	89
1930	244	0	251	0	-	0	29	0	-	0	-	0	15,850	14
1931	1,215	0	201	0	2	0	1	0	744	0	22	0	2,808	0
1932	1,627	0	763	0	2,666	11	335	0	3	0	359	0	10,295	11
1933	1,117	0	6,516	4	489	0	10	0	-	0	10,000	16	36,679	33
1934	178	0	322	9	84	0	28	0	1,287	0	154	0	10,362	88
1935	29,370	52	159	5	7,551	0	2,691	0	61	0	2,517	8	127,127	236
1936	2,428	20	205	0	5,046	4	378	0	118	0	5	0	282,549	142
1937	124	2	760	0	140	0	256	0	97	0	7,546	0	440,738	142
1938	10,373	9	232	8	39,641	17	3	0	5	0	19	0	101,098	180
1939	1,725	78	3,408	0	13	0	-	0	-	0	-	0	13,834	83
1940	5,314	0	18,853	40	2,135	6	88	0	95	0	217	0	40,467	60
1941	314	0	23	0	6,247	15	10,446	7	3,361	0	25	0	39,524	47
1942	13,064	17	267	0	3,234	0	5,678	2	-	0	15,113	14	98,507	68
1943	2,870	3	3,621	25	-	0	-	0	-	0	-	0	199,732	107
1944	3,198	0	928	0	1,708	0	108	0	-	0	1,182	0	101,079	33
1945	8,280	3	2,942	13	1,059	3	1,424	3	-	0	6,413	11	165,798	91
1946	1,636	4	1,148	0	7,346	9	1,965	0	1,314	0	6,441	0	70,813	28
1947	652	1	1,431	0	455	0	248	0	5	0	304	0	272,328	55
1948	17,550	2	1,144	0	590	0	-	0	3,553	0	13,247	4	229,959	82
1949	3,762	5	568	0	618	0	1,551	2	578	1	16	0	93,931	48
1950	19,224	6	1,687	0	3,718	4	5,562	3	6,638	3	36,092	5	176,050	93
1951	972,458	25	2,509	7	621	0	-	0	-	0	346	0	1,028,741	51
1952	3,858	9	296	0	9,376	6	-	0	30	0	190	0	254,064	54
1953	3,873	1	1,926	2	887	0	42	0	300	0	330	0	122,204	40
1954	2,218	2	6,606	3	3,170	8	33,341	17	-	0	3	0	106,842	55
1955	1,071	0	712,085	193	3,471	0	52,442	18	1,168	0	190,553	63	995,491	302
1956	5,849	15	11,671	4	-	0	1,892	0	137	3	1,249	1	64,688	42
1957	4,669	0	722	2	335	0	2,663	0	8,610	0	163	0	360,303	82
1958	42,779	29	18,631	1	14,560	0	2,336	1	2,416	0	-	0	218,255	47
1959	557	0	5,550	0	1,844	0	19,602	3	4,970	0	154	0	141,255	25
1960	9,038	1	677	0	5,266	2	5,818	6	360	0	356	0	92,976	32
1961	5,825	25	3,974	6	26,041	7	580	0	1,641	0	10,666	0	154,033	52
1962	2,428	1	708	0	3,266	3	-	0	580	0	970	0	75,238	19
1963	4,261	4	36,926	1	38	0	-	0	-	0	-	0	175,646	39
Total	1,201,884	346	860,854	326	164,656	120	173,602	68	87,505	101	307,065	125	6,813,020	3,060
Average	30,818	9	22,073	8	4,222	3	4,451	2	2,244	3	7,873	3	174,693	78

* Not adjusted to present price index

DISTRIBUTION OF ESTIMATED FLOOD LOSSES IN THE UNITED STATES BY MAJOR RIVER SYSTEMS, 1925-1963



✱ Data not available for Alaska or Hawaii

LOSSES IN INDIVIDUAL SEVERE FLOODS IN THE UNITED STATES SINCE JULY 1902

Property Losses in Thousands of Dollars

Date	Location	Lives #	Property
May-June 1903	Kansas, Lower Missouri, and Upper Mississippi Rivers	100	$ 40,000
July 1908	Missouri River	---	9,339
	Upper Mississippi River	---	5,600
	Red River	---	16,200
July 1909	Missouri River east of Kansas City	---	5,500
March 1912	Lower Mississippi River	---	70,000
March 1913	Ohio River and tributaries	467	147,000
	Mississippi River	---	7,000
December 1913	Texas rivers	177	9,000
June 1915	Kansas River	---	5,950
August 1916	Rivers of the Carolinas	---	21,700
June 1921	Arkansas River in State of Colorado	120	25,000
September 1921	Texas rivers	215	19,000
April-May, 1922*	Upper Mississippi River	---	4,700
	Ohio Valley	---	4,000
	Lower Mississippi River	---	7,500
October 1923	Lower Arkansas, including the State of Oklahoma	---	15,000
March 1924	Potomac River	---	6,000
Spring of 1927	Mississippi Valley	313	284,118
August 1927	Arkansas River and tributaries	---	3,440
November 1927	New England rivers	88	45,578
June 1928	Ohio Valley	---	7,536
August 1928	South Atlantic drainage	---	4,400
September 1928	South Atlantic drainage	---	4,000
March-June 1929	East Gulf drainage	---	8,000
	Ohio Valley	---	16,500
	Missouri Valley	---	2,000
	Upper Mississippi Valley	---	3,600
	Lower Mississippi Valley	---	10,000
	Arkansas-White Valley	---	2,700
	Rivers in Texas	---	8,000
July 1929	Rivers in Central Kansas	---	4,000
October 1929	Rivers in Southeastern States	---	** 9,000
January 1930	White-Wabash Rivers	---	7,000
May 1930	Red River and tributaries	---	3,000
Sept.-Oct. 1932	Lower Rio Grande	---	2,500
March 1933	Ohio River	---	2,000
December 1933	Columbia River and tributaries	---	10,000
May 1935	Rivers in eastern Colorado	---	6,000
May-June 1935	Republican and Kansas Rivers	110	18,000
	Lower Missouri River	---	10,000
July 1935	Upper Susquehanna tributaries	52	26,000
December 1935	Houston, Texas, area	---	2,500
March-April 1936	Rivers in Eastern United States	107	270,000
July 1936	Rivers in central Texas	---	2,000
September 1936	Rivers in central and northern Texas	---	5,000
Jan.-Feb. 1937	Ohio and lower Mississippi River basins	137	417,685
December 1937	Sacramento Valley	---	7,100
March 1938	Streams in southern California	79	24,500
September 1938	Rivers in New England	---	37,000
July 1939	Licking and Kentucky Rivers	78	1,715
Feb.-Mar. 1940	Sacramento Valley	---	6,700
August 1940	Rivers in southern Virginia, the Carolinas, and eastern Tennessee	40	12,000
Oct.-Nov. 1941	Arkansas River Basin	---	8,500
April-June 1942	Upper Mississippi, Missouri, Arkansas, Red, and Trinity River Basins	---	44,350
May 1942	Delaware & Susquehanna River Basins	33	13,000
July 1942	Upper Allegheny River and Sennemahoning Creek Basins	15	10,000
Nov.-Dec. 1942	Willamette River	10	6,900
Dec.1942-Jan.1943	Ohio River	---	10,540
Apr.-June 1943	Maumee, Wabash, upper Mississippi, Missouri, White, and Arkansas River Basins	60	172,500
August 1943	Little Kanawha	23	1,300

LOSSES IN INDIVIDUAL SEVERE FLOODS IN THE UNITED STATES SINCE JULY 1902-Cont'd

Property Losses in Thousands of Dollars

Date	Location	Lives #	Property
April-June 1944	Upper Mississippi, Missouri, Arkansas, Red, lower Mississippi Basins and east Texas Streams	17	$ 82,000
Feb.-Mar. 1945	Ohio River	18	30,000
Feb.-Apr. 1945	Trinity and Sabine Rivers	---	9,000
Mar.-July 1945	Lower Mississippi River	---	9,500
July 1945	Lake Section of Rensselaer County, N. Y.	---	3,500
December 1945	Willamette River	9	6,000
January 1946	Cumberland River	---	3,925
	Tennessee River and tributaries	---	4,500
May-June 1946	Trinity River	---	4,150
September 1946	San Antonio and Nueces Rivers	9	6,050
December 1946	Willamette River	---	5,525
April 1947	Allegheny	---	4,319
May-July 1947	Rivers in Middle West in the lower Missouri and middle Mississippi River Basins	29	235,000
June 1947	East Creek at Rutland, Vt.	---	2,000
March 1948	Susquehanna River and tributaries	---	4,300
Apr.-May 1948	Red River of North and tributaries	---	18,700
May-June 1948	[1]Columbia Basin	35	101,725
June-July 1948	Arkansas River and minor tributaries	---	14,500
December 1948	Housatonic River	---	4,200
April 1949	Rio Grande	---	3,300
May 1949	Trinity River	10	14,000
June 1949	Shenandoah and Potomac Rivers	11	8,850
Apr.-May 1950	[2]Red River of North	9	33,000
June 1950	Central West Virginia	31	4,020
Nov.-Dec. 1950	Central Valleys of California and Western Nevada	---	23,000
February 1951	Western Washington	---	2,688
Mar.-Apr. 1951	Alabama-Georgia	---	3,292
April 1951	Upper Mississippi Basin	---	18,622
June-July 1951	[3]Kansas-Missouri	28	935,224
Jan.-Feb. 1952	Ohio River	---	1,898
April 1952	[4]Red River of the North-Upper Mississippi-Missouri River Basins	11	198,000
May 1952	Great Basin	---	8,373
September 1952	West Gulf of Mexico Drainage	---	7,762
January 1953	Northern California, Oregon, and Washington	---	5,971
March 1953	New England States	---	10,000
Apr.-May 1953	Louisiana-Texas	12	38,959
June 1953	Northwestern Iowa	14	32,950
June 1954	Middle Rio Grande and lower Pecos	16	19,079
October 1954	Pecos River in New Mexico	13	1,783
March 1955	Ohio Basin	15	14,396
August 1955	[5]Hurricane floods in Northeast	187	714,079
December 1955	[6]West Coast	61	154,532
May-June 1956	[7]Columbia and Kootenai Rivers	---	14,025
Jan.-Feb. 1957	[8]Streams in Southeastern Kentucky, Southwestern West Virginia, adjoining portions of Tennessee and Virginia	14	58,000
February 1957	Snake River and tributaries	---	20,500
Apr.-June 1957	Streams in Texas, Arkansas, Kansas, Louisiana, Missouri and Oklahoma	18	105,000
June-July 1957	Wabash River and tributaries	9	63,000
June 1958	White and Wabash Rivers	---	57,000
July 1958	Flash flood on East Nishnabotna River in Iowa	19	5,850
January 1959	Ohio River Basin	8	81,921
January 1959	Lake Erie Drainage in Ohio and New York	---	11,265

LOSSES IN INDIVIDUAL SEVERE FLOODS IN THE UNITED STATES SINCE JULY 1902-Cont'd

Property Losses in Thousands of Dollars

Date	Location	Lives #	Property
Mar.-Apr. 1960-----	[9]Snowmelt Floods in the Missouri and Upper Mississippi Basins---------	7	$ 34,466
Feb.-March 1961-----	East Gulf of Mexico Drainage--------------	---	13,997
March 1961----------	Upper Mississippi Basin-------------------	---	7,499
July 1961-----------	Flash Flood on Small Streams in Charleston, W. Va.----------------------	22	3,238
September 1961------	Kansas-Missouri---------------------------	---	23,557
Feb.-March 1962-----	Kentucky----------------------------------	---	16,067
Feb.-March 1962-----	Southeastern Idaho------------------------	---	6,318
March 1963----------	Ohio River Basin--------------------------	26	97,600

# Loss of Life Carried Only Where Considerable
* No Lives Lost in Mississippi Valley Floods of 1922
** Partly Storm Damage Caused by Tropical Disturbance

References

1. Monthly Weather Review, January 1949
2. Monthly Weather Review, September 1951
3. Technical Paper No. 17
4. Technical Paper No. 23
5. Technical Paper No. 26
6. Climatological Data, National Summary, December 1955
7. Climatological Data, National Summary, Annual 1956
8. Climatological Data, National Summary, January 1957
9. Technical Paper No. 45

FLOOD DAMAGE ESTIMATES BY STATES

1955-63

Flood Damages in Thousands of Dollars

States	1955	1956	1957	1958	1959	1960	1961	1962	1963
Alabama	3,379	720	2,324	872	-	670	12,625	3,529	1,280
Alaska	-	*	-	-	-	-	**	***	-
Arizona	226	-	-	-	100	-	325	1,000	-
Arkansas	61	255	27,938	6,202	3,090	580	3,503	91	2,500
California	165,767	8,745	13	33,063	[illegible]	516	95	2,780	11,834
Colorado	2,567	5,135	2,901	240	-	-	-	80	50
Connecticut	379,360	-	-	-	-	750	-	-	-
Delaware	117	-	-	-	-	-	-	-	-
District of Columbia	-	51	-	60	-	-	-	-	-
Florida	105	1,891	-	-	150	12,047	317	1,481	-
Georgia	1	212	1,068	323	-	392	5,236	-	445
Hawaii	-	-	-	400	-	-	-	-	2,300
Idaho	1,371	6,222	20,896	3	500	-	939	8,112	2,766
Illinois	102	1,026	1,206	17,970	1,506	7,503	11,553	891	513
Indiana	1,003	4,021	66,748	52,302	12,958	2,649	13,306	670	8,266
Iowa	35	51	1,543	7,508	128	7,612	9,389	6,778	70
Kansas	474	33	9,164	4,606	4,061	1,947	13,397	1,826	168
Kentucky	6,629	568	55,233	3,817	2,480	3	12,969	16,885	36,917
Louisiana	30	-	4,147	2,842	-	112	6,074	1,908	-
Maine	-	-	-	-	61	-	800	-	-
Maryland	5,450	837	-	40	-	-	-	-	-
Massachusetts	155,982	-	-	-	-	6,400	-	-	-
Michigan	-	1,278	-	-	-	1,181	-	-	-
Minnesota	-	11	9,128	17	50	212	552	1,291	26
Mississippi	3,132	1,270	2,693	13,826	280	744	15,918	1,982	19
Missouri	666	167	9,618	38,718	6,018	13,506	27,375	557	152
Montana	63	317	33	1	82	57	-	147	148
Nebraska	1,500	865	5,983	3,064	3,753	8,884	674	2,630	13,394
Nevada	7,398	237	-	-	-	-	891	762	2,858
New Hampshire	-	-	-	-	4,500	100	-	-	-
New Jersey	23,102	-	-	3	-	-	-	-	-
New Mexico	1,066	-	-	-	-	-	-	-	620
New York	30,072	1,089	166	42	5,667	7,229	608	-	33,102
North Carolina	625	831	788	3,201	506	100	1,400	-	-
North Dakota	2	-	100	-	28	136	-	-	-
Ohio	753	1,056	7	4,867	54,840	191	1,217	6,512	22,359
Oklahoma	977	-	35,665	169	8,907	2,638	2,483	792	413
Oregon	9,515	6,376	310	363	20	360	757	1,550	299
Pennsylvania	141,381	7,199	1,048	3,582	21,109	3,072	612	15	5,397
Rhode Island	28,830	-	-	-	-	-	-	-	-
South Carolina	74	-	60	680	122	72	369	97	89
South Dakota	11	10	3,969	-	-	3,417	1	3,030	-
Tennessee	977	279	5,118	128	-	226	2,263	651	6,262
Texas	5,165	3,715	78,881	18,101	2,886	8,093	2,846	1,948	20
Utah	226	210	169	10	4	-	281	1,272	64
Vermont	-	-	3	-	-	-	-	-	-
Virginia	10,695	-	139	-	28	211	231	-	5,937
Washington	1,165	6,472	1,664	50	4,914	-	130	-	1,013
West Virginia	5,187	3,185	11,052	1,170	709	370	3,455	5,914	17,624
Wisconsin	50	335	-	-	1,791	996	1,442	57	142
Wyoming	200	11	526	3	-	-	-	-	899
TOTAL	995,491	64,688	360,303	218,255	141,255	92,976	154,033	75,238	177,946

* Major Flood in May 1956
** Major Flood in June 1961
*** Ice Jam Flooding May 1962
*** Serious Flooding June 1962

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

YEAR 1964

The most damaging floods during 1964 occurred in northern California and Oregon during the latter part of December. Preliminary estimates of damages run into hundreds of millions of dollars. The American Red Cross reported 45 lives lost in the severe floods.

Major flooding occurred in tributary storms in southwest Washington and northwest Oregon during the latter part of January. Record high water was reported on some creeks in Oregon. Serious flooding occurred in the lower Coquille Basin in Oregon. Less serious flooding occurred along the Umpqua River below its confluence with Cow and myrtle Creeks. Major flooding occurred on the Chehalis and Skookumchuck Rivers in southwest Washington. According to the USGS, the monthly flow for the Chehalis River near Grand Mound, Wash., was the second highest for January in 34 years.

Flooding during February was mostly light. Only low-lying areas were affected. Damages reported were minor.

Severe flooding with extensive damage occurred in the Ohio Basin during March. Crest stages were generally the highest since March 1945 in the reach from Cincinnati, Ohio, to Mount Vernon, Ind. In the reach below, the crests were the highest since 1950. The crest at Louisville, Ky., was the fourth highest of record; the one at Cincinnati, Ohio, the sixth highest; and the one at Wheeling, W. Va., the fifth highest of record. Record stages were reached on some of the tributaries. The American Red Cross reported 18 persons lost their lives and over 1000 persons were injured.

Moderate to major flooding occurred in the East Gulf of Mexico Drainage during April. In the headwaters of the Chickasawhay River in Mississippi, the flooding was the highest of record, much worse than the last severe flooding of 1961. Thousands of residents were evacuated. Major flooding occurred in Indiana with the highest crests in more than 50 years at some points along the White River.

The most important flooding during May was the culmination of the moderate to major flooding which began in the East Gulf of Mexico Drainage and in Indiana during April. The flooding in the East Gulf of Mexico Drainage was prolonged by the heavy rains in the beginning of the month. Streams in Indiana receded within their banks early in May and continued to fall the remainder of the month. Some portions of the Wabash Basin experienced the driest May in more than two decades.

Record floods occurred on tributaries of the upper Missouri River in northwestern Montana east of the Continental Divide and on the Flathead and Clearwater Rivers in the Columbia Basin west of the Divide early in June. Preliminary estimates place flood damages at over $60 million. Twenty-four lives were known to be lost and 7 people were missing and presumed dead.

The most severe flooding since the hurricane rains of September 1945 occurred in the Edisto Basin of South Carolina during July. The crest of the North Fork of the Edisto at Orangeburg, S. C., was the fourth highest of record. Flooding reported elsewhere was mostly minor.

The most important flooding during August resulted from excessive rains associated with the movement of hurricane Cleo through Florida, Georgia, and the Carolinas. Serious flooding occurred in the upper St. Johns River in Florida. Flash floods were reported on tributary streams in Georgia with minor damage to highways. The North Fork of the Edisto in South Carolina reached its highest stage at Orangeburg since September 1945 and the South Fork of the Edisto at Denmark since 1936. Low bottom lands were flooded in the upper Catawba and upper Yadkin River Basins in North Carolina. Extreme flooding occurred in Surry County on the Mitchell, Fisher, and Ararat Rivers damaging some crops.

Severe floods occurred in central and southern Texas during September. The crests on the Nueces at Asherton and Cotulla, Tex., were the fourth highest of record. Pulliam Creek, a tributary of the upper Nueces, reached its highest stage since 1955. The second highest flood of record occurred on the West Nueces. The flash flooding in the Boerne, Tex., area was described as the highest in its history. Some severe flooding was reported in the Suwannee River Basin in Florida and in the French Broad Basin in North Carolina.

Some of the most severe and damaging floods in history occurred on some streams in North Carolina during October. In the eastern portion, record to near record high floods occurred on the Neuse River. In western North Carolina, the floods in the French Broad Basin were the most devastating since 1916. One of the biggest floods of record occurred on the Rocky River. The second highest crest of record was reported on the Yadkin River at Yadkin College, N. C. Some severe flooding was reported in South Carolina on the Broad and upper Santee Rivers.

The most important flooding during November occurred in the Arkansas Basin. The Arkansas River in the reach from Augusta, Kans., to Ralston, Okla., exceeded flood stage by 4 to 7 feet. The crest at Ralston, Okla., was the third highest on record. A near record crest occurred on the Chickaskia River at Blackwell, Okla. Many bridges were destroyed and roads damaged.

Record breaking floods occurred in late December in northern California and Oregon, on the anniversary and in much the same area struck by the Great Flood of December 1955. The 1964 flood equalled or exceeded the flood of 1955 in many places, and exceeded the historical flood of 1861-62 in a number of cases.

SOLAR RADIATION DATA

Average daily values (direct and diffuse) received on a horizontal surface, tabulated in langleys

YEAR 1964

Station	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Albuquerque, N. Mex.	324	398	542	629	684	765	670	609	485	446	315	203	506
Ames, Iowa	180	250	325	---	485	464	503	425	353	301	171	135	---
Annette, Alaska	36	68	138	250	352	388	220	202	184	82	25	---	---
Apalachicola, Florida	238	361	430	517	623	619	494	496	445	405	318	239	432
Astoria, Oregon	73	215	261	427	504	486	492	449	---	256	140	86	---
Atlanta, Georgia	218	287	398	426	557	593	474	486	426	357	275	177	390
Barrow, Alaska	# ---	37	---	451	591	553	533	308	133	---	# ---	# 0	---
Bethel, Alaska	35	121	303	452	561	490	433	253	184	109	60	28	252
Bismarck, N. Dak.	165	237	349	418	543	487	567	478	370	277	146	135	348
Blue Hill Obs., Mass.	177	280	351	413	622	605	465	461	391	285	192	114	363
Boise, Idaho	159	291	---	---	610	549	688	593	476	325	166	114	-
Boston, Mass.	171	258	323	382	---	---	---	---	384	264	165	109	---
Brownsville, Texas	270	301	381	466	486	574	635	621	447	470	334	255	437
Burlington, Vt.	128	255	293	388	507	580	460	431	364	241	132	102	323
Canton Island, Pacific	416	613	680	574	551	534	570	660	----	---	---	---	---
Caribou, Me.	138	235	326	455	447	496	462	379	325	195	136	97	308
Charleston, S. C.	227	337	424	488	542	578	417	485	417	354	291	197	379
Cleveland, Ohio	128	168	---	330	509	---	496	431	348	274	167	83	---
Columbia, Mo.	198	279	336	421	527	545	582	527	409	341	199	147	376
Corvallis, Oregon	102	224	293	430	551	518	607	---	-	---	---	---	--
Davis, Calif.	188	---	450	---	---	667	722	656	501	338	205	152	-
Dodge City, Kans.	256	305	---	502	532	615	559	491	359	324	191	187	---
El Centro, Calif.	290	371	423	522	541	586	505	477	451	---	264	219	---
El Paso, Texas	380	487	576	675	722	758	654	637	540	474	382	273	547
Ely, Nev.	262	402	479	520	636	643	691	608	556	390	273	179	470
Fairbanks, Alaska	21	69	240	350	477	---	470	360	194	63	23	---	---
Flaming Gorge, Utah	227	302	397	411	577	518	604	521	491	342	209	202	400
Ft. Worth, Texas	284	338	439	413	494	637	672	479	332	425	279	262	421
Fresno, Calif.	182	347	430	577	657	701	715	619	532	372	244	147	460
Gainesville, Fla.	272	400	492	585	591	600	546	---	---	---	---	292	---
Glasgow, Mont.	144	219	367	431	---	549	699	524	395	299	155	128	--
Grand Junction, Colo.	266	379	434	512	589	641	645	569	494	418	239	204	449
Great Falls, Mont.	121	190	358	401	472	539	621	458	315	257	126	100	330
Greensboro, N. C.	230	303	413	393	562	574	505	631	440	335	273	174	403
Griffin, Ga.	263	350	---	491	625	649	519	548	475	405	323	240	--
Cape Hatteras, N. C.	229	298	401	467	568	587	516	448	431	291	270	176	390
Indianapolis, Ind.	231	313	334	413	608	631	557	570	465	370	236	111	403
Inyokern China Lake, Calif.	352	487	620	750	832	896	867	---	---	474	350	---	---
Ithaca, N. Y.	116	205	251	316	520	547	498	---	377	229	---	---	---
Lake Charles, La.	210	319	388	357	535	556	473	497	424	418	281	196	388
Lakeland, Fla.	259	342	453	545	586	593	515	507	---	381	361	292	---
Lander, Wyo.	217	332	479	496	557	588	655	589	480	351	231	180	430
East Lansing, Mich.	143	247	304	422	592	615	575	479	396	284	173	113	362
Laramie, Wyo. (U of Wyoming)	200	311	413	483	530	497	534	468	427	337	214	217	386
Las Vegas, Nev.	308	407	512	601	712	739	699	616	578	440	289	255	513
Lemont, Ill.	165	267	328	353	556	573	515	510	381	319	187	121	356
Little Rock, Ark.	206	293	372	402	487	525	565	433	388	330	222	122	362
Los Angeles, Calif. (U)	293	414	476	531	635	585	---	588	512	363	---	205	--
Los Angeles, Calif.	288	411	469	553	613	541	678	566	496	352	294	192	454
Madison, Wis.	---	---	376	419	587	590	544	529	364	299	191	123	---
Manhattan, Kans.	246	315	400	401	562	614	625	502	426	369	201	184	404
Matanuska, Alaska	---	80	242	334	481	436	434	280	237	96	40	202	---
Mauna Loa Obs., Hawaii	502	623	509	607	686	761	674	694	627	541	451	436	593
Medford, Oreg.	89	268	327	527	584	594	638	624	495	302	126	92	389
Miami, Fla.	290	380	452	557	556	502	---	496	434	355	317	261	---
Midland, Texas	---	378	520	604	579	618	615	551	386	408	---	265	---
Nashville, Tenn.	---	---	---	423	539	600	503	503	436	348	239	141	---
Newport, R. I.	164	252	337	406	563	526	434	422	345	263	187	112	334
New York, N. Y. (U)	169	243	311	354	554	521	455	482	379	278	181	116	337
North Omaha, Nebr.	229	302	407	421	580	605	626	487	381	337	176	---	---
Oak Ridge, Tenn.	199	211	299	358	484	521	435	418	378	297	203	127	328
Oklahoma City, Okla.	265	311	384	495	505	---	547	491	320	345	207	208	---
Page, Ariz.	261	363	431	519	606	637	578	524	463	384	268	170	434
Phoenix, Ariz.	318	416	490	609	658	687	579	537	484	402	297	241	477
Portland, Me.	159	256	302	397	561	615	454	444	391	280	171	110	345
Rapid City, S. Dak.	170	245	355	409	483	522	557	491	421	303	182	139	356
Riverside, Calif.	330	465	490	570	666	662	666	562	507	389	316	224	487
St. Cloud, Minn.	164	280	391	410	500	485	580	445	345	261	153	127	345
Salt Lake City, Utah	204	324	403	470	645	641	770	664	552	405	204	153	453
San Antonio, Texas	297	339	423	409	470	598	618	535	440	457	-	227	---
Santa Maria, Calif.	301	403	475	559	620	670	673	572	481	353	285	203	466
Ste. St. Marie, Mich.	137	272	---	---	557	620	563	378	291	242	108	104	---
Seattle, Wash. (U of Wash.)	66	151	218	340	467	406	460	402	294	---	83	65	---
Seattle-Tacoma, Wash.	65	181	229	382	515	437	501	437	315	222	87	71	287
Shreveport, La.	258	337	419	471	538	622	615	490	423	415	271	184	420
Spokane, Wash.	119	256	326	476	616	610	643	519	413	278	102	84	370
State College, Pa.	187	259	294	342	604	573	526	460	401	297	195	105	354
Sterling, Va.	188	271	356	347	564	571	---	428	391	295	209	148	---
Stillwater, Okla.	270	307	367	460	497	580	567	483	---	363	222	214	---
Swan Island, W. I.	428	539	642	702	618	551	562	600	534	370	356	419	527
Tampa, Fla.	251	341	451	528	607	570	---	---	453	403	350	293	-
Tucson, Ariz. (U of Ariz.)	334	404	450	604	671	675	---	538	454	430	323	247	-
Wake Island, Pacific	---	---	---	492	547	552	504	477	475	425	392	361	----

Note: Langley is the unit to denote one gram calorie per square centimeter.
(U) Indicates Urban sites.
# Sun below horizon November 18 through January 24, inclusive.

Chart 1. Departure from Normal of Annual Temperature (°F) at Surface, 1964.

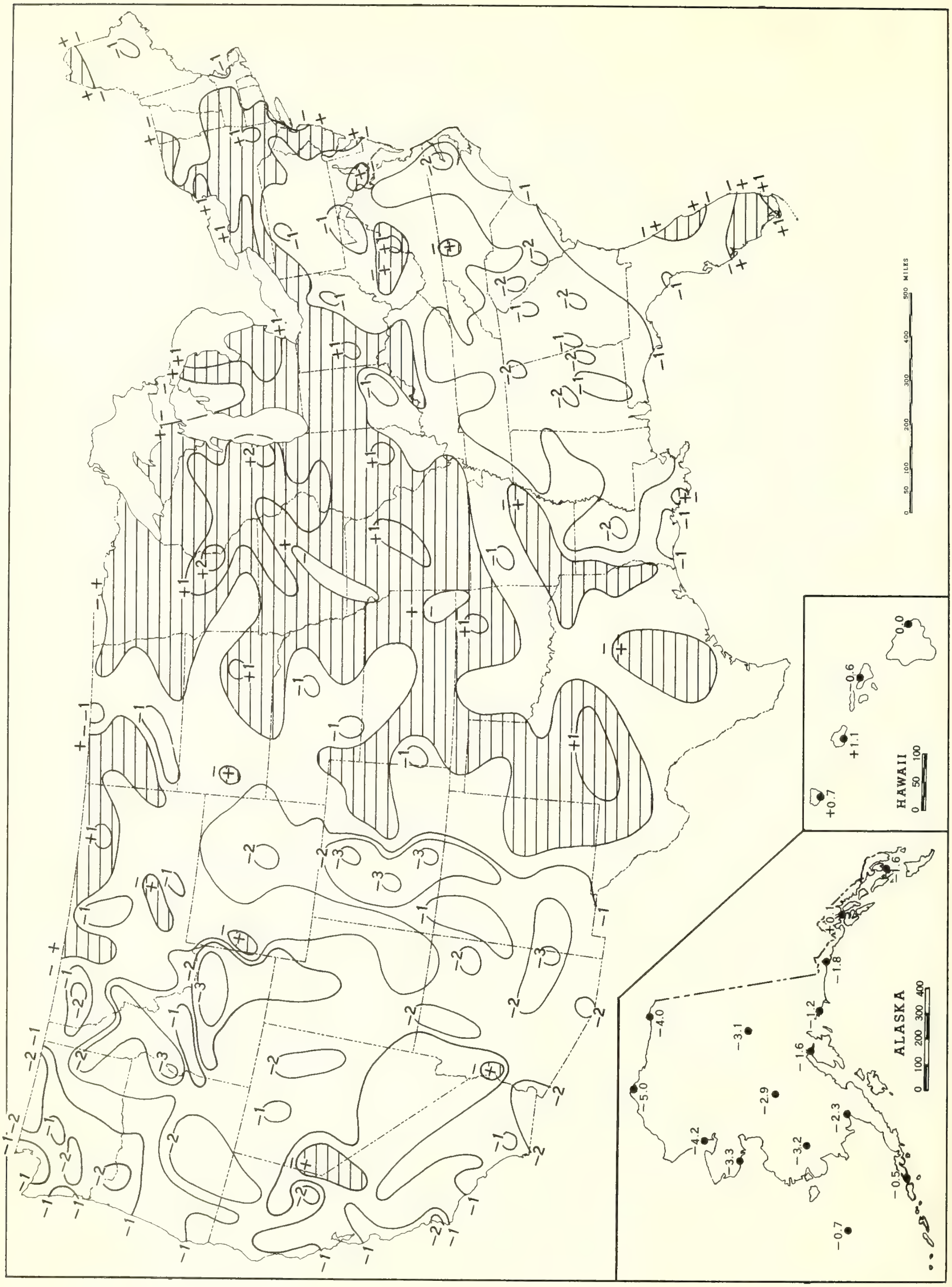


Chart II. Total Annual Precipitation (Inches), 1964.

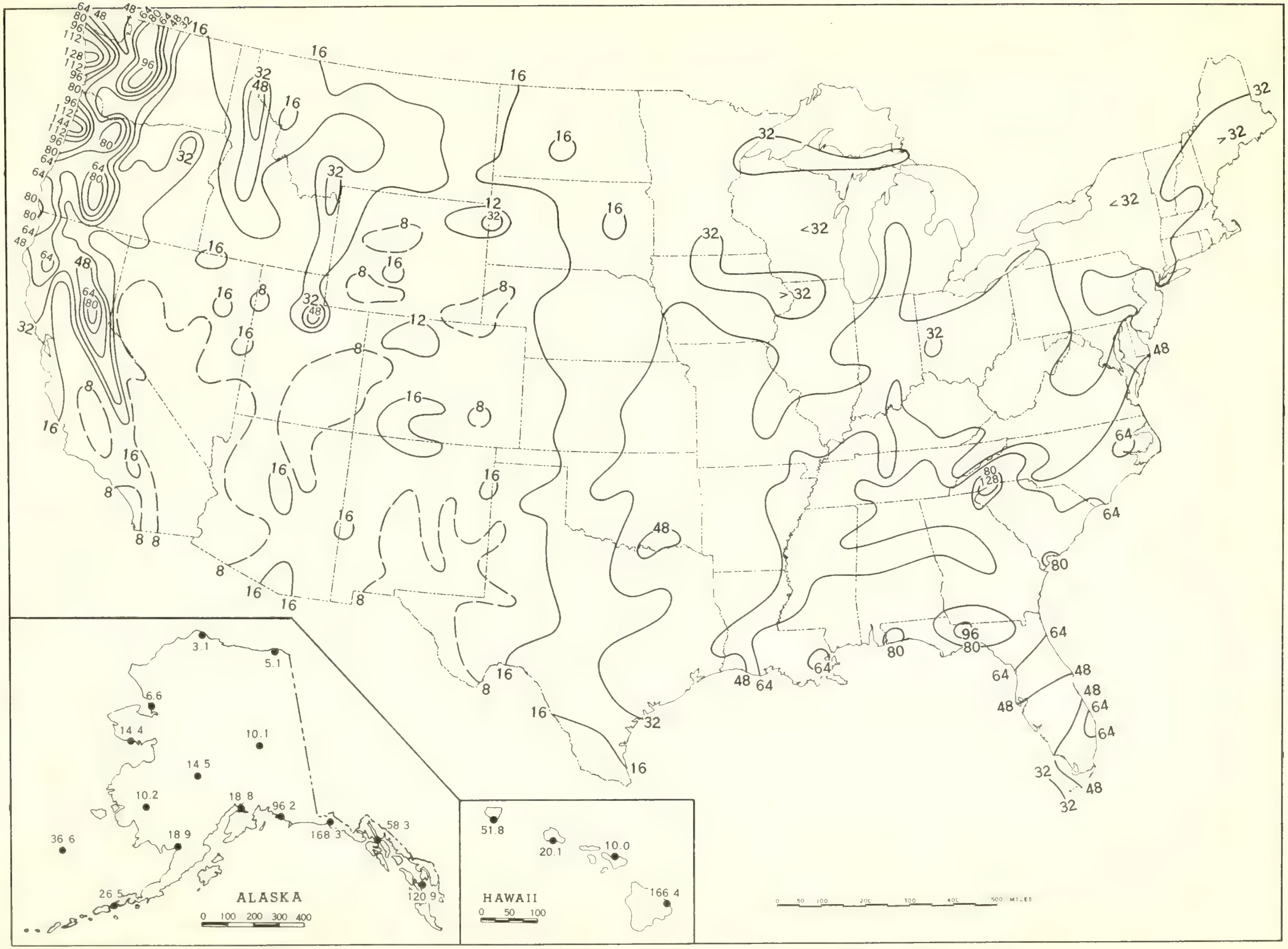


Chart III. Percentage of Normal Annual Precipitation, 1964.

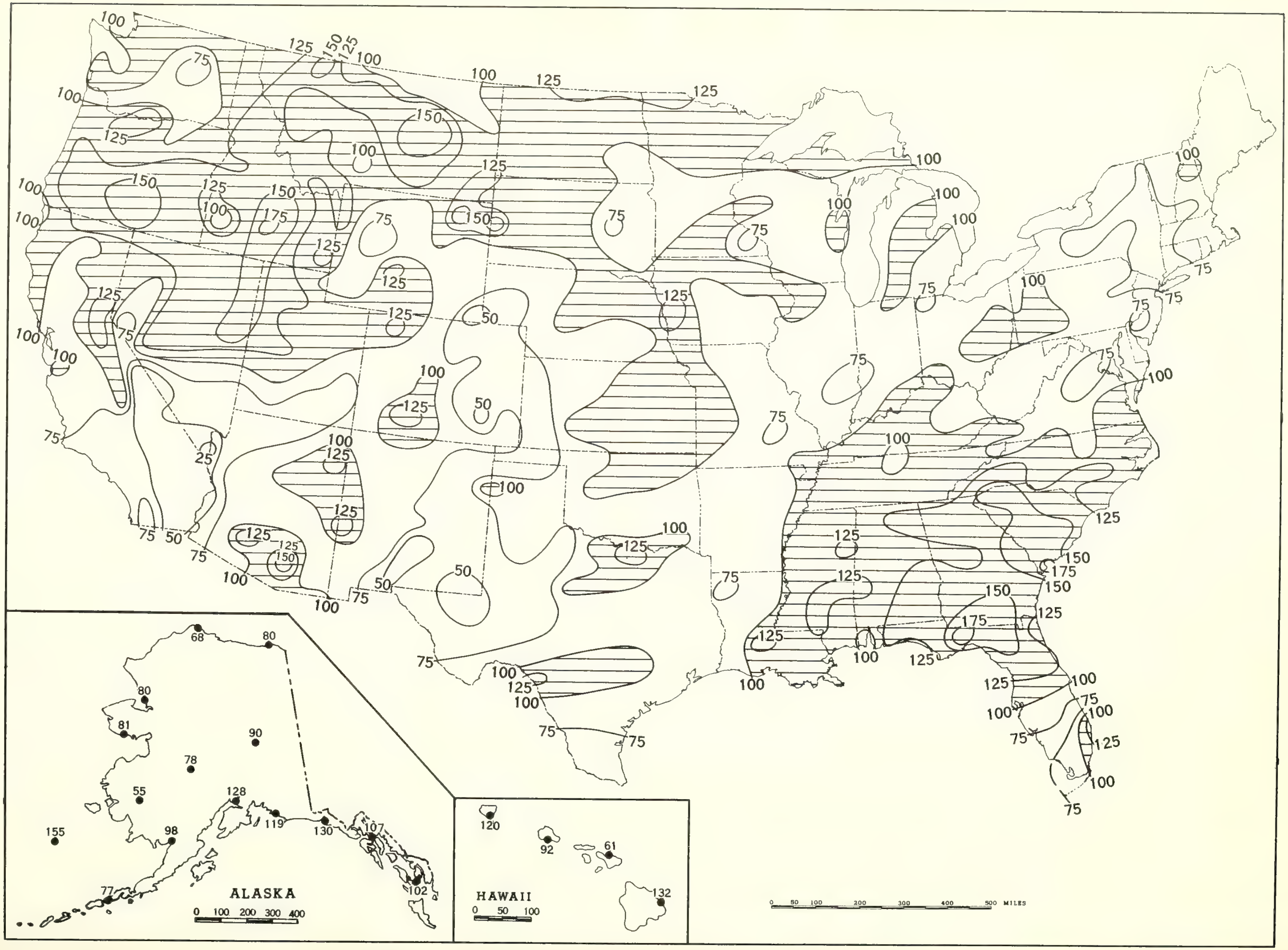
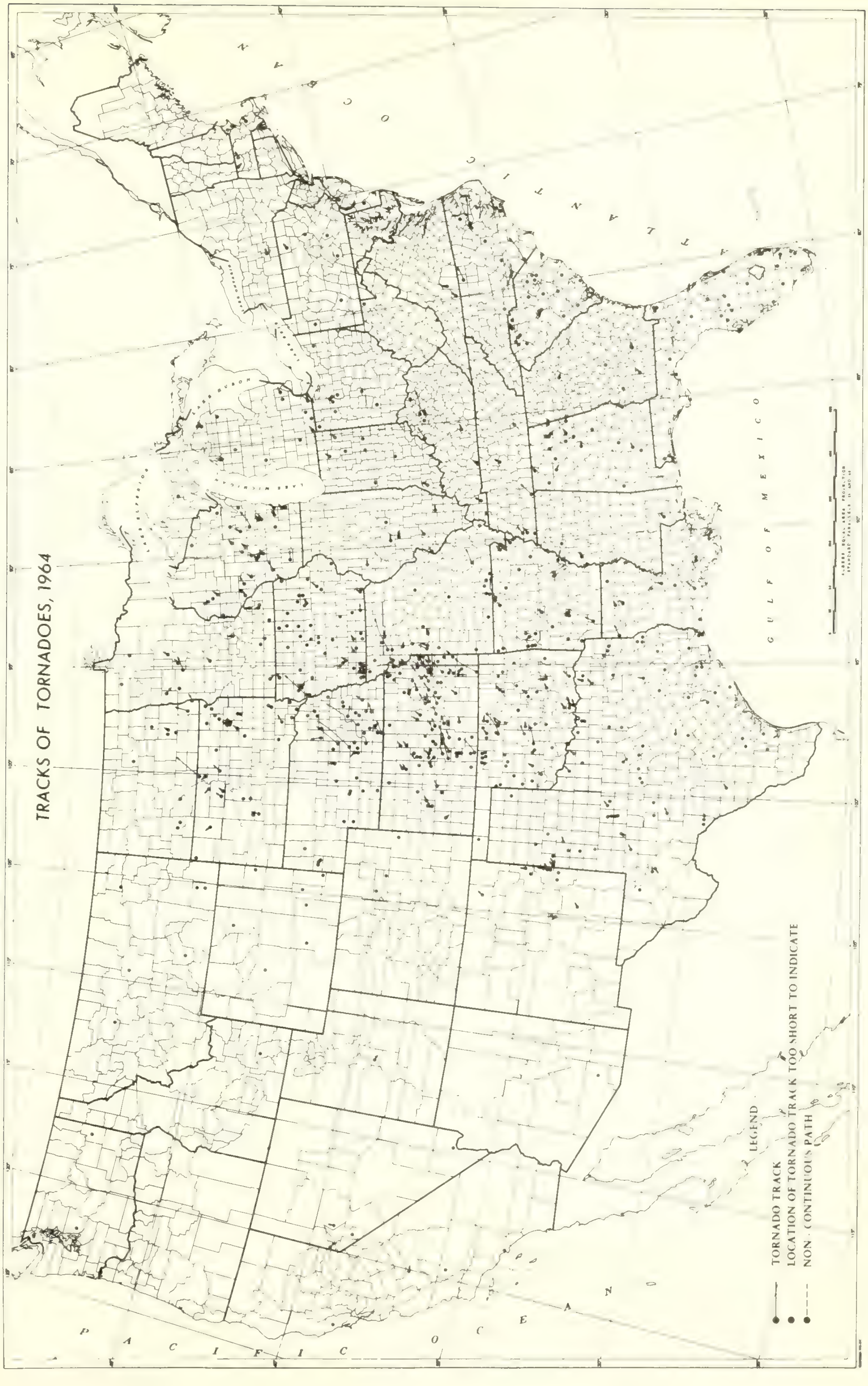


CHART IV



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